

Diversity and Disparities

Diversity and Disparities

America Enters a New Century

John R. Logan, editor

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Chapter 1

Diversity and Inequality: Recent Shocks and Continuing Trends

John R. Logan

What's happening? As America passed into the twenty-first century we were all aware of momentous events that changed our future. In the 1990s, we experienced the breakup of the Soviet bloc and a quick victory in a war with Iraq, and there were positive signs of declining federal deficits, improvements in the economy, and benefits from technological innovations. But we became aware of the dot-com bubble when average prices on the NASDAQ stock exchange—which had doubled from the previous year—peaked at \$5,500 in March 2000, then fell 80 percent to \$1,114 two and a half years later. (By 2010 it was still hovering only around \$2,300.) We also suffered the attacks on the World Trade Center and the Pentagon in 2001 that made national security and the war on terrorism continuous front-page news. In 2007–2008, the other big news was about the global financial crisis, the possibility of a collapse of major financial institutions, and eventually a jump in unemployment and home foreclosures that meant hard times for average Americans. It should be no surprise that both the Tea Party and the short-lived Occupy Wall Street movements rose up at this time when people could no longer take their futures for granted and it had become hard to have confidence in either the private sector or our political leadership.

Historians will be sorting out the details of these wars, collapses, and social and political movements for some time to come, helping us understand what happened, why, and with what consequences. This book deals with the same period but from a different perspective: here we ask about what's happening in terms of who we are and how we live together as a society. We do not address the full range of changes in American society. Some of these changes have been favorable, such as the increasing representation of women in the highest-ranking occupations, the continued fall in teenage fertility, great reductions in smoking, consistent declines in mortality rates for most groups, and the generally improving health and well-being of most of the retirement-age population. Our emphasis is on the growing diversity of American society, the divisions among us, and the extent to which we succeed in bridging those divides.

We have more information to work with now than in the past. The census conducted every ten years used to be the linchpin of demographic research. Once every decade we could get data from all Americans (on some topics) or very large samples of Americans (on other topics) and evaluate what had changed in the preceding decade. Now the census remains, but in 2010 it asked only ten questions. In its place, the American Community Survey (ACS) is conducted annually, though with a smaller sample, and our attention is drawn to changes from year to year. And because we are learning to settle for smaller samples, we are paying closer attention to other annual

surveys conducted by the U.S. Census Bureau, especially the Current Population Survey (CPS), which was always the basis for key indicators like unemployment. The US2010 Project, supported by the Russell Sage Foundation and Brown University, made it possible to recruit many of the top scholars around the country, a mix of economists and sociologists, to address many key topics. The studies reported here take us as far back as the 1960s, revealing a mix of long-term trends, upward and downward swings, and changes in direction in American society. We address patterns in the family, the labor market, housing and communities, immigration, and race and gender—the central features of society that we as social scientists can measure and try to interpret.

Big events are important to us because they often have effects, none more so than the combination of shifts that we now think of as the Great Recession. The deepest and most prolonged downturn since the depression of the 1930s, it has taken its toll on most Americans. Economists have a specialized definition that identifies a brief recession for eight months in 2001, then a deeper one from the end of 2007 through mid-2009. But the social effects of recession can last longer. As I write in 2014, it seems premature to declare the end of the Great Recession as a societal disaster. So this shock and related shifts that pushed society in an unexpected direction are part of our story.

Another part of the story is the longer-term and continuing trends that were already well established in the 1980s and 1990s. The recession and other events surely have had some connection with them, but in many respects what we now see happening is not very different from what we could have anticipated a decade ago. We should expect continuity and change to coexist. Scholars often use the term “social structure” to refer to the persistence of social groupings, formal and informal organizations, identities, and patterns of behavior and interaction. Daily life does not change quickly for many people. Sheer demographics provide some of this structure—it takes a long time for the population alive today to be fully replaced by new generations, and to a large extent the offspring reflect the composition of the parent generation. For this reason, despite the massive immigration of new Americans since the 1980s and the fact that new groups are younger and have more children than the natives of the previous era, non-Hispanic whites continue to be a majority of the population (over 60 percent), and projections indicate that they will continue to be a majority until sometime after 2040. Another source of persistence is that the same conditions that influenced trends in the past continue to hold, more or less. For example, immigrants continue to arrive in large numbers because the U.S. economy supports them (perhaps requires them) and public policy facilitates immigration. We cannot expect these conditions to change drastically in the near future, although the Great Recession reduced new entries from Latin America. Finally, patterns persist because people and organizations develop interests in them, count on them, and take action to reproduce them. Absent a substantial shift in the distribution of power and influence, for example, there are few grounds to think that the hierarchies of social classes, racial and ethnic groups, or communities will be much different in 2020 than they were in 2000. Advantaged groups defend their position, while disadvantaged groups have few chances to advance.

For these reasons, persistence and change are found together. The social structure and trends in place at one time impose considerable inertia, and yet things sometimes are turned around by new forces or unanticipated events. In a sense, perhaps, we should have expected the Great Recession or the bursting of the home finance bubble; they were built into the system. But we did not know when they would occur, how potent they would be, or how deeply they would affect our social structure. Mostly we understand them after the fact, and to understand them in hindsight is the main accomplishment of our project.

The research presented here provides some understanding and some interpretation of the shocks of the last decade. It is noticeable, however, how strongly the analyses presented here organize themselves around standard dimensions of social structure. The chapters in part I of

the book, while emphasizing change, all show how much the pattern of change was molded within existing and continuing social divisions (by race, class, generation, gender). The chapters in the second part, while documenting a continuation of long-standing trends, also comment on the effects on those trends of the specific conditions of the last decade.

DIVERSITY AND INEQUALITY

We probe two fundamental aspects of how our country organizes identities and resources: diversity and inequality. By diversity we refer especially to how our racial and ethnic composition has evolved as a result of the expanded immigration of Latinos and Asians. But another salient dimension is age or generation—the population is aging, and at the same time there are differences in the opportunities available to people who reached adulthood in one era (such as baby boomers like myself) or another (the Gen-Xers like my children). And there are gender differences that show up here as variations in how people start their lives (in schooling) and in their family responsibilities in later life (as grandparents). Diversity is a characteristic feature of American society. We are diverse on all these dimensions, and we are becoming more diverse over time. The question for social scientists is how we handle it.

By inequality we refer especially to people's position in the labor market, their income, and their wealth. I also have in mind how they fare with respect to where they live, how they are housed, and the opportunities that are available to them as individuals or as members of local communities. Inequality is linked to diversity because different groups have different opportunities. But while we have learned to take increasing diversity for granted (this was our heritage from the nineteenth and early twentieth centuries, which we are repeating today), it is not nearly so clear why inequality would rise or fall in a given period or whether the disparities between diverse categories of people would increase or diminish. The last decade is notable for increasing inequality. This is a reversal from the 1990s. It is not simply that times are getting harder in America. They are getting harder for many, but better for some. It is not an accident that this is the decade when the phrase "We are the 99 percent" emerged to emphasize the extreme wealth of the top 1 percent of the population. What's happening with inequality?

We deal with many dimensions of diversity and inequality, always looking for patterns and trends. My intention in this introductory chapter is to highlight some of the main findings and bring them together into a portrait of the nation. These observations are a preface to what readers will find in the detailed studies that follow.

- The nation has continued to grow more diverse in racial and ethnic composition, a result of the aging of the white and black populations that once dominated the total and the immigration and higher fertility of new, younger groups of Hispanics and Asians. The next generation of young adults is emerging, and it is different in composition from the one before.
- The gender revolution in the labor force has continued, so that the workforce that was increasingly first- and second-generation immigrant also became more female. At the same time, we may have come to the end of an era of growing cohabitation, single-parenthood, and divorce.
- There has also been a continuing reduction in Americans' geographic mobility, which suggests greater social stability, along with a slow reduction in African Americans' residential segregation from whites.

Some of these could be seen as positive trends, but they are connected with heightened inequalities and economic shocks from the Great Recession that make them more worrisome.

- Income inequality has grown, along with even larger disparities in wealth. And these differences clearly follow lines of race (to the advantage of whites and Asians), nativity (to the advantage of the U.S.-born), and generation (to the advantage of the middle-aged).
- The recession has substantially weakened the economic standing not only of the poor but also of the middle class, and especially of those groups that recently aspired to middle-class status.
- The Great Recession has changed the balance between local and longer-distance moves, and a greater share of local movers are adapting to the loss of a job or home, especially among minorities and young adults.
- The U.S. economy has continuing demand for low-skill immigrants, who are often undocumented, and new research shows that the disadvantages faced by their children and grandchildren—even if born in America—are severe. At the same time, very high shares of workers at the highest skill levels, especially in the science and technology fields, are immigrants, who are possibly crowding out native workers.
- Although black-white segregation is falling, Hispanics and Asians remain as segregated in 2010 as they were in 1980, and both blacks and Hispanics live in poorer neighborhoods than whites or Asians with comparable incomes. At the same time, reflecting income polarization, higher-income Americans are pulling away from others into separate and privileged neighborhoods and communities.
- The long-term trend of women's higher educational achievement compared to men gave women an edge in some occupations. The fact that they, like immigrants, could be employed with lower wages and less secure conditions also reduced job opportunities for men.
- Child poverty associated with unmarried parents continues to be a large part of the overall poverty picture. As the population ages, older women are increasingly available to provide family support for grandchildren, but the demands are greatest on minority women, who have the least resources.
- The latest generation of young adults is falling behind previous cohorts in homeownership, wealth acquisition, and even the launching of their own households.

THE SHOCKS OF THE LAST DECADE

I turn now to our detailed findings. The studies reported in part I focus on trends that appear to us as major departures, certainly departures from what many Americans were expecting. These are analyses of the shifts in the American class structure that accompanied the dislocations of the Great Recession, first in the labor market and class structure and then in housing and communities.

Changes in the Labor Market and Class Structure

Three chapters probe the changing position of Americans in the economy. In chapter 2, Harry J. Holzer and Marek Hlavac review shifts in the labor market since 1980. This very long time series demonstrates that economic cycles are a recurrent feature of the system. Four U.S. recessions have occurred since 1979. Dating them based on peaks and troughs in the unemployment rate, Holzer and Hlavac find that two were mild (1989–1992 and 2000–2003), while the other

two (1979–1982 and 2007–2010) were quite severe. The Great Recession can be seen as a shock rather than as just another in a series of recessions, for two reasons. First, it followed closely after the recession at the beginning of the decade, from which there had been only a weak recovery. One could think of the country as having been softened up by the first punch and then knocked hard by the next one. Second, the Great Recession was unusually severe, as measured by the drop between the labor market peak and trough. Mean durations of unemployment rose by half in the 2000–2003 recession (from fourteen to twenty-one weeks), while they nearly doubled in the Great Recession (from eighteen to thirty-five weeks). That is, the average duration of unemployment was already high in the prerecession “good” year of 2007, and it skyrocketed by 2010 (the labor market trough). In 2010, 46 percent of unemployed persons had been out of work for more than six months, compared to 25 percent at the last recession’s worst point. Holzer and Hlavac worry that high unemployment and underemployment will continue for years to come.

Another feature of the labor market trends is that they have affected major categories of the population in different ways. Holzer and Hlavac show that even in good times unemployment rates tend to be higher among blacks and among less-educated, younger, and Midwestern workers (relative to the unemployment rates of whites and more-educated, older workers in other regions). And these gaps widen during downturns. In particular, Holzer and Hlavac tell us, “during the Great Recession we have seen unprecedented increases in unemployment rates among men, less-educated workers, young workers, and minorities (with Hispanics as well as blacks being particularly hard hit this time).” The weaker position of minorities and workers with little education is familiar. But why men, and why younger people? We are accustomed to the notion that men are advantaged over women, and that age discrimination favors young adults over seniors.

In fact, women have higher education levels than men (as documented in the chapter by Thomas A. DiPrete and Claudia Buchmann), but at the same level of education they earn less. Because of this historical wage disadvantage, and because they can be hired on a temporary or part-time basis, women constitute an attractive labor force for employers. Partly for this reason, since 1979 they have been catching up to men in hourly wage rate and annual earnings. The gender differential in the growth of annual earnings has been especially apparent in the last decade. This makes sense only in a labor market that is demanding more part-time and temporary workers, with more flexible hours, fewer benefits, and lower pay. Women (like immigrants) fit the bill, while men are losing their advantage.

The problem for young adults is a combination of difficult entry into the labor force and stagnant wages for new workers. The rate of unemployment for those under age thirty-five in the “good year” of 2007 was nearly double that of those age thirty-five and over. And between the peak years of 2000 and 2007, median annual earnings actually fell for those under thirty-five, while increasing 1.4 percent per year for persons between the ages of fifty-five and sixty-nine. The next generation of American workers is hard-pressed to get a foothold in the job market during young adulthood.

Finally, Holzer and Hlavac point to the increase in overall earnings inequality, a trend that appears directly or indirectly in many studies in our project. Between peaks in the labor market in every period studied here—1979–1989, 1989–2000, and 2000–2007—annual growth in the median hourly wage was greater for those at the ninetieth or ninety-ninth percentile of earnings than for those at the tenth or fiftieth percentile. By this measure, earnings inequality has been on the rise for the last four decades, not just recently.

Edward N. Wolff shifts our attention in chapter 3 to the fate of the middle class—the traditional mainstay of American society that has included a majority of persons who either believe

that they are safely middle-class or that they can realistically aspire to it. Like Holzer and Hlavac, Wolff provides information over a long time span (as far back as 1962) in what he calls a trajectory from prosperity to hardship: in 2010 the wealth of the average person (the person at the fiftieth percentile of the wealth distribution) was at its lowest level since 1969.

For the study of wealth, the key element of the run-up to the Great Recession was the growing indebtedness of middle-class Americans. They relied on credit cards, student loans, and home mortgages to support a lifestyle that was otherwise beyond their means. Total consumer debt jumped 70 percent between 1989 and 2001, then another 17 percent through 2007. Debt seemed justified by the trajectory of home values (the chief component of middle-class wealth) and stock prices (more important for higher-income Americans). Total debt was equal to about 15 percent of total equity in 1983. It rose above 19 percent in the mid-1990s, and in 2007 it was 18 percent. But it had grown out of line with people's incomes (that is, their ability to pay). In 1983 total debt was equal to 68 percent of total income in 1983, but it was at 119 percent of total income in 2007.

