Chapter 8
Demographic Processes: Migration

Abstract Migration is the third component of population change and over time has become of increasing interest to demographers due to its growing influence on society. Internal migration is a primary factor in the changing distribution and composition of the U.S. population, while international migration is at record-setting levels. The techniques utilized to measure migration are discussed in this chapter and the ways in which migration affects U.S. society are explored.

8.1 Introduction

Migration, or geographic mobility, is the third component of population change (along with fertility and mortality). Migration is the most dynamic and complex of the three population processes, as well as the most difficult to measure. While death occurs once to each individual and the average number of births per woman in the United States is about two, migration is a much more frequent event for most Americans. Recent estimates indicate that the typical American moves 20 times between birth and death, although there is now evidence that the level of residential mobility is actually declining (U.S. Census Bureau, 2000; Winthrop, 2012). About 17% of the population changes residence each year (down from 20% in the 1940s), and over a five-year period more than 45% of the population moves.

In the United States immigration has become the major contributor to population growth with the volume of international migration at record levels. For most U.S. communities, internal migration has become the most important factor in population change. Fertility and mortality have become less important factors in population growth and change as the U.S. fertility rate has declined below replacement levels and the mortality rate continues to fall.

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8.2 Migration Concepts

Migration refers to a physical move involving an intended permanent change in residence. Permanent change in residence implies that the person or household in question intends to stay in the new residence for an indefiinite period of time. A residence is defined as the place where a person usually sleeps and eats. Having any residence at all implies some type of permanency in what is recognized as appropriate housing, though certain categories of individuals do not have recognized residences (e.g., the homeless). Daily or seasonal movement to and from jobs or for climatic reasons does not qualify as migration, though such short-term changes in location have implications for both the community of origin and the community of destination. Communities such as Daytona Beach, Florida, and Sturgis, South Dakota, encounter short-term population increases due to tourism, for example.

Geographic mobility has been a defining characteristic of U.S. society, with Americans displaying a greater propensity for residential change than any comparable population.

Demographers classify migration into two major categories—international and internal. Persons involved in migration either move between countries or they move within the boundaries of a single country. *International migration* refers to the intended permanent movement between one country and another. Persons migrating to a country are referred to as *immigrants*, while individuals moving out of a country are labeled *emigrants*. Every country has laws and policies that govern international migration, especially immigration. In the United States, international migration is regulated by immigration laws that establish the conditions for entry into the country. These laws specify conditions and country-specific limits on the number of persons who may legally move to the United States in any given year. Immigration law in the U.S. has limited effect on emigration from this country; most U.S. citizens are free to leave as long as some country will allow entry.

Internal migration refers to change of residence within a particular country. Internal migration is generally less regulated (and measured) than is international migration. Within the United States, internal migration is basically unimpeded, though laws designed to limit the growth of certain communities have a relatively long history. Demographers refer to internal migrants coming into an area as *in-migrants*, while those leaving an area are termed *out-migrants*.

Internal migration can be categorized as either short-distance or long-distance, and a hierarchy of definitions has been created to reflect the distance of the move. Anyone who permanently changes residences (regardless of distance) is classified as a *mover*, but in order for a mover to be technically a *migrant* in the U.S., the mover has to change his or her county of residence. The county was chosen for the mover/migrant distinction because it was felt that, in general, movement across

such a boundary involves substantial change in social and economic milieux. Thus, a migrant is a mover, but a mover is not necessarily a migrant. Other useful distinctions also reflect the distance and nature of the movement. *Intrastate* migration refers to movement within a state while *interstate* migration refers to movement between two states.

Although internal migration is a major factor in population growth and change in the U.S., the measurement of internal migration is problematic since there is no migration registry or other mechanism for systematically tracking the movement of the population.

The measurement of internal migration in the U.S. is problematic because there is no migration registry or other mechanism to track the movement of the population. Migration data are most often derived by comparing addresses at two points in time based on a survey or some type of systematic record keeping. This approach, however, does not consider the number or nature of the moves that may have occurred between the two dates specified.

The migration concept is difficult to apply to certain categories of people in transit (e.g., migrant workers, "snowbirds"), for whom the move is not expected to be permanent. Moreover, the growing complexity of living arrangements reflected in nontraditional households and blended families makes the measurement of migration even more difficult.

In recent decades, migration has become the most important component of the population change equation in the U.S. At the subnational level, the impact of migration is felt more immediately than the effect of fertility or mortality on a community. As birth rates and death rates have fallen, migration has come to play an even more important role in population change. The effects of migration can be significant in the short run for population size and composition at both the point of origin and the point of destination. Persistent long-term migration flows affect subsequent population change in the areas receiving migrants through the births and deaths of "new" residents. Areas losing residents through out-migration do not realize the births and deaths of their former residents and therefore do not benefit from the "lost" births with respect to population growth.

Migration streams, or the flow of relatively large numbers of persons from one area to another, are a common phenomenon. These streams involve large numbers of migrants moving from one location to another for the same ostensible reason. For example, the flow of African-Americans from the South to the Northeast and Midwest during the 1930s and 1940s constituted a migration stream. More recently, African-American migration streams from the Midwest and Northeast back to the South have been identified. Thus, some African Americans were born in the South, resided in the North for some period of time, and they (or their descendants) returned to the South at a later point in time (i.e., *return migration*). *Rural to urban migration*, which began in some areas of the nation as early as 1850, was an

inevitable consequence of industrial development. The east-to-west and city-to-suburb movement of the population has forever changed the social, economic and political structure of the United States. In more recent years the migration of persons from the Snowbelt to the Sunbelt has markedly affected both the place of origin and the place of destination.

A number of major migration streams have defined U.S. history including the historic movement from east to west, the exodus of rural Southerners with the advent of agricultural mechanization, the movement from rural areas to urbans, the concentration of population in the South, and, more recently, the shift urban areas to suburbs. In recent years the surge in immigration has constituted a major migration stream.