When the bubble burst, Wolff shows that people's vulnerability varied by their position in different markets. Wealthy Americans suffered a tremendous loss in the stock market, but stocks were soon propped up by government policies that were legitimated by the perceived fragility of financial institutions (for example, the Federal Reserve's reduction of interest rates to nearly zero). The subsidized recovery of stock prices occurred quickly.

The housing market, more important to the average American, has been slow to recover. Its fall has affected different classes differently. Almost all people in the top wealth quintile were homeowners in 2010, but home equity was only about 30 percent of their wealth, so their total loss was minimized. People at the bottom of the wealth hierarchy also suffered in this period: Wolff shows that the bottom 40 percent of households actually had negative wealth by 2010. But these people mostly had been neither homeowners nor stock investors, and their situation was determined more by rising unemployment than by market losses. This leaves the middle class as the main losers on the equity front.

Wolff defines "middle-class" for this purpose as the middle three quintiles in the wealth distribution, a broad swath of people ranging from the twentieth to the eightieth percentile. In these middle quintiles, more than two-thirds were homeowners, and 67 percent of their assets were in their home. Hence, they were especially vulnerable to falling home prices. They were already deeply in debt in 2007, when their total debt was more than 50 percent greater than their total income (following more than two decades of rising indebtedness). And although they reacted to the Great Recession by shedding debt, paying off loans and losing homes to foreclosure, their debt was still 35 percent greater than their total income in 2010.

Further analyses show how this burden coincides with social divisions similar to those considered by Holzer and Hlavac, especially race-ethnicity and age. Differences between whites, blacks, and Hispanics have been extreme. Of course, their starting point is unequal. Nearly 75 percent of whites were homeowners in 2001, compared to 47 percent of blacks and 44 percent of Hispanics. The net worth of blacks averaged about \$80,000, and for Hispanics it was close to \$100,000, compared to nearly \$575,000 for whites; moreover, a much larger share of black and Hispanic wealth was in their homes. All three groups experienced gains through 2007. But from 2007 to 2010, when whites' drop in wealth averaged 13 percent, the average drop in wealth was 34 percent for blacks and a startling 50 percent for Hispanics. All groups suffered large increases in the percentage of homeowners with negative home equity (that is, who were "underwater"), from around 2 percent in 2007 to between 8 and 9 percent in 2010. But only about 3 percent of non-Hispanic white homeowners were delinquent on their mortgage in 2009, compared to 11 percent of blacks and 15 percent of Hispanics.

Wealth and loss of wealth in the Great Recession have also been closely tied to age. Again taking 2001 as a reference point, the net worth of young adults (under age thirty-five) was much lower than that of middle-aged persons nearing retirement (fifty-five to sixty-four)—under \$90,000, compared to \$870,000. Both age groups enjoyed gains (8 to 9 percent) through 2007. But the Great Recession devastated young adults, cutting their wealth by more than half, while the middle-aged lost only 12 percent. The difference in the effect of the recession was mainly due to the fact that young adults, like minorities, had disproportionate shares of their meager net assets in home equity in 2007. They stand out in terms of the high share of persons with negative home equity (jumping from under 6 percent in 2007 to over 16 percent in 2010) and the decline in average home equity during 2007–2010 (almost 60 percent). In contrast, only 5 percent of middle-aged persons had negative home equity, and their average loss of equity was only 14 percent. Young adults were, of course, least likely to own a home, but those who did were greatly affected by having bought more recently and at higher prices.

These uneven impacts of the Great Recession have led to a sharp rise in overall wealth inequality. Inequality of net worth, after almost two decades of little change (the Gini coefficient of wealth inequality was 0.832 in 1989 and 0.834 in 2007), jumped to 0.870 in 2010. Wealth inequality today is at unprecedented levels.

Chapter 4, the third chapter in part I, returns us to the question of how Americans' incomes have fared in this decade compared to the previous twenty years. An important feature of Richard V. Burkhauser and Jeff Larrimore's work is the care with which they measure income: using the annual Current Population Survey allows them to measure income before taxes but after in-cash government transfer payments, and to adjust by household size. By their reckoning, the average (median) American's income (which they refer to as the income of the middle class) has been generally on the rise since 1979, with declines during recessions—especially from 1979 to 1983, and now dropping even more sharply in the Great Recession. In these same decades, they show, income inequality has generally been on the rise, though actually most steeply in the earlier years. In the Great Recession, the top 5 percent of earners experienced an income decline along with other Americans, but inequality grew because the poor lost the most.

We learn more about the sources of change from their decomposition of the median income decline. In all four economic downturns since 1979, by their calculation, the most important factor in accounting for falling incomes was that male heads of households were less likely to be employed, and if they were working, they were earning less. What is unique about the Great Recession, besides its larger decline, is that unemployment was a greater problem than wage levels even for the median earner. Male unemployment for heads of households accounted for a 2.9 percent drop in median incomes as the share of full-time employed fell from 63 percent to 56 percent. The earnings of those still employed accounted for an additional 1.5 percent decline. There was a shift toward part-time work in the Great Recession, and average earnings of these part-timers dropped by 15 percent.

Female household heads have been engaged in a longer-term trend of increased labor force participation and increased earnings (most likely by working more hours). This long-term movement was large enough to offset the effects of most recessions, and both of these factors moderated average income losses during the recessions. At the time of the Great Recession, however, the movement of women into the labor force had slowed. Female heads lost jobs: the share of full-time workers among them fell from 41 percent to 38 percent. This shift added another 1.1 percent loss to median income.

Another contribution of Burkhauser and Larrimore's decomposition is to discover the substantial effect of increasing public transfers from 2007 to 2010, a policy impact that is largely attributable to the Obama administration's stimulus efforts. During previous recessions, aver-

age public transfer income increased in the range of 7 to 12 percent, partly offsetting losses in the private sector. During the 2007–2010 period, public transfers grew by 22 percent, especially owing to the extension of unemployment benefits. This aggressive public effort reduced overall income losses.

Finally, Burkhauser and Larrimore comment on the impact of continuing disparities in income by race-ethnicity and generation. The prospects for income growth beyond the current recession are reduced by the long-term replacement of whites in their prime earning ages by younger minorities in the coming decade. “The statistics,” they say, “foretell our society’s Sisyphean challenge: if we are unable to close the income gaps between retired and working-age Americans and between blacks/Hispanics and whites, how will we increase median income and reduce inequality in the coming decades?”

Changes in Housing and Communities

The shock of the last decade also shows up in housing and community life. In chapter 5, Michael A. Stoll shows that the Great Recession has accentuated a longer-term decline in long-distance migration and pushed up the volume of local moves within metropolitan areas. More important, he argues, is that the motives of moving have changed. Much residential mobility in the past reflected people’s ascent over the life course into better jobs, better housing, and better neighborhoods. He offers evidence that such mobility is being curtailed and that in fact the short-distance moves that became more typical in the latter half of the last decade represented people adapting to unemployment, home foreclosure, and limited economic prospects. Movers are now increasingly pressed by problems of affordability and job loss, and “moving up” is becoming less common.

In the years just before and then during the Great Recession, long-range moves declined but there was a jump in local moves. In 2010, 9 percent of Americans moved locally—the highest level in a decade. Meanwhile, fewer than 2 percent of Americans moved farther afield—the lowest level in this same period. People moved the most in metropolitan areas with the highest unemployment and the highest foreclosure rates—particularly in the West and South, areas hard hit by the Great Recession. Unlike past decades, when local movers were moving up economically—from an apartment to a house, from one house to a better one—these movers were moving down economically, seeking a cheaper home.

Stoll also draws on reports from the Current Population Survey about why people moved. Before the Great Recession, 41 percent of local movers said that they wanted to buy a home or live in a better neighborhood; for them the move signaled their improved economic status. During the recession, only 30 percent moved for this reason. Instead, a growing share moved to find cheaper housing or to “look for work.” Like the authors of the previous chapters, Stoll points out some social differentials in this trend. Local movers from 2000 to 2010 were significantly more likely to be young adults, poorly educated, and below the poverty line. Blacks and Latinos became more likely to make local moves as the decade progressed, but there was little change among whites and Asians. Traditional lines of inequality were displayed in the rates and reasons for moving.

Emily Rosenbaum calls our attention in chapter 6 to shifts in access to homeownership, which in the latter half of the twentieth century became a hallmark of success—a sign of making the transition into full adulthood and a step toward financial security. Homeownership recently has become more tenuous, though some of the change, like the decline in long-distance moves, predated the Great Recession but has been magnified in the last decade.

Rosenbaum focuses especially on the experiences of different cohorts of Americans, from “Depression Babies” (born between 1926 and 1935) to “Generation Y” (born 1976 to 1985).

This approach is useful because homeownership is so strongly associated with age. What she seeks to do is discover the rate of ownership achieved by a given cohort of persons (that is, persons born in different periods) at successive stages of their adulthood. There is growing evidence that more recent generations will fail to match their parents' achievement. By ages thirty-five to forty-four, the baby boom cohort had fallen behind the homeownership level of the "War Babies" (those born between 1936 and 1945) at the same point in their life cycle. Generation Y (persons now in the twenty-five-to-thirty-four age range), which Rosenbaum refers to as "the unfortunate cohort that entered adulthood during the worst economic crisis since the Depression," had a 2010 homeownership rate of only 41 percent, compared to 45 percent for "Generation X" (born 1966 to 1975) and the Late Baby Boomers (born 1956 to 1965) at the same age.

The housing market crash and the Great Recession had their greatest impact on African Americans and persons with lower education. Only 20 percent of blacks of Generation Y owned a home at age twenty-five to thirty-four in 2010, compared to 27 percent of black Gen-Xers at the same age a decade earlier. So, not only have blacks historically been less likely to own a home (their shares are only about half the rate for comparable whites), but young black adults are falling behind previous cohorts at a faster clip.

Trends by education level also show startling disparities. Among householders with a college degree, the newer cohorts are fully keeping up with the progress of previous cohorts at the same age. Among those with less than a high school diploma, every cohort is substantially behind the previous ones. Clearly the era when a majority of Americans at any education level can aspire to be a homeowner in middle age is at risk of ending. Seventy-five percent of Gen-Xers with a college degree owned a home by age thirty-five to forty-four, compared to less than 40 percent of those with less than a high school degree.

Rosenbaum points to another related trend for new generations: the failure to launch into independent households, whether owning or renting.¹ This change is more dramatic and possibly more revealing about how Americans are managing than the change in ownership. Among thirty-five- to forty-four-year-olds, only 20 percent of Late Baby Boomers were neither a household head nor the head's spouse or partner; in Generation Y the figure is 29 percent. Not only are adult children less likely to live apart from their parents, but there is more doubling up of other relatives and acquaintances.

The final chapter in part I brings together the threads of economic inequality and housing access in a study of increasing class segregation. We might think of the phenomenon of sorting people of different social classes into different neighborhoods as a natural consequence of unequal ability to pay for housing. And indeed, as Kendra Bischoff and Sean F. Reardon report in chapter 7, one of the best predictors of increasing class segregation is increasing income inequality. Their measure of separation controls, however, for the fact that income inequality was generally increasing in the last decade. This means that another factor has been at play—there is some other reason why lower-income people would increasingly be segregated into poor neighborhoods or that rich people would gravitate to rich enclaves.

Bischoff and Reardon document a steady decline in middle-income neighborhoods (defined as neighborhoods whose median income is between 80 and 125 percent of the metropolitan median) from 1970 through 2009. In 1970, 65 percent of families lived in such neighborhoods, but that figure had dropped to only 42 percent by 2009. By a more complex measure that they rely on, segregation increased in phases: it stayed about the same during the 1970s, increased in the 1980s, stabilized again in the 1990s, and then climbed once more in the last decade.

Decomposing the trend by race and ethnicity, Bischoff and Reardon find that growing class segregation is most pronounced among blacks and, to a lesser degree, Hispanics. They see an association between this change and wider residential opportunities for middle-class minorities.

The share of middle-income black families increased after 1970, and rather than staying restricted to black neighborhoods (which had had more mixed incomes as a result of their presence), these families increasingly left the ghetto behind. This spatial shift created a new level of separation between affluent and poor blacks (although affluent blacks still lived in poorer neighborhoods than working-class whites), and the impoverishment of the neighborhoods they left behind was a natural consequence.

Urban scholars argue that spatial segregation accentuates the handicaps created by inequalities in income and wealth, in part because so many resources are collective: people in the same community share resources such as the quality of schools, neighborhood safety, and environmental health. For disadvantaged Americans, separate neighborhoods are necessarily unequal neighborhoods. Bischoff and Reardon point out another factor: as affluent Americans increasingly live in separate communities, they become less aware and less concerned about the problems faced by others. Their social insulation can thus weaken support for redistributive social policies of all sorts.

PERSISTENT TRENDS

Although some of the patterns we have seen in the last decade have precedents in the not-too-distant past, and some may turn out to be cyclical (hence temporary) in nature, the changes have seemed abrupt. We did not anticipate in 2000 that we were on the verge of economic crises; a sharp rise in poverty, inequality, and class segregation; a weakening of the middle class; a transition in residential mobility, from taking a step ahead to falling behind; and a much tougher road to homeownership for young adults and minorities. Indeed, we might have thought that we were on the verge of good times and that long-standing disparities—such as the disadvantaged position of racial and ethnic minorities—had a prospect of easing. This is why I understand many recent changes as a shock to our social system. At the very least, they have been a shock to our expectations.

In some other respects, we have experienced fairly steady movements in familiar directions, and as time passes it becomes easier to understand the character and implications of these movements. Part II of this book addresses several of these trends. We begin with the family, both how families are established (usually in young adulthood) and how they are sustained through the life course. The recent acceptance of same-sex marriage in many states is an unexpected development, and we do not yet know how marriage will change people's relationships. We do know that marriage is being postponed, that the population is aging, and that patterns of intergenerational support (especially support by parents of their grown children and their children's families) are evolving. We then turn to immigration, taking stock of the continuing high-volume, post-1985 immigrant wave at both the high end of professionals on whom industry and services increasingly rely and the low end of unskilled and often undocumented persons on whom we rely equally as a low-wage workforce. A generally positive tendency has been the rise in education levels, though there are new questions about why men are not keeping pace with women. And as the population becomes more racially and ethnically diverse, there is increasing diversity in neighborhoods, even as the separation of blacks, Hispanics, and even Asians into minority neighborhoods remains high. In all of these dimensions, the country is moving on a well-established trajectory.

The familiar dimensions along which our society is structured are generation, family life cycle, nativity and legal status, skill and education, gender, and race and ethnicity, all of which we analyze here. These dimensions are evolving in ways that we need to be aware of, not least because the changes are so closely tied to the unequal distribution of opportunities that has been magnified in the beginning of this new century.

The Family

Zhenchao Qian reminds us in chapter 8 that the family has been in flux for several decades. Most of these changes continued after 2000. Young people delayed marriage longer than ever before, permanent singlehood increased, and divorce and remarriage continued to rise, though it appears that cohabitation may have reached a plateau. Qian's main emphasis is on how differently the family appears for Americans of different race-ethnicity, educational attainment, and nativity, and how these differences affect children's well-being. White people and Asians, partly because they are better educated and more economically secure, have much more stable family situations than blacks and Hispanics. As a result, about three out of four white and Asian children live in working father–nonworking mother or dual-earner families. Very few of these latter children, perhaps 10 percent, live in poverty. And even in the family situation where incomes are lowest—living with a never-married mother—fewer than half are below the poverty line.

African Americans have a strongly contrasting family pattern. (For those who remember the Moynihan [1965] report, the long duration of this difference is well known.) During the Great Recession, they became even less likely to have stable marital or cohabitation relationships, to the detriment of the economic position of their children. Fewer than 30 percent of non-immigrant black children live in two-parent families in which at least one parent works, and almost as many live in families with a mother who has never been married. This family configuration is much less common for Hispanics, but black and Hispanic children have similar poverty profiles within a given family status. In the most economically difficult case—living with a never-married mother—about 60 percent of these children are below the poverty line.

An intriguing observation is how immigration status is related to family patterns. Qian notes that the most “traditional” families with children are those of immigrants—and that, among blacks, those born abroad are much more likely than the U.S.-born to include two parents. In this respect, immigrants are more “American” than natives.

In chapter 9, Judith A. Seltzer and Jenjira J. Yahirun address intergenerational relations within families. The longevity of today's older adults offers extended opportunities for meaningful interactions with children and grandchildren, yet the strength of these ties has been tested by changes in the structure and composition of families of the sort examined by Qian. Seltzer and Yahirun point out that there is rapidly growing diversity among older Americans along the same social dimensions that distinguish groups with more stable family patterns from those with less stable family patterns. On average, the older generation has more resources than younger adults, though poverty increases with age among seniors and varies greatly by gender and race. Among whites, for example, the poverty rate among women rises from 7 percent at ages sixty-five to seventy-four to 12 percent at age eighty-five and older. Fully 26 percent of black women over eighty-five are poor, compared to 17 percent of black men of the same age. But the race differential outweighs the gender gap: whether young or old, black and Hispanic men are more likely to be poor than white women over eighty-five. Black and Hispanic elders are also more likely to suffer a disability than whites. These differences bear directly on whether the older generation is able to assist adult children financially (with college bills or home purchases, for example), and they also have an effect on parents' ability to help their children in other ways.

Seltzer and Yahirun offer a careful look at the role of grandparents in relation to grandchildren. They note that even at age thirty a majority of Americans still have a living grandparent, and by age fifty-five to sixty-four, more than three-quarters of women have at least one grandchild. Many have multiple sets of grandchildren. Recent data show that about two-thirds of Hispanics have two or more sets of grandchildren by age fifty-five to sixty-four, slightly more than African Americans have, and also more than whites (59 percent). And they provide assis-

tance to those children—for example, one estimate is that 30 percent of preschoolers are cared for by grandparents when parents are at work or school. African American and Hispanic women are also more likely to live in the same home as a grandchild (13 to 18 percent of those over age fifty-five versus only 4 percent for non-Hispanic whites), and African American coresiding grandmothers are especially likely (over 40 percent) to be the child's primary caretaker. Unfortunately, about 30 percent of black and Hispanic grandmothers in these latter cases fall below the poverty line.

The message here is that the growing older population continues to be a crucial element in the support system of their adult children and their grandchildren. Yet an increasing share of grandparents (and grandparents with caregiving responsibilities for children) are African American or Hispanic. Because both extended family composition and the distribution of family responsibilities are closely related to race and ethnicity, the greatest burdens are being placed on the older women who have the least resources to draw upon.

Immigration at the Top and the Bottom

Race and ethnicity, so much a part of the story about families, housing, income, and wealth, are also closely linked with immigration status. A majority of Asians in the United States are first-generation immigrants. Nearly half of immigrants are Hispanic, although Hispanic immigrants are outnumbered by Hispanics born in the United States. Non-Hispanic whites, who were a majority of the foreign-born population as recently as 1970, are now only a little more than 10 percent of the immigrant total. Most African Americans are U.S.-born, but the largest source of growth in the black population is due to immigration.

The studies presented here point out the duality of immigration streams. On the one hand, the United States is becoming increasingly dependent on highly educated immigrants to meet the demand for workers in the engineering and technology fields. These immigrants are relatively well paid, and their entry is highly regulated by formal visa policies. At the same time, a very large share of immigrants are relatively unskilled. They fill the demand for workers at the low end of the labor market, and it is in this sector that most undocumented immigrants are found. Both types of immigrants are growing rapidly in numbers, and a full understanding of immigration issues requires that we pay attention to each type.

John Bound and Sarah Turner offer a comprehensive description in chapter 10 of high-skill immigration: 20 percent of workers holding a doctoral degree in 1990 were immigrants, a figure that had jumped to 34 percent by 2010. Such immigrants stand out most among Ph.D.-level engineers: already a large share in 1990 (42 percent), they were 64 percent of the total in 2010. Bound and Turner point out that high-skill immigration has allowed the U.S. labor market to respond to changes in demand for workers in science and engineering resulting from shocks like changes in defense spending (both upward and downward), the doubling of the National Institutes of Health (NIH) budget at the end of the 1990s, and the information technology (IT) and Internet boom (and the contraction after the dot-com bubble). This flow is facilitated by the growth of postsecondary education in major sending countries, but constrained by government restrictions.

The availability of temporary visas (the H-1B visa reserved for high-skill workers) is a central issue in the current debates about immigration policy. Generally the high-tech sector favors expansion of the H-1B program so that it can more readily recruit abroad. A counterargument, however, is that immigrants depress the domestic labor supply by keeping wages lower than they might otherwise be and discouraging U.S.-born persons from entering these fields. Another mechanism for entry into the United States is the student visa, and, indeed, American

higher education increasingly turns to foreign students not only for undergraduate programs but especially to populate graduate degree programs in technical fields. The number of F1 student visas is not limited, although eventually foreign graduates of U.S. institutions typically need to compete for an H-1B visa in order to work for more than a year in the United States after graduation. Bound and Turner do not make recommendations about these policies (their view is that we do not know enough to make well-informed decisions), but their findings are relevant to the debate.

Their key finding concerns the relationship between immigration and salaries for high-skill workers. They point out that the payoff to a college degree (the difference in expected earnings between a person with a degree and a person without a degree) has increased in recent years. We might therefore expect that in the science and technology fields there would be an even greater increase in the premium for a degree. Such an increase has not occurred. At the bachelor's level, an entry-level engineer earned over \$50,000 in 1974 and about \$45,000 in 2006 (in constant dollars); computer scientists earned about \$40,000 in both years. At the doctoral level, of course, earnings are higher: in 1974 the average for those in their first ten years of work in the physical sciences was at a level equal to the eighty-fifth percentile of earnings of the average B.A. recipient in all fields. Relative to that, they had fallen more than 15 percent by 2006. These data do not demonstrate that the rising reliance on foreign-born workers in these jobs was the cause of the relative stagnation or decline in salaries, but they are consistent with that conclusion. What we know for sure is that the top end of the science and technology fields in the United States has come to rely on talent from abroad, a trend that was clearly in place a decade ago and has become more pronounced today.

In chapter 11, Frank D. Bean, James D. Bachmeier, Susan K. Brown, Jennifer Van Hook, and Mark A. Leach examine immigrants at the other end of the skill distribution. Much prior research has focused on the impact of this immigration stream on local labor markets, and especially on the possibility that it reduces job opportunities for citizens or depresses wages for low-skill workers. The authors note that there are labor market effects, but that these are mainly felt by immigrants who arrived earlier, not by natives. So, for these researchers, the greater concern is the marginality of new arrivals. They analyze the sources of unauthorized Mexican immigration to the United States, the disadvantages faced by unauthorized immigrants in the labor market, and especially the long-term impact of undocumented status on educational achievement by their U.S.-born children and grandchildren.

There are many low-skill immigrants, and their number has been rising, though the momentum of that increase has been affected by the national economic downturn. Very few Mexicans receive the H-1B visas reserved for skilled workers (about 20,000 annually through the last decade), but many more received temporary admission for seasonal work. In agriculture, the number actually rose sharply in the last decade despite the recession: it is now close to 180,000 per year. The United States added about 60,000 legal permanent residents from Mexico in 1990. This annual number peaked at about 200,000 in 2001, then fell to the current level of about 120,000 per year. The number of unauthorized Mexican immigrants in the United States grew steadily toward a high point of about 7 million at the beginning of the Great Recession and now is closer to 6 million. Bean and his colleagues point out that this high volume responds to a demand for workers in this country that is accentuated by the aging of Americans, the steady drop in our fertility rate, and the rise in our education levels; all of these factors cut the supply of new low-skill workers, who must now be recruited, especially for service jobs.

This immigration stream fosters a social divide that has parallels with previous eras of high-volume immigration, when first the Irish and then Italians and Slavs entered the low end of a labor market that offered few opportunities for advancement in their lifetimes. These earlier

groups did eventually become more fully incorporated into the mainstream, though it took two or more generations. The case of today's Mexican immigrants (and many others from Latin America and Asia) is distinctive because of the undocumented status of many of them. Bean and his colleagues provide evidence that one consequence is to undermine the advancement of the next generation—the children born in the United States—through education. Nearly 4 million children of Mexican immigrants live in this country, and most of them were born here. Based on a large-scale survey of second-generation Mexican young adults in Los Angeles, the work of Bean and his colleagues shows that those whose mothers were authorized immigrants or U.S. citizens averaged more than two years more schooling than those whose mothers entered the country illegally. This is the equivalent of the difference between having some college and not finishing high school. They estimate that more than one-third of the education gap between third-generation Mexicans (that is, the grandchildren of Mexican immigrants) and native whites is attributable to the legacy effects of grandparents' unauthorized status.

The much-discussed DREAM (Development, Relief, and Education for Alien Minors) Act, which would regularize the status of certain immigrants who arrived here as children (still not enacted at the time of this writing), is an acknowledgment of how unauthorized status blocks progress by many children who arrive as immigrants. An important contribution of this study is to show that the lack of a path to legal status for adults diminishes the chances even for children and grandchildren born in the United States, who have all the formal rights of citizenship.

Education and Gender

The rising level of education in this country and its increasing importance for success in the labor market is the starting point for the study by Thomas A. DiPrete and Claudia Buchmann. Fewer than 5 percent of Americans over age twenty-five had a college degree in 1940; that figure rose to more than 10 percent by 1970, more than 20 percent by 1990, and more than 30 percent today. Less widely known is that women in every major racial-ethnic group in the United States are more likely than men to complete college. And this is a global phenomenon. Among the member nations of the Organization for Economic Cooperation and Development (OECD), the gender gap that once favored men has disappeared in all but four countries. This pattern is the focus of the research reported by DiPrete and Buchmann in chapter 12.

In this country, the crossover occurred among young people born just after 1960. When these Americans reached ages twenty-six to twenty-eight, equal shares of men and women (just over 20 percent) had attained a bachelor's degree. For men born after that time, there has been only slow growth in degree attainment, while women have continued a rapid rise in college education.

The African American pattern deserves particular attention. As early as 1940, when fewer than 2 percent of blacks earned a college degree by age twenty-six to twenty-eight, black women were more likely than black men to be college graduates. By 2010, 66 percent of all bachelor's degrees awarded to African Americans were earned by women. One reason for this discrepancy is that black men have tended to delay higher education. Among blacks born in 1938, for example, there was a very large gender imbalance for twenty-two-year-olds, but by age twenty-eight men had caught up with women. Today black men are reducing the gender gap at older ages, but not nearly catching up.

One reason, which applies to all groups but perhaps more to blacks than to whites, is the nature of the labor market. A wide range of occupations that reward higher education has opened up for women in recent decades, and they are taking advantage of this opportunity. "For African Americans," DiPrete and Buchmann argue, "legal and de facto discrimination and seg-

regation muted the impact of these labor market shifts.” Another factor that particularly affects black men is incarceration. There is incomplete evidence on whether spending time in jail reduces black men’s chances of eventually getting higher education. However, if incarcerated persons are taken into account, the gender gap among blacks is much larger than shown in the figures cited here. It is likely that the set of choices made by African American men and women in early adolescence is conditioned by expectations for the future (such as the belief that education can lead to a better job) and at the same time has a considerable effect on their outcomes.

DiPrete and Buchmann apply this line of thinking more generally to the higher education gender gap. They consider both the range of job opportunities available to men (historically biased toward gender stereotypes of “men’s work” and skills learned on the job rather than in school) compared to those available to women and the early socialization of boys and girls. Masculine identity, lower expressive attachment to school, and unrealistic expectations about how to get ahead all play a part in their interpretation. If these authors are right, what is surprising is the persistence of the gender differences in American culture and how strongly they continue to affect major life choices.

Race and Ethnicity

The final contribution is Barrett A. Lee, John Iceland, and Chad R. Farrell’s study of changes in the racial and ethnic diversity of American communities. Like other trends discussed in part II of this book, these changes have been in the making for decades. Most Americans are aware of the growth of minority populations and the projections that non-Hispanic whites will become a population minority before long. Hispanics, who have outnumbered African Americans since 2000, are highly visible in much of the country, and the Asian population is growing equally quickly through immigration. Differences by race and ethnicity are so profound that most of the analyses presented in this book have highlighted how they come into play in specific subject areas. Standard categories of race are in flux, with a small but growing share of children identified by their parents as mixed-race, and even the Census Bureau is caught up in the debate about whether Hispanics can identify themselves as Hispanic by race or must place themselves in the traditional categories.

In chapter 13, Lee and his colleagues examine how the national shift in the relative size of these groups is showing up at the community and neighborhood levels. In this country, minority groups, especially new arrivals, have typically been residentially segregated in the beginning, and social scientists use this spatial separation as a key indicator of the nature of intergroup relations. Just as intermarriage across groups is a measure of the social boundaries between them, so also is residence in the same place.