Migration can also be classified as voluntary or involuntary. Voluntary migration occurs at the migrant's volition and usually involves moves for economic needs, retirement, family reasons or simply for a change of scene. Involuntary migration is typically a result of political or religious persecution, wars or civil unrest, or famines and other natural disasters. Involuntary migration is not a major concern in the U.S. although there have been historical situations such as Indian "removal", the Civil War and the "dustbowl" of the 1920s where significant involuntary migration occurred.

Involuntary migration within an international context represents a major challenge of the 21st century. War, famine, persecution and other factors in many regions of the world have contributed to a crisis with regard to displaced persons. There are a reported 65 million people currently in refugee camps worldwide, with the number steadily growing in response to current societal disruptions. This represents by far the most significant reordering of the world's population in history, especially since few displaced persons will be able to return to their home countries.

One other distinction should be made between legal and illegal immigration. Legal immigration refers to those entering a country with the formal permission of that country. This typically involves the acquisition of a visa for a temporary visit to the U.S. or a "green card" that allows for the permanent or fixed-period residence of the immigrant in this country. All immigrants, of course, must possess current, legitimate passports before entry. Other countries have similar legal requirements. Illegal immigrants are those who enter a country without proper legal authorization. Many of these are temporary movers seeking short-term employment or visits with family members. Others enter the country illegally with the intent of staying permanently. While accurate records are maintained by federal immigration authorities (Immigration and Customs Enforcement) on legal immigration, limited data are available on illegal immigrants. The estimated 11 million "illegal" immigrants currently residing in the United States are considered problematic by many.

8.3 Migration Measures

Demographers have developed a number of migration measures. In measuring migration, difficulties arise related to the concepts employed and the data sources available. Accurate records are maintained in the U.S. for international migration (i.e., for immigrants and emigrants). However, these records pertain primarily to legal immigrants; statistics on the growing number of illegal immigrants are based on estimates and are understandably less accurate. Since no formal records are maintained on internal migration in the U.S., we are left with a significant gap in our understanding of the year-to-year mobility of the U.S. population.

The most common measure of migration is simply a count of the number of individuals moving from one geographic area to another. Thus, the number of people moving into a county during a given year and the number of people moving out of that county constitute crude indicators of migration. Those moving into a geographic (*in-migrants*) add to the population total while those moving out of a geographic area (*out-migrants*) subtract from the total. These populations can be depicted in terms of raw numbers or rates. Exhibit 8.1 describes the different measures of migration that demographers have developed.

Two summary measures of migration have been developed to refine these raw numbers. *Net migration* is a measure of the absolute difference between in-migration and out-migration for an area over a given time period. For example, if county X in state Y gained 10,000 in-migrants and lost 5000 out-migrants between 2005 and 2010, the figure for net migration would be 5000. (Had the figures been reversed, net migration would have equaled -5000.) *Gross migration* is used to measure the total amount of migration by adding in-migrants to out-migrants. Thus, gross migration for county X for this time period would be 15,000. Gross migration is used to assess the total amount of population turnover, while net migration is a better indicator of the outcome of the migration process.

Exhibit 8.1: The Calculation of Migration Rates

Migration rates are relatively easy to calculate if the required data are available. Data (numerators) on international migration are available from Immigration and Customs Enforcement and internal data are available from IRS records and sample surveys. Population figures (denominators) can be drawn from Census Bureau counts or from estimates generated by other sources. These basic rates can be adjusted to reflect other factors such as age and marital status as desired.

$$\text{In-migration rate} = \frac{\text{Persons moving into area in } Y_1}{\text{Midpoint population estimate in area for } Y_1} \times 1000$$

$$\text{Out-migration rate} = \frac{\text{Persons moving out of area in } Y_1}{\text{Midpoint population estimate in area for } Y_1} \times 1000$$

$$\text{Net-migration rate} = \frac{\text{Persons moving in in } Y_1 - \text{Persons moving out in } Y_1}{\text{Midpoint population estimate in area for } Y_1} \times 1000$$

$$\text{Gross migration rate} = \frac{\text{Persons moving in } Y_1 + \text{Persons moving out in } Y_1}{\text{Midpoint population estimate in area for } Y_1} \times 1000$$

$$\text{Migration efficiency} = \frac{\text{Net migrants(in-migrants} - \text{out-migrants)}}{\text{Gross migrants(in-migrants} + \text{out-migrants)}}$$

For a hypothetical population of 10,000 that experienced during Y_1 2000 in-migrants and 1000 out-migrants the following rates would be generated:

In-migration rate:	200 per 1000 population
Out-migration rate:	100 per 1000 population
Net migration rate:	100 (a net gain) per 1000 population
Gross migration rate:	300 (moves in or out) per 1000 population
Migration efficiency:	0.333

While the comparison of the absolute numbers of movers, non-movers, and migrants is important, rates need to be calculated when there are size differences between the areas being compared. Rates for in-migration, out-migration, net migration and gross migration can be generated. The numerator for these rates is the total for each migration category (e.g., in-migrants); the denominator depends on what is considered to be the population at risk for migration. The identification of the population at risk, that is, persons with at least some probability of moving over a given timeframe, is complicated because each rate has a different risk group.

Consider, for example, the out-migration rate for a specific city in a one-year period. The numerator of the rate is the number of out-migrants, while the denominator is the population at the beginning or in the middle of the one-year period. However, identifying the population at risk for the in-migration rate is problematic since virtually the entire population of the United States could be considered at some risk of moving into the geographic area in question. For this reason, the denominator for the in-migration rate is typically the same one used for calculating the out-migration rate. This means that the rate generated is technically the percentage of population increase due to in-migration.

Patterns of in- and out-migration have an impact on the population size and composition of both the sending and receiving geographic areas, often resulting in significant changes in the characteristics of either or both areas.