A strong trend toward greater diversity has been under way across metropolitan areas since 1980, fueled by Hispanic and Asian growth. The trend is nationwide, but it appears most strongly in places that researchers call “gateways”: regions that have historically had large foreign-born populations. In gateway areas, the share of non-Hispanic whites has dropped from an average of almost 70 percent in 1980 to 45 percent in 2010. While the black percentage remained constant, Hispanics jumped from 20 to 38 percent, and Asians from 3 to 7 percent. As a metropolitan region becomes more diverse, the changes spill over into the individual areas (cities, towns, villages) within them. In gateway metropolitan areas, whites are a majority in most of these areas, but in a growing proportion of them whites share the community with a substantial minority of other groups.

Naturally, because there is segregation across neighborhoods within these places, those neighborhoods (which researchers define as “census tracts,” areas that typically have 3,000 to

5,000 residents) are less diverse. Nevertheless, diversity is working its way down to finer scales, and census tracts are becoming more racially and ethnically diverse in most parts of the country. A majority of census tracts that were more than 90 percent white in 1980 (termed “white dominant” in this study) had fallen to the 50 to 90 percent range by 2010 (“white shared”). More than four times as many tracts had no group in a majority in 2010 compared to 1980. At the same time, however, most tracts with a black or Hispanic majority in 1980 retained that majority in 2010.²

Lee and his colleagues also present results for the most commonly used measure of segregation, the index of dissimilarity (D), which controls for overall changes in a region’s racial-ethnic distribution. Given the relative size of each group at a given time, this measure asks how a group’s distribution among neighborhoods compares to that of nongroup members. Measured this way, whites and blacks became less segregated from other groups between 1980 and 2010, but there has been less change for Hispanics and actually an increase in the segregation of Asians.³ Blacks remain the most highly segregated group by this measure, however, and some specific Hispanic and Asian national-origin groups (for example, Dominicans and Vietnamese) remain more segregated than others.

Lee and his colleagues conclude that the overall pattern suggests that people from different racial-ethnic backgrounds are becoming more exposed to one another at the community and neighborhood levels as the nation becomes more diverse. Barriers to residential integration apparently remain, however, especially for blacks, and there is some evidence of whites choosing to leave mixed neighborhoods. In the gateway metropolitan regions, which have the greatest diversity, declines in segregation have been more modest than in regions where minorities are less numerous.

CONCLUSION

The many scholars who collaborated on the US2010 Project made no effort as the work progressed to create a single overall point of view on what is happening in this country, though we did meet twice in person and several authors submitted preliminary reports that we circulated to the whole team. Here, then, I draw my own conclusions about how the results fit together, the overall story they tell, and where that leaves us as a society.

My emphasis here is on signs of trouble. The situation is worse than I had realized with respect to inequality and the effects of the recessions that we experienced twice in the last decade. Of course, the media have repeatedly covered reports about widening income and wealth inequality, and one had to assume that the foreclosure crisis and rising unemployment would hit already disadvantaged categories of Americans the hardest. What the studies reported here brought home to me is that the shocks have been harsher than I realized, and have extended further into the middle class and disrupted young adulthood more than I imagined.

I repeat some indicators of harshness. In 2010, 46 percent of unemployed persons had been out of work for more than six months, compared to 25 percent at the last recession’s worst point. People were not cycling in and out of unemployment—they were stuck without a job. The average person’s income dropped more in the Great Recession than in any previous recession since 1979. By 2010, a larger share of America’s movers were moving locally than ever before since 1981, and a growing share of them were moving to find cheaper housing or to “look for work,” not because they were climbing the mobility ladder. Homeownership declined with increasing foreclosures and tougher standards to qualify for a mortgage.

Some of the usual disadvantaged groups have been hardest hit. Unemployment has jumped especially for less-educated workers as well as for African Americans and Hispanics. Net wealth

dropped by one-third for blacks and was cut in half for Hispanics. The shift to local moves was found only among blacks and Hispanics.

More surprising is the hit taken by the middle class. People at the middle of the income distribution already had a total debt that was 50 percent greater than their total income in 2007 when the housing bubble burst, and by cutting back since then, they have made only a small dent in that debt load. The middle class, because they had some wealth at stake and most of it was in their homes, were hit hardest by the bursting of the housing market bubble. Wages have risen for people at the ninetieth or ninety-ninth percentile of earnings more than for those at the tenth (the bottom) or the fiftieth (the middle). And class segregation across neighborhoods has been driven not by increasing exclusion of poor people but from the fact that the rich are separating out from both the middle class and the poor.

It is also disturbing that the losses have so clearly targeted the younger generation. We are used to the notion that young adults have lower earnings and less stable jobs at the beginning of their careers and then tend to advance with time and age. The Great Recession has disrupted this process so much that it is very much in doubt that they will advance. During the relatively “good” years from 2000 to 2007, median earnings for those under thirty-five actually fell, and the subsequent increase in unemployment among young workers during the Great Recession is described as unprecedented. The net worth of young adults was cut by more than half after 2007. Generation Y persons (those age twenty-five to thirty-four in 2010) have a homeownership rate of only 41 percent, compared to 45 percent for people at the same age a decade earlier. Gen-Yers were even more delayed in launching independent households. By age twenty-five to thirty-four, only 71 percent of Generation Y were household heads or partners of heads, compared to 80 percent among Late Baby Boomers at the same age. For decades Americans have expected their children to grow up and do as well as they have or to outdo them by getting a higher education and a more professional job. Younger generations are getting more education, but otherwise they seem to be falling behind.

We cannot predict whether these “surprises” will become the new standard or turn out to be temporary disruptions. Some actually have deep roots or precedents. For example, the top 1 percent and top 10 percent of earners have been outpacing the rest for four decades, and income inequality increased fastest in the early 1980s. Residential segregation between high-income and lower-income families increased more in the 1980s than in the last decade. Total consumer debt, especially in mortgages and home equity loans, rose more in the 1990s than after 2000. Americans have become steadily less residentially mobile since the mid-1980s. Contrasts with earlier generations began to appear at least with the baby boomers, who were slower to become homeowners, took on more housing debt, and were more vulnerable to price fluctuations than the War Babies who preceded them. These observations lead me to expect recent shifts to be more long-lasting, even if overall economic conditions are likely to improve somewhat as the Great Recession comes to a close. The harshness of the Great Recession has made us look more closely at continuing grim realities, and we are surprised by facts that we could have been familiar with before.

Another part of this puzzle arises because inequalities are so tightly connected with key dimensions of diversity in the American population, and the population composition is changing. As noted above, Burkhauser and Larrimore make an acute observation about how earnings decline and income inequality intersect with the retirement of the baby boom generation and the growth of the black and Hispanic populations. A parallel observation could apply to other aspects of diversity (immigration, gender) and to other outcomes that we study here (wealth, mobility, household formation, family composition and the welfare of children, education). All

these aspects of American society are in play in our analyses, and it is challenging to keep them all in mind.

I take as an illustration our many findings related to gender. In this case what is changing is not the overall composition of the population—the share of women in the population and the increase of this share with age because of longevity differentials are quite stable. What changes is the position of women in our society. We find the evidence in these studies that women increasingly surpass men in their level of education. They nevertheless lag behind men in earnings and work hours, and they seem to play the same role as immigrants in being the workers of choice to fill the growing demand for temporary, part-time, lower-paying jobs—especially in periods of recession, when overall labor demand is weaker. They are increasingly called on to be heads of households with children, even when working. And they play the key role in intergenerational support to children and grandchildren, even when the greatest needs (in black and Hispanic families) are combined with the least resources in the older generation. Almost certainly the Great Recession has intensified these pressures on women, but we have not put all these pieces together in a coherent story.

In the face of all these problems, the trend in neighborhood diversity and particularly in the residential segregation of African Americans seems to offer some sense of progress. Blacks are certainly a bit less segregated from whites today than they were in 2000, and measured against the 1960s or 1970s, the progress is more striking. As the nation's gradually increasing racial and ethnic diversity filters down to cities and towns in most parts of the country, neighborhoods in metropolitan areas are becoming more diverse. There are some signs that these trends are linked. Another report for the US2010 Project not included in this volume shows that blacks have tended to enter neighborhoods with whites most often when Asians or Hispanics have already moved in (Logan and Zhang 2011). These "global neighborhoods" now include close to half of residents from each of these major racial-ethnic groups in the nation's most multiethnic metropolitan regions.

I am cautious, however, about the interpretation of these findings. In other respects, the studies presented here show particular disadvantage for both blacks and Hispanics. Although African Americans increasingly live in racially mixed neighborhoods, the share of blacks who live in all-minority neighborhoods is also growing. And even affluent blacks and Hispanics still live in poorer neighborhoods than poor whites.⁴ Progress for these minorities—in terms of the neighborhoods where they live and the kinds of schools their children attend—is minimal.

Where does this leave us, and what is to be done? My view is that the nation is moving down a path that Americans will not tolerate in the long run. In the short run, I expect continuing advantage for those segments of the population who have been doing better, who rode out the Great Recession in good shape and have been separating themselves from other Americans in their income, wealth, and community location. In the longer term, this status quo is problematic. The middle class is not the safe haven that it seemed to be in the past. Homeownership is uncertain, and higher education does not necessarily lead to stable career paths. African Americans and Hispanics who have established themselves in this middle class are noticing that their status is tenuous. Women are taking on increasing responsibilities without increasing support, and many are relying on intergenerational support that may prove hard to maintain. Men are losing historic gender advantages and may find themselves increasingly competing for less desirable jobs, without the educational credentials that are growing more important. And a large segment at the bottom of our class structure, facing long-term unemployment and poverty even if on average the economy improves, is excluded from any immediate prospect of improvement in their own lives.

With distress reaching so widely across social groups, how are we to understand the fact that the main social mobilization of the last decade has come from the conservative side of the political spectrum? The Tea Party prescription is to cut taxes, reduce services and safety net benefits, protect and even subsidize investors, and oppose efforts to move health care delivery from emergency rooms to doctors' offices. There is much resistance to shifting the tax burden away from corporations and wealthy Americans, increasing the minimum wage and earned income tax credits to establish a living wage, providing incentives to firms that hire more workers, and investing in public education for the minority children who are our future workforce.

Demographic changes do not in themselves provide much insight into these political realities. One might expect that racial and ethnic shifts—and, probably with more delay, the weakening of the middle class—would have direct effects on party alignments, and very likely that has happened at the national level. Indeed, there was much media speculation during and after the 2012 presidential campaign about Republicans' difficulty in attracting Hispanic voters and the Democrats' apparent lock on the African American vote. Social science research gives some clues to why changing populations do not quickly or necessarily sway elections. Electoral representation typically lags a generation behind population changes. Many Hispanics, for instance, are not eligible to vote because they are not citizens or they are younger than eighteen. Growth in the Hispanic population remains highly concentrated in congressional districts that already have a Hispanic representative, and few districts are receiving enough new Hispanic residents to constitute a real electoral force (Logan, Oh, and Darrah 2009). Second, low levels of education and limited English language skills depress Hispanic voter registration and election turnout, and new restrictions (such as voter ID requirements) reduce the participation of all groups, with special impact on minorities, poor people, and older persons (Logan, Darrah, and Oh 2012). It also takes time for politicians to make room for representatives of new groups. The old-fashioned politics of drawing electoral district lines continues to protect incumbents at all governmental scales, from local city council districts to congressional districts, regardless of political party.

There is also a considerable gulf between electoral politics and actual legislation. Americans pay more attention to elections and quite naturally know much less about real politics. Winning elections is one matter, but it is quite a different matter to get legislation through a committee, to get it onto the floor for a vote, and finally to have a majority, and then still to run the gauntlet of administrative rule-making and enforcement. Most progressive measures are supported only when they recruit elite supporters: health care reform has to add subscribers to insurance companies, immigration reform has to increase visas for high-technology companies, school reform has to expand contracts for private corporations in the charter school business, and affordable housing has to provide tax credits to high-income investors.

The studies presented in this book sometimes draw critical conclusions about government policy or about the implications of findings for policymakers. Yet what we do best, because we know how to marshal the data, is to describe what's happening. We count on readers to think about the patterns and trends that are documented here, evaluate how they add up, and decide what is to be done.

NOTES

1. Trends in age at marriage affect these differences, but they are also partly a source of differences. Rosenbaum controls for marital status in her multivariate models. Zhenchao Qian (2012) studied this issue at greater length in a census brief that he prepared for the US2010 Project, "During the Great Recession, More Young Adults Lived with Parents."

2. This finding is consistent with another study conducted for the US2010 Project. Logan and Zhang (2011) show that increasing shares of every racial-ethnic group now live in mixed neighborhoods, but that, in a countertrend, whites continue abandoning such neighborhoods.
3. Logan and Stults (2011) find that black segregation from non-Hispanic whites has declined more slowly than black segregation from nonblacks. There is unchanging exposure of blacks to whites in their neighborhoods, but increasing contact with Hispanics and Asians. Hispanics and Asians remain as segregated from non-Hispanic whites in 2010 as they were in 1980.
4. Black families earning over \$75,000 a year in the 2005–2009 American Community Survey lived in neighborhoods that averaged 13.9 percent poor. Affluent Hispanics' neighborhoods averaged 13.0 percent poor. For white families earning less than \$40,000, the average neighborhood poverty rate was 12.9 percent (Logan 2011).

REFERENCES

- Logan, John R. 2011. "Separate and Unequal: The Neighborhood Gap for Blacks, Hispanics, and Asians in Metropolitan America." US2010 Project (July). Available at: www.s4.brown.edu/us2010/Data/Report/report0727.pdf (accessed August 19, 2014).
- Logan, John R., Jennifer Darrah, and Sookhee Oh. 2012. "The Impact of Race and Ethnicity, Immigration, and Political Context on Participation in American Electoral Politics." *Social Forces* 90(3): 993–1022.
- Logan, John R., Sookhee Oh, and Jennifer Darrah. 2009. "The Political Impact of the New Hispanic Second Generation." *Journal of Ethnic and Migration Studies* 35(August): 1201–24.
- Logan, John, and Brian Stults. 2011. "The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census." US2010 Project (March 24). Available at: www.s4.brown.edu/us2010/Data/Report/report2.pdf (accessed August 19, 2014).
- Logan, John, and Charles Zhang. 2011. "Global Neighborhoods: New Evidence from Census 2010." US2010 Project (November). Available at: www.s4.brown.edu/us2010/Data/Report/globalfinal2.pdf (accessed August 19, 2014).
- Moynihan, Daniel Patrick. 1965. *The Negro Family: The Case for National Action*. Washington: U.S. Department of Labor, Office of Policy Planning and Research (March).
- Qian, Zhenchao. 2012. "During the Great Recession, More Young Adults Lived with Parents." US2010 Project (August). Available at: www.s4.brown.edu/us2010/Data/Report/report08012012.pdf (accessed August 19, 2014).