The rate of migration has a substantial impact on the population size and characteristics of the affected communities. An examination of migration trends for Florida illustrates this point. The population of Florida grew substantially (17.6%) between 2000 and 2010, although that growth rate was considerably below the ones seen in previous decades. Net migration—not natural increase, the difference between births and deaths—has historically accounted for over 85% of the state's growth. The growth due to net migration was not uniform across all age cohorts, however, with the largest absolute increases for young adults (25–34), mature adults (50–64), and the oldest old (85 and over). Each of these age cohorts experienced increases in excess of 200,000 in-migrants for the 2000–2010 period.

8.4 Migration Patterns in the U.S.

8.4.1 International Migration

The U.S. has always considered itself a nation of immigrants, and that is truer today than at about any time in the past. The volume and nature of immigration to the United States have varied greatly over the history of the country. A comparison of the data by decade shows a low of 528,000 immigrants for the period 1931–1940 and a record high of 14 million immigrants during the first decade of the 21st century. The contribution of immigration to population growth historically was greatest during the first two decades of the twentieth century. This contribution declined markedly in the 1930s, and it was only in the 1980s that immigration's contribution began to increase.

Despite accusations by some politicians that the U.S. has an "open door" policy with regard to immigrants, there is a limited number of ways in which foreigners can legally enter the United States. Visa types are divided into two categories: non-immigrant visas and immigrant visas. The former type is available to those temporarily visiting the country and covers a wide range of visitors from tourists to students to athletes to scientists to even medical patients. Mexican border crossing cards are also included in this category. The terms of residence vary depending on the type of visa issued. Some who enter under a non-immigrant visa may eventually request a change of status to an immigrant visa, and a significant number overstay their visa limits in order to remain in the U.S.

The most common type of immigrant visa is issued to family members of current U.S. citizens (with fiancés included in this category). The major other category involves employment-related visas that allow for longer term residence (or even permanent non-citizen) residence. Refugees and asylum seekers represent a special category of immigrants. This last category represents by far the smallest number of immigrants. In 2016 over 600,000 immigrant visas were issued with the majority of these involving family reunification. Over 10 million non-immigrant visas were

issued along with another million-plus border crossing cards. Approximately 85,000 refugees were admitted during 2016 (Krogstad & Radford, 2017).

The U.S. has once again become a nation of immigrants with record numbers of legal immigrants added to the population over the past two decades accompanied by an estimated 11 million undocumented immigrants.

This trend has led to an increase in the number of legal immigrants living in the U.S., from 24 million in 1995 to 40 million in 2010, more than tripling the figure for 1970. These estimates of the number of foreign-born living in the U.S. include both legal immigrants and an estimated 11 million undocumented aliens. The proportion of the population that is foreign-born was 13.1% in 2010, representing a modern-day high.

It should be noted that without post-World War II international migration, the population of the nation and many sub-areas would have declined in number and exhibit a much older age structure. Immigration has, in fact, accounted for 29% of U.S. population growth since 2000. Exhibit 8.2 provides the decade-by-decade record of immigrant flows, along with the percentage of total decade population growth accounted for by immigrants. Exhibit 8.2 provides information on U.S. immigration trends decade by decade over the past 180 years.

Exhibit 8.2: Legal Immigrants and the Proportion of Population Growth Due to Immigration by Decade for the United States, 1831–2010

Decade	Immigrants (in thousands)	Population growth for decade (in thousands)	Percent of population growth due to immigration
2001–2010	10,000*	19,980*	42.0*
1991–2000	9080	32,712	27.8
1981–1990	7413	22,164	32.7
1971–1980	4493	23,244	19.3
1961–1970	3322	23,979	13.9
1951–1960	2515	27,767	9.1
1941–1950	1035	19,028	5.4
1931–1940	528	8894	5.9
1921–1930	4107	17,064	24.1
1911–1920	5736	13,738	41.8
1901–1910	8795	15,978	55.0
1891–1900	3688	13,047	28.3
1881–1890	5247	12,792	41.0
1871–1880	2812	10,337	27.2

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Decade	Immigrants (in thousands)	Population growth for decade (in thousands)	Percent of population growth due to immigration
1861–1870	2315	8375	27.6
1851–1860	2598	8251	31.5
1841–1850	1713	6122	28.0
1831–1840	599	4203	14.3

*Estimate

Sources U.S. Census Bureau (2010). *Statistical Abstract of the United States, 2010*, Tables 2, 7 and 50. Source data came from the U.S. Immigration and Naturalization Service, *Statistical Yearbook*, Camarota (2010)

The country of origin is an important consideration in the analysis of immigration trends. Up until 1920, the vast majority of immigrants were from Europe. Since 1920 most of the share lost by Europe has been gained by Asia, and in the decade of the 1980s nearly half of all immigrants originated in Asia. Altogether, 85% of all immigrants came from Asia or countries in North and South America in the 1990s. In 2010, the major sources of legal immigrants by country were Mexico (139,120), China (70,863), India (69,162), the Philippines (58,173), and the Dominican Republic (53,870). These same countries (except for the Dominican Republic) account for the largest numbers of foreign-born currently living in the U. S. As a result of this shift in county-of-origin, the immigrant population is quite different in culture and language from the majority European-origin population historically populating the United States. Exhibit 8.3 presents data on trends in immigration based on world region of origin.