Part I

The Great Recession: The Great Divide

Chapter 2

A Very Uneven Road: U.S. Labor Markets in the Past Thirty Years

Harry J. Holzer and Marek Hlavac

In the past three decades, the American economy has experienced large swings in performance, over shorter and longer time periods, and has undergone major structural changes. During the 1980s, we first endured a severe recession, engineered by the Federal Reserve Bank to fight high rates of inflation, and then recovered with a lengthy period of expansion and economic growth. Another and milder recession in the early 1990s was followed by an even more robust period of expansion, often called “the Great Boom” or “the Roaring Nineties,” during which high productivity and income growth returned to the U.S. economy. But in the decade of the 2000s, which once again began with a mild recession, the economic picture was more mixed: a shorter period of recovery, during which productivity growth was high but income growth was much lower, was followed by the “Great Recession,” the most severe economic downturn since the 1930s.

How did all of these economic forces play out in the U.S. labor market during this time period? In each economic cycle, how did trends in wages, employment, and annual earnings reflect these economic developments? Which groups of workers benefited from economic growth, and which did not? Despite the periodic ups and downs in the economy, what long-term trends do we find in the labor market? And does the current severe downturn, from which our recovery is likely to be painfully slow, change our long-term perceptions?

We use data from the Current Population Surveys for over thirty years to answer these questions. The analysis proceeds in two parts. First, we consider secular trends in labor market outcomes over the four years that constitute labor market peaks during this time period: 1979, 1989, 2000, and 2007. We measure trends in hourly wages and annual earnings (both adjusted for inflation) as well as employment rates across these years, considering how these vary by gender and educational group as well as other demographic traits, and also how they vary over the earnings distribution. We also look at the changing occupational and industrial distribution of American jobs to get more of a sense of the structural forces associated with the labor market outcomes we observed.

Second, we consider peak-to-trough changes in unemployment rates, unemployment durations, and the percentages of the unemployed enduring lengthy spells of unemployment during each of the four recessions: 1979–1982, 1989–1992, 2000–2003, and 2007–2010.¹ This analysis indicates the extent to which the current downturn is similar to that of 1979–1982 and the other milder ones; we also consider some evidence on the labor market recovery through 2013. We conclude with some thoughts about long-term labor market trends and policy implications to deal with both the severe downturn and secular developments.

Of course, many of the labor market developments we present have been described in other publications, and the causes of these labor market trends have been much analyzed and debated by labor economists over the past few decades. But most of the research does not cover the past full decade, including the last few years of the 2000–2007 cycle and the Great Recession. One of our contributions is to provide an up-to-date summary, accessible to both economists and non-economists, of secular trends and cyclical swings over three decades, including the last full cycle and the Great Recession.² We also interpret both short-term and long-term trends and their causes in light of the most recent evidence and generate some policy prescriptions for short-term and longer-term challenges based on all of this. We review not only the more technical literature by labor economists and describe what we have learned from that literature about the causes of trends but we also attempt to supplement it with more recent knowledge in various places.

The results of our analysis can be summarized as follows:

- Overall labor market performance in the United States has been very uneven across the past three decades. In the aggregate, moderate gains in wages and earnings during the 1979–1989 cycle were followed by more substantial gains in the 1989–2000 cycle and then very modest ones during 2000–2007.
- Despite this unevenness in overall labor market performance, certain common patterns appear across decades. In general, women and/or more-educated workers gained the most in earnings and employment, while men and/or less-educated workers gained the least (or actually lost ground in some cases). Within these groups, workers at the top of the earnings distribution gained the most compared to those at the middle or bottom, reflecting dramatic increases in inequality. Along some dimensions, younger and/or minority workers as well as those in the Midwest also lost ground relative to other groups.
- Dramatic decreases in employment in manufacturing and in production and clerical jobs, relative to higher- and lower-paying categories, further reflect important structural shifts in the demand for labor. But significant employment growth in other industries (such as construction and health services) and occupations (such as technicians) indicates that the middle of the job market remains substantial for those with appropriate skills.
- Of the four recessions during these three decades, two were quite mild and the other two were quite severe—especially the Great Recession of 2008 and beyond. Very large increases in unemployment rates and durations have occurred in the recent downturn and were experienced primarily by less-educated, younger, and/or minority workers, all of whom had already experienced relative declines in their earnings and employment over the past three decades. In addition, the recovery in the labor market so far has been quite modest, despite a fairly large decline observed in the nation’s unemployment rate.

Overall, we find a labor market in which progress has been very uneven over time and across labor market groups. Inequality has widened dramatically, and important structural changes have occurred. The current downturn is likely to be followed by a gradual recovery, during which time many of the unemployed will suffer from long-term “scarring.” And even after fully recovering, labor markets might continue to show only modest improvements, of the kind we saw from 2000 to 2007.

Appropriate policy responses should focus on short-term assistance to the unemployed as well as longer-term efforts to improve the skills of less-educated American workers and the quality of the jobs they get. Direct assistance to improve earnings among the less-educated, in

the form of institutions to raise wages and cash assistance to the working poor (through expansions in the Earned Income Tax Credit [EITC]), should be considered as well.

DATA AND EMPIRICAL FINDINGS

We have analyzed data from the Current Population Survey (CPS), a monthly survey of about 50,000 households conducted by the U.S. Census Bureau and the Bureau of Labor Statistics (BLS), to calculate all labor market statistics. Annual earnings figures were obtained from the Annual Social and Economic Supplement (ASEC, the “March supplement”) of the CPS for the preceding year. Hourly wages, employment-population ratios, and unemployment rates and durations come from the Outgoing Rotation Groups (ORGs) of the CPS monthly earner study. We also relied on a crosswalk from the Integrated Public Use Microdata Series (IPUMS-USA), published by the University of Minnesota, to classify occupations consistently across the years in our study.

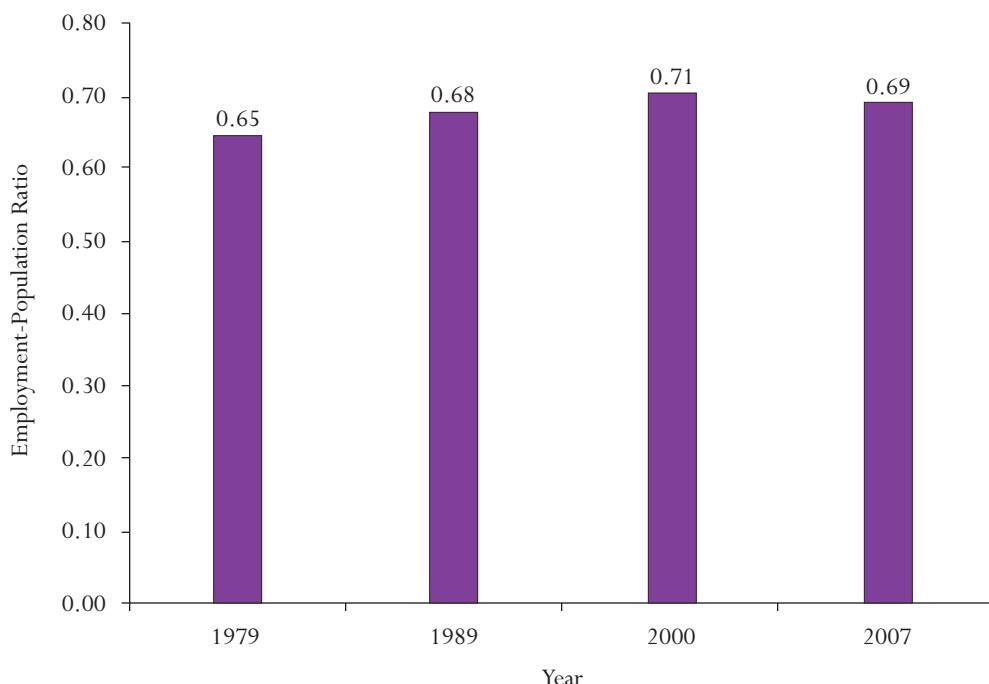
To express annual earnings and hourly wages in real 2010 dollars, we deflated nominal wage and earning figures using the chain-weighted Personal Consumption Expenditures (PCE) version of the Gross Domestic Product (GDP) deflator constructed by the Bureau of Economic Analysis. Our sample is limited to individuals between the ages of sixteen and sixty-nine and excludes full-time students and self-employed workers. Furthermore, it excludes individuals employed in the agriculture industry, as well as those in military or farming occupations.³

To preserve the confidentiality of survey respondents, the U.S. Census Bureau top-codes high incomes and earnings: values that exceed specified levels are reported at specified top-coded levels. To adjust annual earnings for top-coding, we used a cell mean series, created by Jeff Larrimore and his colleagues (2008), that provides the mean of all income values above the top-code for individuals in the public use March supplement of the CPS. For hourly wages, we applied a log-normal imputation to adjust top-coded values from the ORGs of the monthly CPS earner study, as proposed by John Schmitt (2003).

SECULAR LABOR MARKET TRENDS ACROSS THREE DECADES

We begin by presenting data on labor market outcomes in the cyclical peak years across the past three decades, which include 1979, 1989, 2000, and 2007. Figures 2.1 to 2.5 present aggregate data on three key labor market outcomes for those years: employment-population rates, hourly wages, and annual earnings. Both means and medians appear for the wage and earnings measures. Annual earnings represent the product of hourly wages and total hours worked per year, where the latter represents hours worked per week (part-time versus full-time) and weeks worked per year, and weeks worked (out of fifty) approximates the employment rate of any group of workers, which is one of our three measured labor market outcomes. Therefore, annual earnings should reflect both the wage and employment outcomes in the labor market that we separately consider.

Figures 2.1 to 2.5 demonstrate consistent progress in aggregate labor market outcomes across the three decades, but the rate of progress is uneven, both over time and across specific outcomes. For instance, mean real hourly wages rose very modestly in the periods 1979–1989 and 2000–2007 (by 3.8 and 6.9 percent, respectively), but much more substantially in the period 1989–2000 (by 17.6 percent). Median wages show similar trends. On the other hand, employment rates rose quite strongly in the years 1979–1989, and then they continued to increase in the period 1989–2000 before declining somewhat after 2000. As a result of these wage and employment trends, annual earnings rose somewhat in the years 1979–1989 (with mean

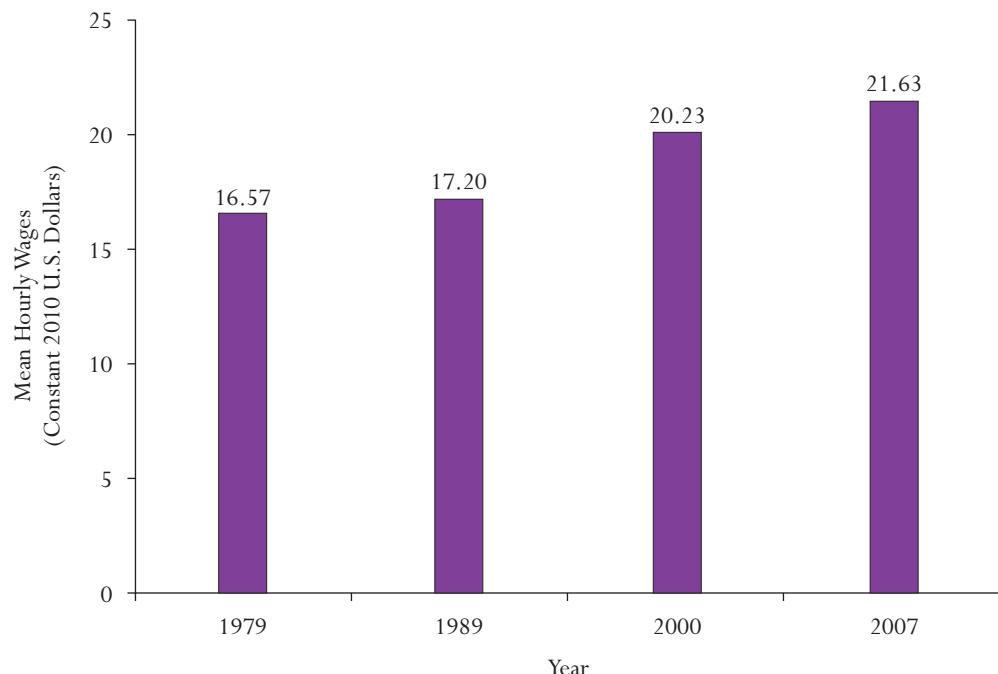
FIGURE 2.1 *Employment-Population Ratio, 1979–2007*

Source: Authors' calculations using Current Population Survey (CPS), Outgoing Rotation Groups.

and median wages rising 8 and 10 percent, respectively), and again during the years 1989–2000 (with mean and median earnings rising 23 and 15 percent), before flattening out after 2000 (with mean and median earnings rising only about 3 percent each).