Exhibit 8.3: Number of Immigrants and Percent to the United States by Selected Continent of Origin, 1831–2010

Decade	Total immigrants[a]	Europe	Asia	Other America	Africa
2001–2010	10,000*	1400 (14)*	2600 (26)*	5200 (52)*	800 (8)*
1991–2000	9080	1309 (14)	2890 (32)	4449 (49)	382 (4)
1981–1990	7413	706 (10)	2814 (39)	3581 (49)	192 (3)
1971–1980	4493	801 (18)	1634 (36)	1929 (43)	92 (2)
1961–1970	3322	1239 (37)	445 (13)	1579 (48)	39 (1)
1951–1960	2516	1492 (53)	157 (6)	841 (33)	17 (1)
1941–1950	1035	622 (60)	59 (3)	355 (34)	7 (0)
1931–1940	528	348 (66)	15 (3)	160 (30)	2 (0)
1921–1930	4107	2478 (60)	97 (2)	1517 (37)	6 (0)

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Decade	Total immigrants[a]	Europe	Asia	Other America	Africa
1911–1920	5736	4377 (76)	193 (3)	1144 (20)	8 (0)
1901–1910	8795	8136 (93)	244 (3)	362 (4)	7 (0)
1891–1900	3688	3559 (97)	71 (2)	39 (1)	1 (0)
1881–1890	5247	4722 (90)	68 (1)	426 (8)	– (0)
1871–1880	2821	2262 (80)	124 (4)	404 (14)	– (0)
1861–1870	2315	2064 (89)	65 (3)	167 (7)	– (0)
1851–1860	2598	2453 (94)	41 (2)	75 (3)	– (0)
1841–1850	1713	1598 (93)	– (0)	62 (4)	– (0)
1831–1840	599	496 (83)	– (0)	33 (6)	– (0)

[a]Numbers in thousand, percentages in parentheses
*Estimate
– Less than 1000
Sources U.S. Bureau of the Census (1922), (1932), (1953), (1985), U.S. Census Bureau (2010). Source data came from the U.S. Immigration and Naturalization Service, *Statistical Yearbook*; Pew Research Center (2015)

Information regarding the characteristics of immigrants is important for an understanding of their impact on U.S. social institutions. Females now account for over half of the immigrant population to the U.S. The predominance of females represents a recent shift in sex ratio, since up until the 1980s the majority of immigrants were males. Over half of all immigrants are under age 30 and few are over 65. The median age for recent immigrants is only 29 years, compared to 40 years for native-born Americans. Immigrants overall are less educated than the native born. However, the young age structure of today's immigrants accounts for the fact that virtually all of the national increase in public school enrollment over the last two decades can be attributed to the children of immigrants. In 2000, there were 8.6 million school-age children from immigrant families in the United States and this number continues to increase. The leading occupations for immigrants in 2007 were farm workers, building maintenance workers, and construction workers (U.S. Census Bureau, 2008). The poverty rate for immigrants is 50% higher than that for natives, with immigrants and their U.S.-born children (under age 21) accounting for 22% of all persons living in poverty.

The continued high rate of immigration has been accompanied by increases in the number of immigrants residing in every state and the redistribution of immigrants around the nation. Between 2007 and 2015 the proportion of the population that was foreign-born increased in every state except one (Colorado). In many cases, these increases were dramatic, with many states without a history as

immigrant destinations showing significant increases in the proportion foreign-born. Although the absolute numbers remain small, states as diverse as South Carolina, Arkansas, and North Dakota doubled or tripled the proportion of foreign-born. Exhibit 8.4 presents data on the distribution of the foreign born by state.

The surge in immigration over the past two decades has meant that every U.S. state has increased its number of immigrant residents, with many of the states doubling or tripling their proportion foreign-born.

The figures for 2015 also indicate a redistribution of immigrants among the various states. California and New York maintained their advantage as the states with the highest proportion foreign-born, but New Jersey moved past Florida to take third place and Nevada, Texas and Massachusetts moved up in significance as homes for the foreign-born. Some states with already significant immigrant populations essentially doubled the size of their foreign-born population (Connecticut, Rhode Island, Virginia and Washington). The proportion of the foreign born accounted for by the seven most immigrant-centric states accounted for over 70% of the foreign-born in 2000, that figure had fallen to 67% by 2015 (2011–2015 average) indicating a greater dispersal of immigrants across the nation.

Despite the fact that immigrants have become distributed far and wide within the U.S. the proportion of immigrants accounted for by the largest metropolitan areas actually increased over the past fifteen years. In 2000 the top 10 metropolitan areas (MSAs) accounted for over 44% of all immigrants with this proportion increasing to 51% by 2015.

Exhibit 8.4: Percent Immigrants by State and 2015 (Ranked by Order in 2015)

State	2007	2015	State	2007	2015
California	25.9	27.3	Michigan	5.1	6.6
New York	19.6	22.9	Pennsylvania	2.9	6.5
New Jersey	14.9	22.1	New Hampshire	3.9	6.0
Florida	18.4	20.2	Nebraska	3.9	6.0
Nevada	15.2	19.3	Oklahoma	3.2	6.0
Hawaii	16.1	17.7	Idaho	5.3	5.7
Texas	12.2	17.0	Tennessee	1.8	5.0
Massachusetts	12.4	16.1	Indiana	2.4	4.9
Maryland	9.0	15.2	Wisconsin	3.6	4.8
Connecticut	8.8	14.6	South Carolina	1.6	4.8
Illinois	9.5	14.5	Iowa	3.9	4.8

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State	2007	2015	State	2007	2015
District of Columbia	10.6	14.1	Arkansas	1.8	4.8
Washington	7.4	13.7	Vermont	3.5	4.5
Rhode Island	7.8	13.5	Ohio	2.5	4.3
Arizona	12.9	13.4	Missouri	3.0	4.0
Virginia	7.7	12.1	Louisiana	2.8	4.0
Oregon	7.8	9.9	North Dakota	1.5	3.8
Colorado	9.8	9.8	Wyoming	1.0	3.8
New Mexico	5.8	9.4	Kentucky	2.5	3.6
Delaware	4.7	9.3	Alabama	1.5	3.5
Minnesota	5.1	8.3	South Dakota	1.4	3.2
Utah	5.5	8.2	Mississippi	0.9	2.4
North Carolina	4.4	7.9	Montana	0.8	2.1
Alaska	4.2	7.4	West Virginia	0.9	1.6
Kansas	5.7	7.1			