It is noteworthy that, in contrast to some other recent evaluations of labor market trends (for example, Mishel et al. 2012), we find at least some real wage and earnings growth quite consistently occurring in the U.S. labor market over the past three decades. The extent to which our estimates are a bit more positive than some others might be due to our use of a price deflator that rises more modestly and more accurately than other measures of inflation (like the Consumer Price Index [CPI]) over time, as well as some other differences in sample composition.⁴

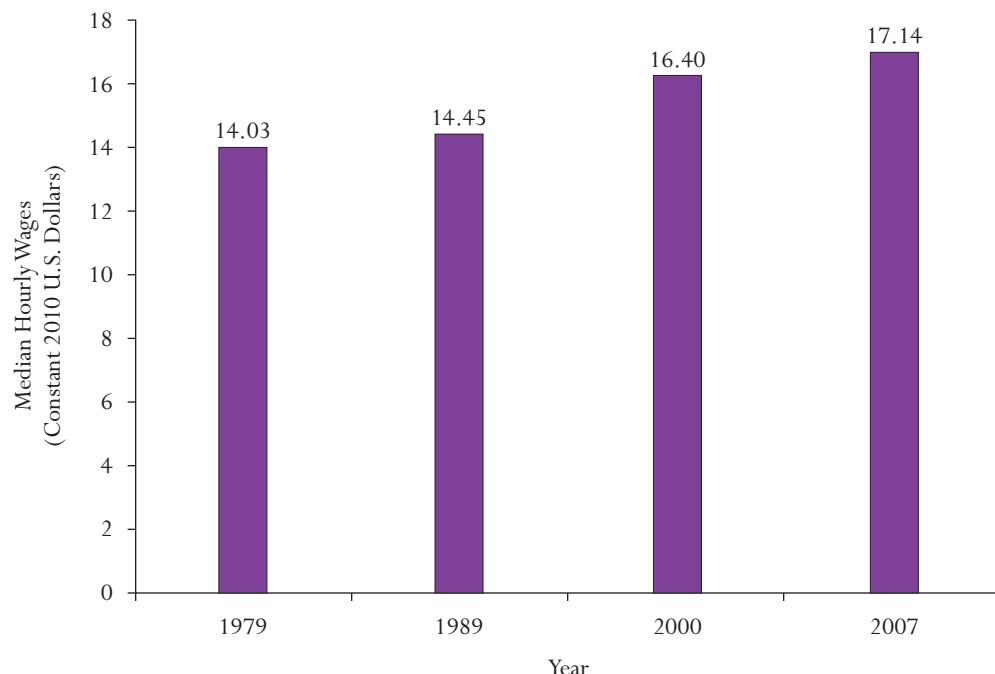
Having said that, real wage increases were very modest in the 1980s, as were wage and especially real earnings increases after 2000. What might account for the unevenness of these trends over time? Real wages declined in the aftermath of the second OPEC (Organization of the Petroleum-Exporting Countries) oil shock of the late 1970s and recovered only a bit afterward (owing to quite modest productivity growth). Any earnings growth observed during the 1980s was driven mostly by growth in employment, which probably reflected the aging of the Baby Boomer generation into their prime employment years. After double-digit inflation rates were brought down by a severe recession in the years 1981–1982, it is likely that a more moderate macroeconomic environment enabled the U.S. labor market to achieve lower aggregate unemployment and therefore raised employment rates during that time as well (Bernanke 2004).

FIGURE 2.2 *Mean Hourly Wages, 1979–2007*

Source: Authors' calculations using CPS, Outgoing Rotation Groups.

In contrast, the cycle 1989–2000 was characterized by what has become known as “the Great Boom” or “the Roaring Nineties” (Krueger and Solow 2002; Stiglitz 2003). After a mild recession during 1990–1991, very strong productivity growth (associated with new technological developments) allowed wages to rise significantly with low inflation. At the same time, strong consumer demand translated into strong employer demand for labor, which drove the unemployment rate to a thirty-year low, and other policies (like welfare reform and expansions of the Earned Income Tax Credit) also raised labor force participation rates among certain groups (like less-educated women), leading to increasing employment rates in the population (Blank 2002). As a result, both wages and earnings rose substantially in this period, as did employment rates. Also, it is noteworthy that most labor market outcomes for this entire period were much stronger in the 1995–2000 period than they were from 1989 to 1995, suggesting that the real boom was shorter-lived than the data for the whole period suggest (Holzer and Hlavac 2011).

But labor market outcomes over the 2000–2007 cycle were much less positive than earlier ones. While productivity growth remained very strong, much less of it showed up in the hourly wages of most American workers, perhaps reflecting growth in health care costs and other measurement issues as well as other labor market and institutional trends.⁵ At the same time, the high levels of employment achieved in the earlier decade were not fully sustained: labor force activity declined a bit, and unemployment among labor force participants also rose. Overall, the results suggest that employer demand for labor was weaker after 2000 than in the previ-

FIGURE 2.3 *Median Hourly Wages, 1979–2007*

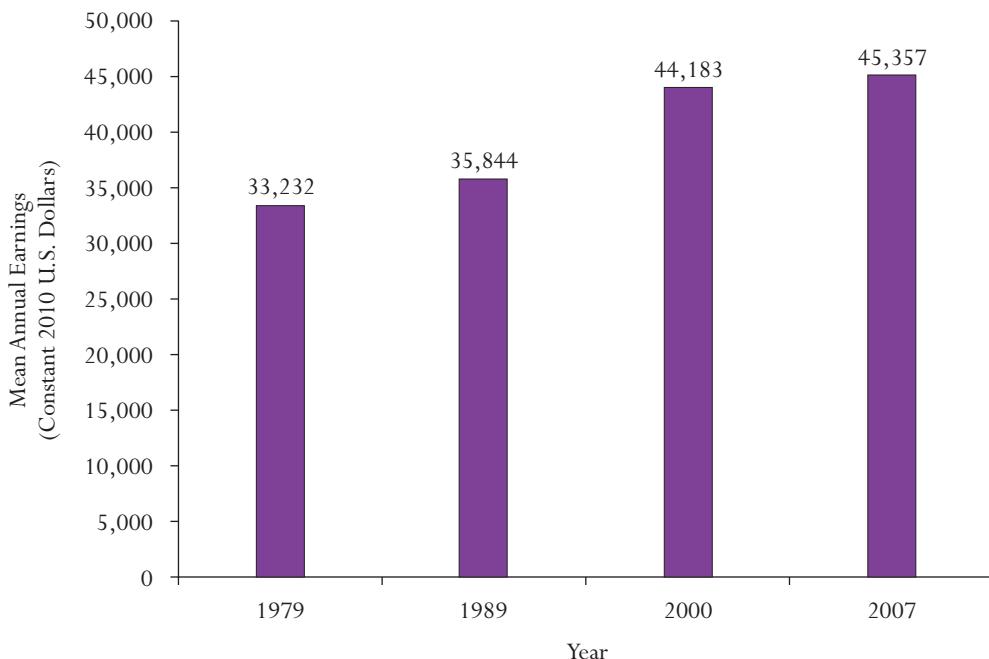
Source: Authors' calculations using CPS, Outgoing Rotation Groups.

ous cycle, with employers better able to produce the goods and services demanded by consumers without needing to hire many more workers.⁶

Overall, then, labor market progress in the aggregate has been extremely uneven across the past three decades. But within each period, how were any observed aggregate gains distributed across different demographic and earnings groups in the labor market? When were gains widely shared, and when not? In other words, were the gains very unevenly distributed across groups (resulting in greater labor market inequality), as well as over time?

Mean hourly wages, employment rates, and annual earnings for the years 1979 and 2007 appear in table 2.1. These are presented separately by gender and educational attainment, and also by race and region. In this table, we consider the absolute magnitudes of employment outcomes achieved by each group, so we can measure what happened to gaps across these groups over the entire period; subsequently, we consider the patterns of changes in outcomes during each of the three cycles, to more carefully review the progress made by different groups in those years.

The results presented in table 2.1 indicate that labor market gaps between males and females narrowed between 1979 and 2007, while those between education groups increased quite substantially. Focusing on annual earnings, the ratio of female-to-male earnings rose from 0.49 percent to 0.69 in that period. In contrast, the ratio of earnings of high school to college graduates fell from 0.65 to 0.54 over the same period, and that between college graduates and those with advanced degrees (beyond the B.A.) fell from 0.77 to 0.72.⁷

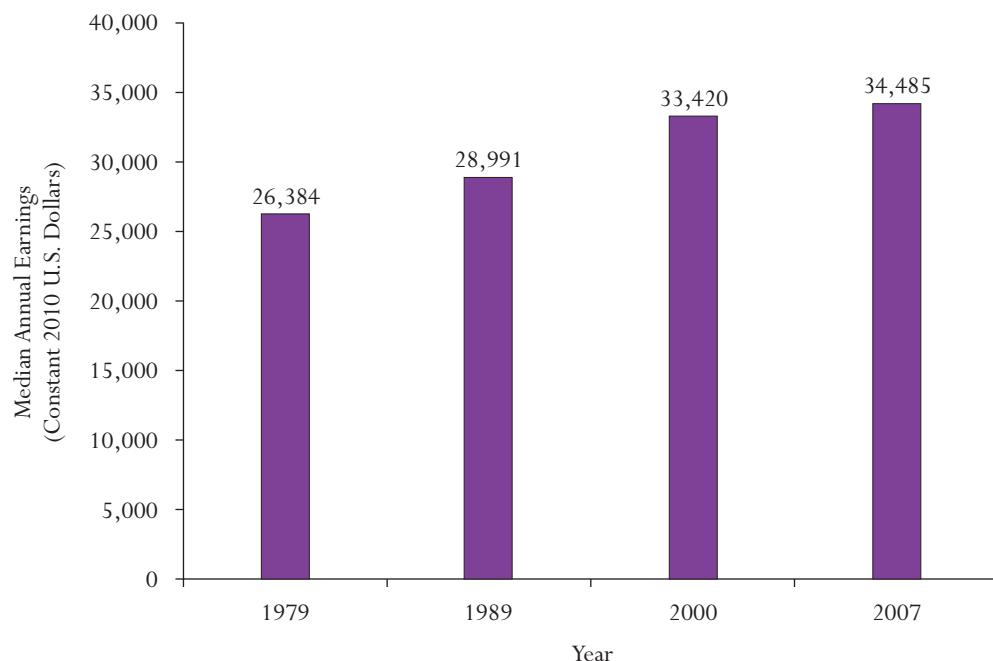
FIGURE 2.4 *Mean Annual Earnings, 1979–2007*

Source: Authors' calculations using CPS, Annual Social and Economic Supplement (ASEC).

When we consider trends by educational group and gender together, we find that hourly wages for less-educated men—that is, those with a high school diploma or less—were essentially flat over this entire period, while their annual earnings declined slightly. Somewhat more positive trends in wages and earnings can be observed for college-educated men as well as for less-educated women, while the greatest advances are observed for highly educated women. Indeed, college-educated women had annual earnings well below those of less-educated men in 1979, while by 2007 the former had earnings roughly 50 percent higher than the latter.

It is also noteworthy that both employment and hourly wage growth contributed to the observed patterns of earnings growth between males and females, with both being more rapid among females. Indeed, employment rates declined among men during this time period while rising for women. As we note more clearly later, positive correlations between changes in wages and employment suggest shifts in labor demand (relative to labor supply) across groups, which are likely to have contributed to the patterns of outcomes observed here. In this case, labor demand seems to have shifted away from less-educated workers, particularly men, and toward more-educated workers, especially women, over the entire period.

A few other findings in table 2.1 are also noteworthy. The annual earnings of African Americans relative to those of whites stayed relatively constant over time (at about 0.73 to 0.75), but the relative wages of the former declined (from 0.83 to 0.78). Relative wages and earnings of Hispanics also declined, while their employment rates rose quite substantially—probably reflecting a large influx of less-educated Hispanic immigrants into the workforce in this

FIGURE 2.5 *Median Annual Earnings, 1979–2007*

Source: Authors' calculations using CPS, ASEC.

period (Borjas 2007). And relative wages and earnings of workers in the Midwest declined over time relative to those of workers in other regions: Midwestern workers had the highest hourly wages in 1979 but nearly the lowest by 2007. In fact, the heavy concentration of Midwestern workers and especially African American men in the durable manufacturing jobs that disappeared after 1980 may have contributed to the difficulties experienced by both groups (Bound and Freeman 1992; Bound and Holzer 1993), as we further note later.

LABOR MARKET CHANGES ACROSS GROUPS AND WITHIN TIME PERIODS

Exactly how and when all of these labor market developments occurred becomes clearer in table 2.2, where we present data for the changes that are observed within the periods 1979–1989, 1989–2000, and 2000–2007 in hourly wages, employment-population ratios, and annual earnings for all workers and by gender and educational attainment. But even within gender and education groups, inequality might have risen quite substantially in the past three decades. So similar data appear in tables 2.3 and 2.4 across the different parts of the wage and earnings distribution (namely, the tenth, fiftieth, ninetieth, and ninety-ninth percentiles of each distribution), with hourly wage changes appearing in table 2.3 and annual earnings changes in table 2.4. Changes in wages and earnings appear as cumulative annual growth rates, while overall absolute changes are presented for employment-population ratios.

TABLE 2.1 *Mean Hourly Wages, Employment-Population Ratios, and Mean Annual Earnings, by Gender, Education, Race, and Region, 1979–2007*

Category	Mean Hourly Wages (2010 Dollars)		Employment/ Population Ratio		Mean Annual Earnings (2010 Dollars)	
	1979	2007	1979	2007	1979	2007
All	16.57	21.63	0.65	0.69	33,232	45,357
<i>By gender</i>						
Men	19.60	24.01	0.79	0.75	43,062	53,404
Women	12.72	19.08	0.53	0.64	20,894	36,767
<i>By education</i>						
Less than high school	13.42	12.51	0.48	0.47	24,503	22,924
High school	15.26	16.67	0.66	0.66	29,704	32,627
Some college	16.78	19.34	0.74	0.73	33,460	39,774
College	21.50	28.33	0.78	0.79	45,678	60,302
Advanced degree	25.42	35.82	0.87	0.81	59,180	83,709
<i>By education and gender</i>						
High school or less						
Men	17.33	17.51	0.74	0.68	36,386	35,200
Women	11.36	13.65	0.47	0.54	18,056	24,726
Bachelor's degree or more						
Men	25.99	34.91	0.91	0.85	61,938	84,104
Women	17.37	26.69	0.68	0.75	30,616	52,847
<i>By race</i>						
White	17.05	23.13	0.66	0.71	34,632	49,267
Black	14.07	17.98	0.60	0.65	25,442	36,767
Hispanic	13.89	16.53	0.60	0.67	26,404	32,008
<i>By region</i>						
Northeast	16.72	23.57	0.64	0.71	34,051	49,343
Midwest	16.82	20.75	0.66	0.72	34,319	43,543
South	15.43	20.42	0.63	0.68	30,724	43,159
West	17.96	22.87	0.65	0.68	34,877	47,422

Source: Authors' calculations based on Current Population Survey, Outgoing Rotation Groups and Annual Social and Economic Supplement.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals. Individuals with hourly wages below \$2 or above \$5,000, as well as those with annual earnings below \$1,000 or above \$10 million, are not included.

The results for all workers in table 2.2 confirm what we saw earlier in figure 2.1—namely, that both employment and earnings grew rapidly in the 1989–2000 cycle in the United States, while employment grew rapidly in the 1979–1989 and 1989–2000 periods. Rising employment rates generated moderate earnings growth in the first period, while declining employment offset modest real wage growth to generate quite low growth in annual earnings (0.38 percent per year) in the 2000–2007 period.