Source U.S. Census Bureau

Given the diversity of the immigration pool it is not surprising that different nationalities exhibit different settlement patterns. Some of these patterns have been long established and their impact is still felt today. Others are of more recent origin and reflect the changes in the origins and characteristics of contemporary immigrants. Immigrants from Europe best represented by the surge of immigration around the beginning of the 20th century primarily settled on the East Coast particularly in its larger cities. The descendants of these Irish, Italian, German and Polish immigrants are still concentrated in these areas today. Other European immigrants (e.g., Scandinavians) were more likely to settle in the "heartland" with their descendants still found in the upper Midwest. Other historical patterns included the settlement of immigrants of Asia on the West Coast with their influence clearly noticeable in San Francisco today, for example, and the traditional patterns of Hispanic settlement of Cuban immigrants in Florida, Puerto Rican "immigrants" in New York and other Northeast cities, and Mexicans in the southwestern states.

Today's immigrant settlement patterns are dominated by Mexican immigrants who constitute the largest group. While the concentration of Mexican immigrants remains noticeable in the southwest, members of this group have expanded to virtually every county in the U.S., and major concentrations of Mexican immigrants are found in every major city. Settlement patterns for other immigrant groups from Central and South America do not necessarily follow the same pattern with "serial migration" resulting in concentrations of different national groups in various parts

of the nation (but invariably in large cities). While immigrants from Asia still concentrate on the West Coast they have become much more dispersed over time but still settling primarily in larger cities across the nation. Some cities such as Atlanta, Georgia, have become magnets for these "new" immigrants.

8.4.2 Internal Migration

In the United States, internal (or domestic) migration is a dynamic process that is a significant contributor to population change. About 17% of the population changes residence each year (down from 20% in the 1940s), and over a five-year period more than 45% of the population moves. This translates into about 135 million persons moving during the first five years of the twenty-first century alone. Of the 135 million, 60% were classified as movers (within county) and 38% were classified migrants (crossed a county boundary) (U.S. Census Bureau, 2011). Among the migrants 56% stayed within their original state of residence while 44% moved across a state boundary.

The history of the United States is, to a great extent, a chronicle of migration. While space doesn't allow the details of historical internal migration to be presented, some key trends should be noted. The general flow of population in the U.S. since the colonization of the New World by Europeans has been from east to west. The country's population center at the time of the first census in 1790 was on the east coast; today, the population center is in Missouri. As the country became more fully settled, the general trend toward east-to-west movement continued but a more complicated picture emerged. During the first half of the twentieth century a large number of people left the South, destined primarily for the Midwest and the Northeast but also contributing to the influx of new residents into the West region. This flow primarily involved African Americans who had been displaced from farm work with the mechanization of agriculture. Since the 1950s the outflow from the South has been reversed, and today the South has more population than any of the other three regions.

Region-to-region migration flows have reshaped the U.S. population landscape, resulting in significant depopulation of the Northeast and Midwest regions and surging population growth in the South and West.

Since World War II there has been a steady pattern of out-migration from the Northeast and the Midwest and in-migration to the South and West. Between 2005 and 2010 the highest levels of both in- and outmigration of all four census regions occurred in the South, further solidifying the South's rank as the most populous region. Some 3.5 million people moved into the South from the Northeast, the Midwest, and the West while 2.4 million people moved out of the region. The

South had a net gain of 1.1 million residents during this five-year period. In contrast, the West showed a net gain of 71,000 while the Northeast lost 832,000 residents and the Midwest lost 350,000 residents. As of 2015, the proportion of the nation's population accounted for by the respective regions was: South-37.7%; West-23.6%; Midwest-21.1% and Northeast-17.9% (Ihrke & Faber, 2012). Exhibit 8.5 presents data on migration trends for a recent time period.

Exhibit 8.5: Regional Migration Patterns United States 2010–2011[a]

	Northeast	Midwest	South	West
In-migration	247	537	1056	616
Out-migration	524	493	831	608
Net migration	−277	43	225	9
Movers from abroad	189	172	379	319
Net migration (including abroad)	−88	215	604	328

[a]Figures stated in thousands
Source U.S. Census Bureau (2011)

Migration flows of the type described above can have a significant impact on population composition for both the sending and receiving geographic areas. It cannot be assumed that in-migrants and out-migrants are going to have the same demographic characteristics and, in fact, today it is more likely that they will be dissimilar. Thus, we have examples of cities that are trading one type of population for another (e.g., losing affluent households to surrounding suburbs while attracting less affluent households to replace them) or native-born populations giving way to foreign-born residents. Some states have seen their composition radically affected by migration flows with northern Virginia, for example, being transformed from a primarily non-Hispanic white area to a highly diverse area in terms of race and ethnicity (due to its proximity to the District of Columbia). Some states like Texas continue to attract significant in-migrants yet these newcomers are quite dissimilar from existing Texas residents. Case Study 8.1 describes how one city came to represent the face of racial and ethnic diversity.

Case Study 8.1: The Evolution of America's Most Diverse City

The population of Houston, Texas, grew by over 1.2 million residents between 2000 and 2010, making it the nation's fastest growing metropolitan area (MSA). Perhaps more important, the impact of this growth on the racial and ethnic composition of the metro area has made it the nation's most diverse urban population. Based on an analysis of census data for 1990, 2000 and 2010, researchers at Rice University found that the Houston region has become dramatically more racially and ethnically diverse over the past

20 years. The diversity is such that every racial/ethnic group is now a demographic minority, allowing Houston to surpass New York City as the nation's most diverse major metropolitan area.

From 1990 to 2010 the balance between the four major racial/ethnic groups has increased across the multiple-county metropolitan region. The Anglo (non-Hispanic white) population represents a declining share of the metro area population. Its majority status (58%) in 1990 had declined to 40% by 2010. Meanwhile the percentage of Latinos had increased from one-fifth of metropolitan residents to more than one-third. Assuming this rate of growth continues, Latinos are projected to become the region's largest racial/ethnic group in the near future.

Other racial/ethnic groups in the metropolitan region have either increased, though to a lesser degree than Latinos, or held their own. The percentage of Asians in the Houston metropolitan region increased from 3.4% in 1990 to 4.8% in 2000 and 6.5% in 2010. African-Americans have remained relatively stable over this time period, accounting for 17.5% of the population in 1990 and 16.8% in 2010. The proportion defining themselves as multi-racial remained approximately the same between 2000 and 2010. Figure 8.1 illustrates the racial and ethnic makeup of the Houston metropolitan area for the three time periods under study.

The growth of racial/ethnic diversity has occurred throughout the region. The City of Houston was more diverse in 2010 than 1990 and so is every

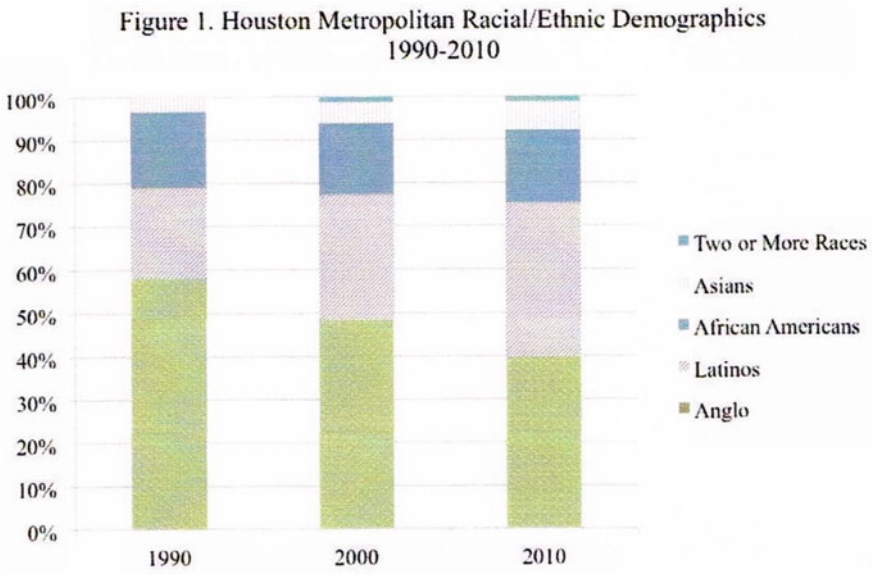

Fig. 8.1 Houston metropolitan racial/ethnic demographics 1990–2010. *Source* Emerson et al. (2016)

other city and county within MSA. In 2010 the City of Houston lost its title as the most diverse city in the region, with Missouri City and Pearland surpassing Houston in terms of racial/ethnic diversity.

Houston finds itself in the unique position of becoming perhaps the nation's first fully diverse metropolitan area, and harnessing the region's burgeoning racial/ethnic diversity is a growing challenge for community leaders. An opportunity exists to demonstrate how to lead the nation in the transition to a fully inclusive, unified multi-racial/multi-cultural region.

The other major trend since World War II has been the shift in residence based on type of community. At the time of the first census in 1790, 95% of the population lived in what today are classified as "rural" areas. With the advent of industrialization in the U.S., a mass movement from rural areas to urban areas occurred, to the point that today only 5% of U.S. citizens live in rural communities. The rural-to-urban migration trend peaked in the 1970s and a new flow emerged—from urban areas to suburban areas. Since that period the major flow has been out of the nation's central cities and into surrounding suburbs. Today, more Americans live in communities classified as suburbs than in any other type of community.

In recent years two additional migration streams have been identified. One involves the flow from the suburbs to the exurbs. Exurbs refer to communities beyond the boundaries of a metropolitan area but in an adjacent county. As suburban areas have become more crowded, their characteristics have changed, and jobs have become more decentralized, some citizens are opting for residence at ever greater distances from the central city. The second trend involves the "reurbanization" movement, with a number of factors driving a shift of population back into the central city in many places. A new generation that is not comfortable with the homogenous nature of the suburbs, rising transportation costs, and home ownership has spurred some movement back into urban areas. Some of this reflects the "gentrification" of the inner city, as affluent individuals and families move into areas in decline, causing the cost of housing to increase and often displacing the original residents. "Millennials" are thought to be driving much of the reurbanization trend as they shun traditional American propensities for automobile and home ownership.

By 1990 the U.S. had become a "suburban" society as people fled the central cities for surrounding suburbs. This trend, however, has been reversed in the 21st century as re-urbanization is occurring across the nation.

Additional insight into internal migration can be gained by examining the respective characteristics of movers and non-movers. Movers are considerably younger than non-movers, recording a median age nine years less. The youth of

movers is reflected in the concentration of persons under 35. Because of the preponderance of youthful movers, areas receiving migrants gain a younger population, in general, while areas losing migrants "age" more rapidly because of the loss of younger persons. Continued gain or loss can have a significant impact on both the size and age structure of the populations sending and receiving migrants. One notable exception to the youth selectivity of migration is the movement of older persons to certain retirement areas of the United States. Even so, the overall proportion of persons above the age of 55 who move is low. Domestic movers are slightly more likely to be male and considerably more likely to be never married and better educated. The incomes of movers, however, tend to be somewhat lower on the average and the poverty rate somewhat higher. Case Study 8.2 describes the impact of migration flows on Congressional redistricting.

Case Study 8.2: Internal Migration and Congressional Redistricting

The U.S. Constitution requires that the number of members each state sends to the House of Representatives be based on its share of the nation's population. The basis for this apportionment is the census conducted every ten years, and since 1790 a census has been conducted for this purpose. Over time, the decennial census became increasingly used as a mechanism for collecting additional information on the U.S. population above and beyond that required for apportionment.