Growth rates were very uneven, however, across gender and education groups as well as over time. In general, both wages and employment grew more rapidly for women than for men. This is true in each of the three cycles and within most education groups. The differences in

TABLE 2.2 *Changes in Mean Hourly Wages, Employment-Population Ratios, and Mean Annual Earnings, by Gender and Education, 1979–1989, 1989–2000, and 2000–2007*

Category	Mean Hourly Wages (Cumulative Annual Growth Rate)				Employment-Population Ratio (Absolute Change During Time Period)			Mean Annual Earnings (Cumulative Annual Growth Rate)		
	1979–1989	1989–2000	2000–2007	1979–1989	1989–2000	2000–2007	1979–1989	1989–2000	2000–2007	
All	0.37%	1.49%	0.96%	0.03	0.03	-0.01	0.76%	1.92%	0.38%	
Men, by education										
Less than high school	-1.23	-0.26	0.39	-0.06	0.00	-0.01	-1.47	0.20	-0.59	
High school	-0.83	0.75	0.17	-0.05	-0.03	-0.03	-0.57	0.47	-0.63	
Some college	-0.12	0.88	0.15	-0.03	-0.01	-0.04	0.29	1.19	-0.84	
College	0.32	1.51	0.64	-0.02	-0.01	-0.02	0.76	1.90	-0.63	
Advanced degree	1.12	1.68	1.29	-0.04	-0.03	-0.01	0.87	3.12	-0.21	
Women, by education										
Less than high school	-0.64	0.52	0.72	0.01	0.03	-0.02	0.49	0.71	0.58	
High school	0.18	1.10	0.65	0.05	0.02	-0.02	1.05	1.34	0.67	
Some college	1.10	1.05	0.67	0.07	0.02	-0.02	1.95	1.55	0.76	
College	1.53	1.90	0.76	0.09	0.00	-0.01	2.56	2.03	0.57	
Advanced degree	1.58	1.76	0.87	0.04	-0.00	-0.02	1.89	2.57	0.85	

Source: Authors' calculations based on CPS, Outgoing Rotation Groups, and ASEC.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals. Individuals with hourly wages below \$2 or above \$5,000, as well as those with annual earnings below \$1,000 or above \$10 million, are not included.

TABLE 2.3 *Changes in Hourly Wages Across the Wage Distribution, by Gender and Education, 1979–1989, 1989–2000, and 2000–2007*

Category	Tenth Percentile (Cumulative Annual Growth Rate)				Fiftieth Percentile (Median) (Cumulative Annual Growth Rate)				Ninetieth Percentile (Cumulative Annual Growth Rate)				Ninety-Ninth Percentile (Cumulative Annual Growth Rate)			
	1979–1989		2000–2007		1979–1989		2000–2007		1979–1989		2000–2007		1979–1989		2000–2007	
	1989	2000	2007	1989	2000	2007	1989	2000	2007	1989	2000	2007	1989	2000	2007	
All	-0.91%	1.43%	0.13%	0.29%	1.16%	0.63%	0.89%	1.60%	1.20%	1.11%	2.63%	1.04%				
Men, by education																
Less than high school	-1.88	0.91	0.66	-1.42	-0.56	0.55	-0.88	-0.52	0.12	-0.55	0.36	0.60				
High school	-1.44	0.76	-0.01	-1.01	0.26	-0.11	-0.25	0.89	0.33	-0.16	1.38	1.06				
Some college	-1.17	1.64	-0.27	-0.48	0.67	0.01	0.26	0.84	0.32	0.84	0.59	1.39				
College	-0.44	1.13	-0.27	0.44	1.13	0.24	0.39	1.60	1.42	-0.12	2.61	-0.17				
Advanced degree	0.50	1.31	0.60	1.15	1.24	0.72	1.11	1.78	1.72	1.81	1.78	-1.69				
Women, by education																
Less than high school	-1.65	1.47	-0.07	-0.52	0.64	0.56	-0.05	-0.20	0.76	0.02	0.23	3.76				
High school	-1.63	1.37	0.11	0.28	1.08	0.20	0.76	1.01	0.66	0.74	1.38	1.60				
Some college	-0.78	1.28	0.24	0.96	0.96	0.39	1.71	1.01	0.99	1.91	1.00	1.98				
College	0.73	1.14	0.18	1.46	1.45	0.35	1.75	2.27	0.86	1.80	3.53	0.67				
Advanced degree	1.21	1.25	0.29	1.81	1.45	0.36	1.65	2.10	1.17	0.97	3.02	1.31				

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

employment trends are particularly noteworthy: employment growth was much more positive for women than for men at all levels of education until 2000, and less negative since then. Indeed, employment growth for men is quite uniformly negative over time and across groups, while for women it is mostly positive until 2000. As a result, the earnings of women generally outpaced those of men in each period and within most education groups, with only a modest decline in employment rates after 2000 marring an otherwise complete record of labor market progress among females over nearly three decades.

For both men and women, growth in wages, employment, and annual earnings is generally stronger for those with college or advanced degrees than for non-college-educated workers. Real wage growth is stronger for these groups in each period and especially in the pre-2000 periods, when workers with higher education enjoyed dramatic wage growth and earnings growth. Trends in employment growth are a bit more mixed, especially given the strong growth of employment for less-educated women in the 1990s as a result of policy changes like welfare reform and EITC expansions. Still, in most periods and across most groups, employment and hourly wage growth across groups are positively correlated, suggesting that relative labor demand shifts across both gender and education groups had important effects on the relative outcomes we observe.

Comparing the trends for men and women at different education levels, we note that real wage and earnings growth was negative for non-college-educated men in the 1979–1989 period, while earnings growth was negative for all groups of men after 2000. Thus, *earnings trends for men, and especially for the less-educated, have been mostly negative*, except during the boom of the 1990s. In contrast, trends have been mostly positive for women, even among the less-educated, and they are dramatically positive for those with college or advanced degrees. During the 2000–2007 period, hourly wage and earnings gains were even modest for college graduates, especially among men, but they were substantially stronger for men and women with advanced degrees.

Similar data for hourly wages and annual earnings appear in tables 2.3 and 2.4, respectively, for different parts of the wages and earnings distributions. At several points of these distributions (the tenth, fiftieth, ninetieth, and ninety-ninth percentiles), we present hourly wage and annual earnings gains for workers over each of the three cycles, for all workers and separately by gender and educational category.

The results of tables 2.3 and 2.4 indicate that the median American worker enjoyed modest wage and earnings growth in the 1979–1989 and 2000–2007 periods, and more substantial growth in both from 1989 to 2000. But once again, the patterns by gender and education are much more mixed. In general, the trends experienced by the median workers of different gender and education groups are quite similar to what we saw in table 2.2. Specifically, the median female college graduate experienced real wage and earnings growth in all periods. The median female non-college-educated worker has mostly enjoyed wage and earnings growth, while college-educated men did so as well until 2000. However, *the median less-educated male workers in the United States mostly experienced real wage and earnings losses in both the 1979–1989 and 2000–2007 periods and experienced earnings growth only between 1989 and 2000*.

What trends can be observed at other parts of the wage and earnings distributions? Wage growth for the bottom 10 percent was substantially lower than for others in the 1979–1989 period, even within education and gender groups, and it has been more mixed since. But wage and earnings growth for those at the ninetieth and ninety-ninth percentiles has been positive and quite dramatic, especially for those with college and advanced degrees, among both men and women. The huge returns to the highest earners are most noteworthy during the 1990s boom, but they persisted in the 2000s for men at the ninetieth percentile and for women at both the ninetieth and ninety-ninth. Furthermore, in what probably reflects dramatic increases in em-

TABLE 2.4 *Changes in Annual Earnings Across the Earnings Distribution, by Gender and Education, 1979–1989, 1989–2000, and 2000–2007*

Category	Tenth Percentile (Cumulative Annual Growth Rate)				Fiftieth Percentile (Median) (Cumulative Annual Growth Rate)				Ninetieth Percentile (Cumulative Annual Growth Rate)				Ninety-Ninth Percentile (Cumulative Annual Growth Rate)				
	1979–1989		2000–2007		1979–1989		2000–2007		1979–1989		2000–2007		1979–1989		2000–2007		
	1989	2000	2007	1989	2000	2007	1989	2000	1989	2000	2007	1989	2000	2007	1989	2000	2007
All	2.92%	3.54%	0.88%	0.95%	1.30%	0.45%	0.6%	0.66	1.62%	0.60%	0.83%	5.36%	—	—	—	—	—2.68%
Men, by education																	
Less than high school	-0.97	3.08	0.34	-1.88	0.08	-0.64	-1.25	-0.22	-0.63	-1.46	1.23	0.54					
High school	-1.71	1.07	-1.36	-1.01	0.22	-1.32	-0.24	0.67	-0.18	0.41	0.85	0.29					
Some college	0.86	2.35	-2.29	0.17	0.67	-0.77	0.28	1.16	-0.28	1.08	2.09	-2.00					
College	-0.50	1.30	-0.28	0.43	1.25	-0.95	0.54	1.44	0.01	3.27	4.84	0.91					
Advanced degree	-0.52	2.54	0.88	1.04	2.04	-0.27	-0.21	3.09	-0.14	3.27	4.84	0.91					
Women, by education																	
Less than high school	2.99	2.71	4.15	0.45	1.90	-0.11	0.52	0.59	0.29	2.02	-0.26	1.47					
High school	3.46	3.50	1.55	1.05	1.09	0.21	1.62	1.18	0.13	2.02	1.15	2.22					
Some college	6.03	3.98	1.61	2.43	1.42	0.10	2.02	1.30	0.55	2.02	1.66	1.53					
College	8.11	2.99	-0.81	2.52	1.45	0.51	2.52	2.21	0.65	2.52	4.28	-0.22					
Advanced degree	1.70	6.12	0.29	1.49	1.78	0.18	1.80	2.47	0.88	0.66	9.24	1.07					

Source: Authors' calculations based on CPS, ASEC.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

ployment rates over time, earnings (but not wage) growth has been dramatic for highly educated women at the tenth percentile of earnings.⁸

Overall, we find that employment and earnings have generally risen for more-educated and high-earning workers, especially females, while declining the most for less-educated and low-earning workers, especially males. Despite the inconsistencies across particular time periods, these patterns hold up fairly consistently over a nearly thirty-year period. Inequality has thus risen quite dramatically *within* as well as between education groups over this time period.

THE CAUSES OF THESE TRENDS

What labor market developments might explain these trends in relative outcomes? A lengthy literature by labor economists now exists on the causes of these trends, though most of it does not cover the completion of the last full cycle in 2007 and the beginning of the Great Recession after that.

Generally, labor economists have focused on both labor market and institutional forces, and there has been some debate over the extent to which observed outcomes are accounted for by each; more mainstream economists such as Lawrence Katz and David Autor (1998) and Autor, Katz, and Melissa Kearney (2008) have stressed the former, while “revisionists,” including David Card and Jonathan Dinardo (2002, 2007) and Jared Bernstein (2008), have stressed the latter.

The mainstream economists mostly argue that labor demand relative to supply has shifted away from less-educated workers, especially those working in traditionally male-dominated industries (like manufacturing), and toward highly skilled workers in newer (service) industries. On the demand side, they mostly attribute these developments to skill-biased technical change (see Autor, Katz, and Krueger 1998; Autor, Levy, and Murnane 2003; Berman, Bound, and Griliches 1994; Levy and Murnane 2004), the microcomputer revolution having enabled employers to replace well-paid unskilled workers doing routine production and clerical work while demanding that more workers perform analytical functions. Large increases in inequality within educational categories, including those with college and advanced degrees, might also be attributable to these forces (Lemieux 2006).

Recently, some of these writers (Autor 2010; Autor, Katz, and Kearney 2007) have also noted a trend toward labor market “polarization” since the 1990s, in which the demand for low-wage service workers performing nonroutine social tasks has also increased relative to demand in the middle of the pay distribution. Also, the forces of trade and globalization earlier on were generally considered weaker contributors to the shifts in relative demand toward skilled workers (see, for example, Feenstra and Hanson 1998; Freeman 1995), but the rise of foreign offshoring of services in the past decade and the growing labor market integration of eastern Europe, China, and India into the global economy have led some economists (Blinder 2007; Freeman 2007a; Spence 2011) to view globalization as a much more potent force in the past decade and into the future.⁹

Moreover, the shift of demand from routine production labor to nonroutine professional and service labor is widely seen as one that benefits women relative to men (Blau and Kahn 2000). Improvements in the relative earnings of women probably reflect other forces as well, including declining discrimination (at least partly attributable to government antidiscrimination policies) and growing education and experience among female workers (Blau and Kahn 2006).¹⁰ The fact that both employment and earnings have declined for less-educated men (Juhn 1992)

and risen for women (especially the more-educated) reinforces the view that relative demand shifts have been an important part of this story.

But the shift in relative demand toward the more-educated also appears to be at least partly driven by lagging growth in the supply of more-educated workers (Goldin and Katz 2008; Katz and Murphy 1992). Indeed, the strong increases in the supply of skilled labor in the United States over much of the twentieth century seem to have stalled in the past three decades, thus contributing to a shortfall in such skills relative to the growing demand for them. And while growth in the demand for skill appears to have decelerated in the past few decades (relative to the 1980s), the growth of the supply of skilled labor has decelerated as well, contributing to ongoing and even rising labor market inequality (Goldin and Katz 2008). The fact that education and “achievement” gaps between those from higher- and lower-income families have grown over time also suggests declining opportunity for social mobility for the children of the latter over time and across generations, on top of rising inequality at any point in time (Duncan and Murnane 2011).

Finally, the revisionists mentioned earlier continue to argue that the exact pattern and timing of growing inequality is not fully explained by trends in labor supply and demand. Instead, they emphasize institutional factors such as declining real values of minimum wages (Lee 1998) and weakening labor unions (Card, Lemieux, and Riddell 2003; Freeman 2007b). Also, the enormous growth of earnings among the very highest-paid earners, along with specific analyses of trends in executive compensation (Bebchuk and Fried 2004) and financial market bonuses (Roubini and Mihm 2010), suggest peculiarities in the functioning of these specific markets that have helped dramatically raise inequality in the labor market overall, especially in the past decade. In many cases, these pay increases do not reflect high productivity or efficient market functioning, and they may even impede performance and productivity by creating perverse incentives for excess risk-taking and instability.¹¹

In our view, there is some merit to all of these views, and they should be understood as complementary rather than mutually exclusive. There is no doubt that the powerful market forces of technological change and globalization have changed the ways in which labor markets function and that they may have contributed to a general stagnation of labor market outcomes since 2000. The need to improve our educational outcomes in response to these trends, especially among lower-income Americans, remains very strong. Furthermore, the forces of technology and globalization are likely to have caused labor markets to become more competitive, making it harder for traditional institutions like minimum wages to raise wages among the less-skilled without causing job loss.¹² On the other hand, some labor markets remain highly imperfect, and institutions and policies continue to play important roles, as we argue in the conclusion.