The House of Representatives is composed of Congressmen representing 435 congressional districts. The districts are allocated to the various states based on their population size. Each state, of course, must have at least one Congressional representative. Since the populations of each state do not grow at the same rate some states' shares of the nation's population decline over time while others' shares will have increased. Those states losing population typically lose House members while states that have seen their populations grow relatively faster gain seats.

The population count generated by each census is made available by December 31 of the census year. This process is not without controversy since there is inevitably an undercount of the population when the census is conducted. While a simple across-the-board undercount might be adjusted for, the undercount is not across the board but affects some populations—and some states—more than others. Historically, there have been undercounts of poor Americans, those in certain minority groups, and hard-to-reach populations like migrant workers and the homeless. More recently, undercounts of immigrants—particularly undocumented immigrants—have heightened the concern over the undercount. After every census the question therefore arises as to the appropriateness of adjusting the census figures for the undercount. Invariably, it is decided to go with the actual count rather than an adjustment. (Ironically, some politicians who objected to including undocumented aliens in the 2010 census count changed their mind when they realized that their states stood to lose Congressional representation.)

Once the census numbers are collected and certified, they are passed to the legislatures of each state for the purpose of drawing new congressional districts. In most states, redistricting is taken up by the state legislature and governor. Redistricting is understandably an often highly politicized process, an issue beyond the scope of this case study. However, it should be noted that the redistricting process represents an example of applied demography since population size and composition are the primary inputs into the apportionment process. Some applied demographers, in fact, specialize in redistricting consultation.

The impact of the census count and the subsequent apportionment process can be seen when shifts in Congressional representation are examined. Since 1940 there have major shifts in representation by the various states as a result of shifting migration patterns. Between 1940 and 2010 California gained 30 representatives, Florida gained 21 and Texas gained 15. For this same period, New York lost 18 seats and Pennsylvania lost 15. After the 2010 census, Western states gained eight of the 12 new Congressional seats, with the remaining four awarded to the Southeast. Texas gained another four representatives, Florida two and six states one each (Arizona, Georgia, Nevada, South Carolina, Utah and Washington). One the other hand, two states (New York and Ohio) lost two representatives each while eight states each lost one seat (Illinois, Iowa, Louisiana, Massachusetts, Michigan, Missouri, Nebraska, and Pennsylvania). While many of the states benefitting from migration shifts are considered "red" states due to their Republican-leaning populations, the bulk of the population increases were recorded for minorities—particularly in states like Arizona, Florida and Texas.

8.5 Sources of Migration Data

Data on migration within the United States are derived from censuses, surveys, and administrative records. On Census Bureau surveys respondents are typically asked if they lived in the same house either one year ago or five years ago depending on the survey. The American Community Survey is the most useful and current source of this information, and data on county-to-county population flows based on the latest ACS survey are available on the Census Bureau website. On other federal surveys, respondents are asked how long they have lived at their current location and/or how many times they have moved in the last three years. The Current Population Survey elicits data on one-year migration status and the reason for the move.

The other source of internal migration data, administrative registries from the Internal Revenue Service, use a two-points-in-time comparison of addresses to generate data on the volume and nature of residential moves. Data available from the IRS provides the number of household members (and their incomes) moving from one county to another from one year to another. Thus, this database would indicate how many people (along with their associated household incomes) moved from County A to County B between, for example, 2010 and 2011. The IRS data come closest to complete coverage of the population but none of these data sources captures the complexity of contemporary migration patterns.

More accurate and detailed information available on international migration than for internal migration since actual data rather than survey estimates are available on immigrants. As with internal migration, the American Community Survey elicits information on international migration (presumably both legal and illegal). However, the best data on legal migration are provided by the agencies charged with monitoring ingress and egress into and out of the country. The Immigration and Customs Enforcement agency (ICE), now under the Department of Homeland Security, maintains records on immigration and emigration and regularly publishes this information in its *Yearbook of Immigration Statistics.* This agency also generates annual estimates of the volume of illegal immigration into the U.S. The U.S. Department of State is charged with tracking immigrant and non-immigrant visas issued and reports that information annually. Data on illegal immigrants is limited and, in the absence of actual data, estimates must be generated.

Exercise 8.1: Contribution of Migration to Population Change

You have been asked to calculate population change for Podunk County in order to develop plans for school expansion. Calculate population change first by looking only at natural increase and, then, by including migration in the equation.

Population change for Podunk County based on natural increase:

2000 Population	Births 2000–2009	Deaths 2000–2009	2010 Population
50,000	500	200	_____

Population change for Podunk County based on natural increase AND migration:

2000 Population	Births 2000–2009	Deaths 2000–2009	In-migration	Out-migration	2010 Population
50,000	500	200	1000	200	_____

Exercise 8.2: U.S. Metropolitan Areas and Racial/Ethnic Diversity
The graphic below presents data on the racial and ethnic diversity of the ten largest U.S. metropolitan areas. Students should examine the graphic to determine the patterns of diversity associated with each of the metro areas and answer the following questions:

1. Which of the metro areas is the most diverse in terms of racial and ethnic mix?
2. Which of the metro areas is the least diverse in terms of racial and ethnic mix?
3. In what ways do historic patterns of immigrant settlement affect the observed patterns?
4. In what ways do these patterns reflect the regionals distribution of various racial and ethnic groups?

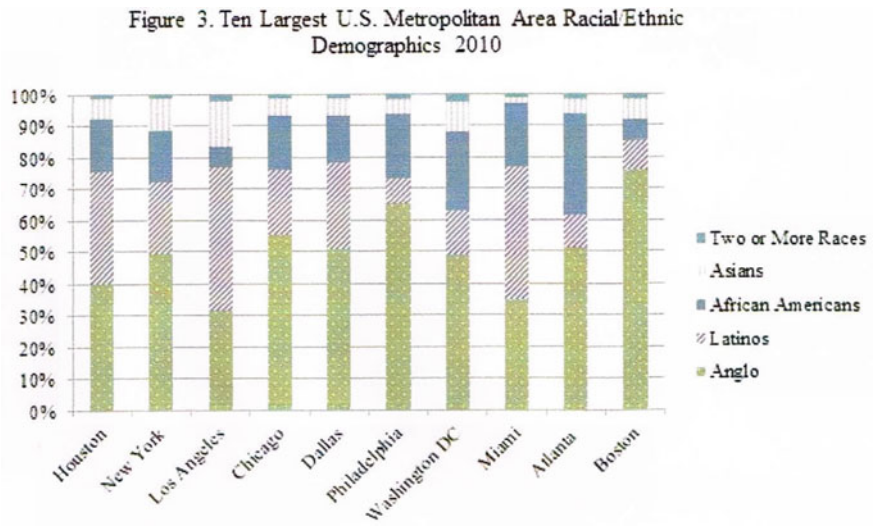

Fig. 8.2 Ten largest U.S. metropolitan area racial/ethnic demographics 2010. *Source* Emerson et al. (2016)

References

Camarota, S. A. (2010). *A record-setting decade of immigration: 2000–2010*. Downloaded from URL: cis.org/2000-2010-record-setting-decade-of-immigration.

Center for Economic Development and Business Research, & Wichita State University. (2010). *Characteristics of immigrants*. Downloaded from URL: http://www.cedbr.org/index.php?option=com_content&view=article&id=411&Itemid=168.

Emerson, M. O., Bratter, J., Howell, J., et al. (2016). *Houston region grows more racially/ethnically diverse, with small declines in segregation*. A Joint Report Analyzing Census Data from 1990, 2000, and 2010. Downloaded from URL: http://kinder.rice.edu/uploadedFiles/Urban_Research_Center/Media/Houston%20Region%20Grows%20More%20Ethnically%20Diverse%202-13.pdf.

Ihrke, D. K., & Faber, C. S. (2012). *Geographic mobility: 2005–2010*. Downloaded from URL: https://www.census.gov/prod/2012pubs/p20-567.pdf.

Krogstad, J. M., & Radford, J. (2017). *Key facts about refugees to the U.S.* Downloaded from URL: http://www.pewresearch.org/fact-tank/2017/01/30/key-facts-about-refugees-to-the-u-s/.

Livingston, G. (2009). *Hispanics, health insurance and health care access*. Downloaded from URL: http://www.pewhispanic.org/2009/09/25/hispanics-health-insurance-and-health-care-access/.

Pew Research Center. (2015). *Chapter 5: U.S. foreign-born population trends*. Downloaded from URL: http://www.pewhispanic.org/2015/09/28/chapter-5-u-s-foreign-born-population-trends/.

U.S. Bureau of the Census. (1922). *Statistical abstract of the United States, 1922*. Washington, DC: U.S. Government Printing Office, Table 65.

U.S. Bureau of the Census. (1932). *Statistical abstract of the United States, 1932*. Washington, DC: U.S. Government Printing Office, Table 86.

U.S. Bureau of the Census. (1953). *Statistical abstract of the United States, 1953*. Washington, DC: U.S. Government Printing Office, Table 105.

U.S. Bureau of the Census. (1985). *Statistical abstract of the United States, 1985*. Washington, DC: U.S. Government Printing Office, Table 125.

U.S. Bureau of the Census. (2000). Geographical mobility (update). *Current Population Report*s P20–531 (June). Washington: U.S. Government Printing Office.

U.S. Census Bureau. (2003). *Domestic migration across regions, divisions and States: 1995–2000*. Downloaded from URL: http://0-www.census.gov.iii-server.ualr.edu/prod/2003pubs/censr-7.pdf.

U.S. Census Bureau. (2008). Current population survey. *Annual Social and Economic Supplements, March 2007*. Downloaded from URL: http://www.census.gov/prod/2009pubs/p60-236.pdf.

U.S. Census Bureau. (2010). *Statistical abstract of the United States, 2010*. Washington, DC: U.S. Printing Office, Table 5.

U.S. Census Bureau. (2011). *Annual inmigration, outmigration, net migration, and movers from abroad for regions: 1980–2011*. Downloaded from URL: www.census.gov/hhes/migration/data/cps/files/historic/tab-a-2.csv.

U.S. Department of State. (2017). *Table I: Immigrant and nonimmigrant visas issued at foreign service posts fiscal years 2012–2016*. Downloaded from URL: https://travel.state.gov/content/dam/visas/Statistics/AnnualReports/FY2016AnnualReport/FY16AnnualReport-TableI.pdf, https://travel.state.gov/content/dam/visas/Statistics/AnnualReports/FY2016AnnualReport/FY16AnnualReport-TableI.pdf.

Winthrop, S. (2012). *When moving matters: Residential and economic mobility trends in America: 1880–2010*. Downloaded from URL: https://www.manhattan-institute.org/html/when-moving-matters-residential-and-economic-mobility-trends-america-1880-2010-8048.html.

Additional Resources

Batalova, J., Mittelstadt, M., Mather, M., & Lee, M. (2008). *Immigration: Data matters*. Washington, DC: Migration Policy Institute and Population Reference Bureau.

Migration Policy Institute Data Hub. http://www.migrationpolicy.org/programs/migration-data-hub.

U.S. Census Bureau. *Current Population Reports.*

U.S. Census Bureau. *County-to-County Population Flows*. https://www.census.gov/topics/population/migration/guidance/county-to-county-migration-flows.html.

U.S. Department of Homeland Security. *Yearbook of Immigration Statistics.*

U.S. Internal Revenue Service, County-to-County Migration. http://www.irs.gov/taxstats/article/0,,id=212695,00.html.