DEMOGRAPHIC AND REGIONAL BREAKDOWNS

Besides gender, education, and place in the earnings distribution, what trends do we find in employment outcomes for workers along some other demographic or geographic breakdowns? In table 2.5, we present changes in median hourly wages and annual earnings for each of the three time periods by age group, race, and region. Since we include workers age sixteen to sixty-nine in our sample (but exclude full-time students and the self-employed), it is possible that some changes in observed outcomes over time are driven by changes in sample composition associated with rising school enrollments among the young and lower retirement rates among older workers.¹³

TABLE 2.5 *Changes in Median Hourly Wages and Median Annual Earnings, by Age, Race, and Region, 1979–1989, 1989–2000, and 2000–2007*

Category	Median Hourly Wages (Cumulative Annual Growth Rate)			Median Annual Earnings (Cumulative Annual Growth Rate)		
	1979– 1989	1989– 2000	2000– 2007	1979– 1989	1989– 2000	2000– 2007
By age group						
Sixteen to thirty-four	−0.14%	0.72%	0.21%	0.39%	0.88%	−0.16%
Thirty-five to fifty-four	0.27	0.92	0.70	0.65	0.97	0.22
Fifty-five to sixty-nine	−0.01	1.33	1.48	0.23	1.42	1.40
By race						
White	0.44	1.34	0.76	0.90	1.77	0.29
Black	−0.01	1.23	0.63	1.36	1.50	0.50
Hispanic	−0.42	0.70	0.84	−0.17	1.06	1.03
By census region						
Northwest	1.14	0.89	0.69	1.52	1.30	−0.11
Midwest	−0.35	1.44	0.09	−0.01	1.64	−0.41
South	0.15	1.41	0.73	0.75	1.54	0.39
West	0.24	0.72	0.76	0.70	1.07	0.98

Source: Authors' calculations based on CPS, Outgoing Rotation Groups, and ASEC.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

The results show uneven trends across all of these dimensions. Specifically:

- The youngest cohort (age sixteen to thirty-four) experienced the least wage and earnings growth, with modest real wage declines in 1979–1989 and earnings declines since 2000, while older workers (age fifty-five to sixty-nine) experienced the strongest gains after 1989.
- The wage gains of blacks and Hispanics lagged behind those of whites in most periods, while annual earnings gains were more mixed.
- Residents of the Midwest experienced flat or declining real earnings except during the 1989–2000 years, when they did relatively well.

Combining these results, we see once again that young and less-educated men did poorly in the past three decades, but this is especially true of young African American men in industrial regions. Indeed, the employment rates of young and less-educated black men have consistently fallen over time (Holzer, Offner, and Sorensen 2005) and are associated with rising rates of incarceration as well as nonmarital fatherhood. Faced with falling demand for their services, many young and less-educated black men seem to have “disconnected” from the labor market (Holzer 2009). In contrast, employment rates remain high among Hispanic and especially immigrant men, who remain hopeful about future improvements for their children, even if their real wages now lag behind those of native-born workers (Card 2005).

And the less-educated young women in these groups have made some progress, in terms of employment rates as well as real wages, as a result of both labor market and policy changes. Specifically, the “push” of welfare reform in the 1990s and the “pull” of a strong service economy, plus supports for young working mothers (like child care subsidies and expansions of the

EITC), have generated some employment gains for these groups, despite their low levels of skill (Blank 2002). The fact that education levels are also rising more rapidly for young women than for young men in all race and gender groups in the United States suggests relatively more positive trends for them in the future as well. On the other hand, the persistence of “achievement gaps” between racial and income groups in the United States, along with continuing discrimination and other forms of market “mismatch,” cause earnings gaps between whites and minorities to persist over time as well.¹⁴

Finally, the relative improvements in labor market outcomes among older workers are quite noteworthy. The long-term decline in the labor market participation of older workers has already begun to be reversed (Munnell 2007), and retirement ages will no doubt continue to rise over the coming years for a variety of reasons, especially among more-educated workers.¹⁵ But improvements in their relative wages and earnings over time also suggest that older workers who choose to work longer might find a labor market that is at least somewhat hospitable, with shifting demand by employers accommodating the rising supplies of older workers.

Overall, then, tables 2.1 to 2.5 have indicated that male, less-educated, younger, and minority workers have lost ground relative to others in the labor market in recent years. Do these individual results hold up when controlling for other factors, and which changes are statistically significant in our data? Appendix tables 2A.1 to 2A.4 present results from regressions for both hourly and annual earnings. We estimated the regressions using ordinary least squares (OLS) for the effects on mean wages and earnings, as well as quantile regressions for the effects on medians. (Since the OLS and quantile regressions presented very similar results, only the OLS estimates are reported here; the quantile results are available from the authors.) We estimated separate regressions for each of the four peak years we analyzed—1979, 1989, 2000, and 2007. Regressors in each equation include variables for gender, race, education, age, and region.

The regression results largely confirm what we have seen in the descriptive tables. While hourly wages improved in relative terms for females, they mostly declined for less-educated workers and minorities across these years. Gaps across age groups are relatively constant, but they widen in the 2000–2007 period. Midwestern workers lost ground relative to those in the Northeast, especially after 2000.

Comparing results on annual earnings to those on hourly wages, we find similar patterns of changes but sometimes larger magnitudes of differences and changes over time; this result reflects the generally positive correlations between levels and changes in wages and employment. Thus, relative annual earnings gains by women were even larger than in hourly wages; the earnings gaps between high school graduates and dropouts narrowed over time (as the latter had gained more employment), but the gaps between high school and college graduates (as well as those with advanced degrees) widened, and earnings gaps narrowed quite substantially between younger and older workers until 2000, but widened somewhat thereafter.

OUTCOMES BY OCCUPATION AND INDUSTRY

The results so far clearly suggest that demand has shifted away from less-educated and male workers and toward more-educated and female workers in the economy. What does this actually mean in terms of jobs and the economic sectors into which workers are hired? A clearer picture of the demand side of the labor market emerges from data on the distributions of employment across occupations and industries. Tables 2.6 and 2.7 present these data for 1979, 1989, 2000, and 2007 at the broadest (one-digit) levels.

The occupational data in table 2.6 show rising demand in the professional and managerial occupations, especially during the period 1989–2000. Employment in the low-wage service

TABLE 2.6 *Distribution of Employment, by Occupation, 1979, 1989, 2000, and 2007*

Occupation Group	1979	1989	2000	2007
Professional	11.78%	13.12%	16.03%	17.57%
Managerial	10.50	12.09	14.34	13.37
Technical	2.83	3.50	3.66	3.92
Clerical	18.49	17.31	14.97	15.00
Sales	7.65	10.32	10.54	10.18
Crafts	8.41	8.37	7.96	8.14
Operators	21.27	16.19	13.56	11.85
Laborers	4.51	4.34	4.24	3.55
Service	12.47	13.01	13.09	14.75

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Notes: The sample is restricted to ages sixteen to sixty-nine, and excludes full-time students and self-employed individuals.

sector grew most rapidly in the period 2000–2007. Employment declined quite dramatically for equipment operators over the entire period—their employment shares dropped from more than 20 percent to less than 12 percent—and clerical employment dropped as well, especially during the 1989–2000 period, when secretaries were largely being replaced by personal computers.

All of these findings are consistent, of course, with the “polarization” hypothesis that has been advanced by David Autor and his various coauthors and that we noted earlier (see, for example, Autor 2010; Autor et al. 2008). In that view, the routine work in middle-skill or middle-paying jobs that still existed in 1980 has been largely replaced by computerized technology, while demand for nonroutine work at the high (professional and managerial) and low (service) ends of the labor market has expanded.

On the other hand, other parts of the middle of the labor market have maintained their relative shares or even grown. For instance, technical jobs have risen as a share of the market, as did sales jobs in the 1979–1989 period, and the share of the market accounted for by crafts has remained largely constant. Indeed, the middle-skill occupations (technical, clerical, sales, crafts, and operators jobs) accounted for 59 percent of jobs in 1979 and 49 percent in 2007; the widespread notion that the middle of the job market is completely disappearing is clearly not true. Of the jobs that remain in the middle, a higher share probably require some kind of post-secondary training or certification than before, and tasks are far less likely than before to be routine, but fairly well-paying jobs remain in strong demand for workers in these occupations (see Holzer 2010; Holzer and Lerman 2007).

Similarly, table 2.7 shows a large decline in employment in manufacturing, both durable and nondurable. Indeed, the per-year declines appear largest in the period 2000–2007, as imports from China began to grow quite dramatically.¹⁶ The steep declines in manufacturing (and operator) employment are also consistent with the Midwest’s weak labor market performance (as observed in table 2.6), since historically (durable) manufacturing jobs were heavily concentrated in that region.

In contrast, strong employment growth is observed in health and other services. While other services contain many jobs at the high (professional) and low (service) ends of the skill spectrum, health services also contain a strong contingent of middle-skill jobs below the level of registered nurse. Furthermore, there has been quite notable growth in construction, which

TABLE 2.7 *Distribution of Employment, by Industry, 1979, 1989, 2000, and 2007*

Occupation Group	1979	1989	2000	2007
Mining	0.99%	0.67%	0.44%	0.57%
Construction	5.79	5.84	6.20	7.22
Manufacturing, nondurable	11.70	9.84	7.57	5.30
Manufacturing, durable	14.17	11.06	9.09	7.14
Transportation, communications, and utilities	7.25	7.67	7.90	8.24
Wholesale trade	3.84	3.93	4.10	3.16
Retail trade	14.79	15.03	15.02	10.82
Finance, insurance, and real estate	6.09	6.98	6.54	6.80
Health services	7.51	8.32	9.34	10.90
Educational services	8.68	8.39	8.92	9.67
Other services	11.20	15.03	18.14	23.96
Public administration	6.06	5.58	5.14	5.39

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Notes: The sample is restricted to ages sixteen to sixty-nine, and excludes full-time students and self-employed individuals.

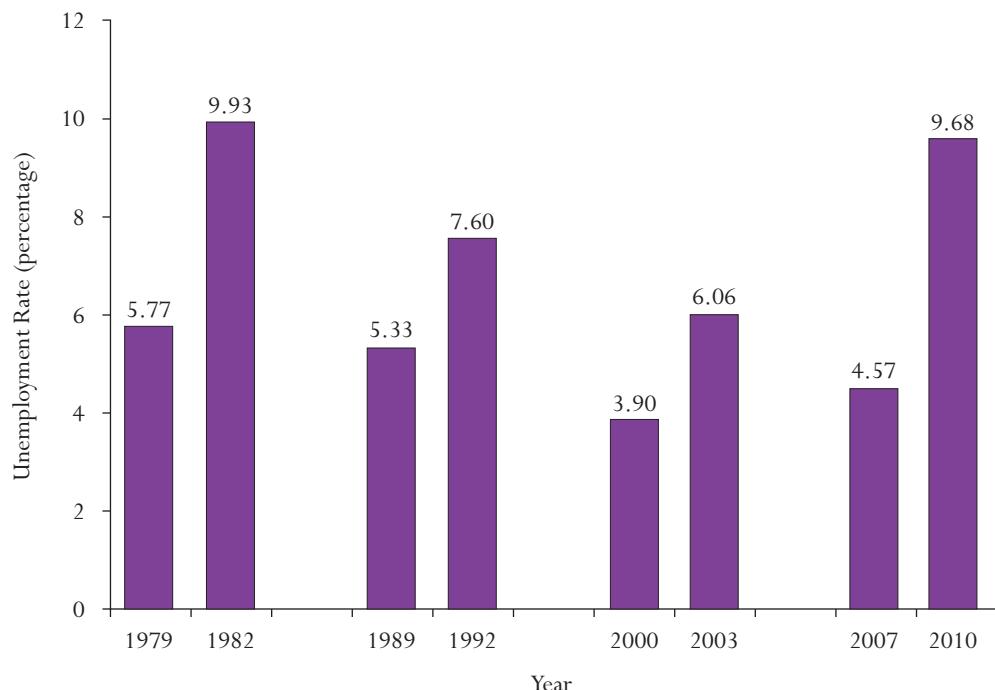
also employs large numbers of workers in craft occupations. At least some of this growth clearly predated the “housing bubble” period of 2000–2005, and it represents the long-term trend to which the labor market is likely to return after we recover from the Great Recession (during which construction employment declined precipitously).¹⁷

All of these results are very consistent with the data on job quality, worker skill, and industry that appear in *Where Are All the Good Jobs Going?* by Harry Holzer and his colleagues (2011). In that analysis, longitudinal data on both employers and workers enable the authors to estimate separate measures of job and worker quality, based on firm and worker “fixed effects.”¹⁸ The results show that “good jobs” are not disappearing from the U.S. labor market over the longer term, but they are much less likely than before to be found in the manufacturing sector; instead, they increasingly appear in construction, health care, retail trade, and professional services. While these good jobs are largely available to workers without a B.A. degree in all but the last of these sectors, they require a higher skill set than in earlier years. Thus, a higher correlation between worker skills and job quality is observed in the post-2000 period than in earlier years, and it implies that strong basic skills and postsecondary certifications are more likely to be prerequisites for employment in good-paying jobs than they were in the past.

BUSINESS CYCLE EFFECTS: THE GREAT RECESSION VERSUS OTHERS

Our analysis of secular trends in the labor market over the last three decades focuses on cyclical peaks only and thus abstracts from the issue of recessions. To analyze recessions in greater detail—and especially the effects of the Great Recession of 2008 and beyond—we compare labor market outcomes in cyclical peaks and troughs for all recessions that occurred in the last three decades.

Thus, we compare labor market changes during the periods 1979–1982, 1989–1992, 2000–2003, and 2007–2010. Figure 2.6 presents peak-to-trough changes in aggregate unemployment rates for these four downturns, while figure 2.7 presents them for average unemploy-

FIGURE 2.6 *Unemployment Rates, 1979–2010*

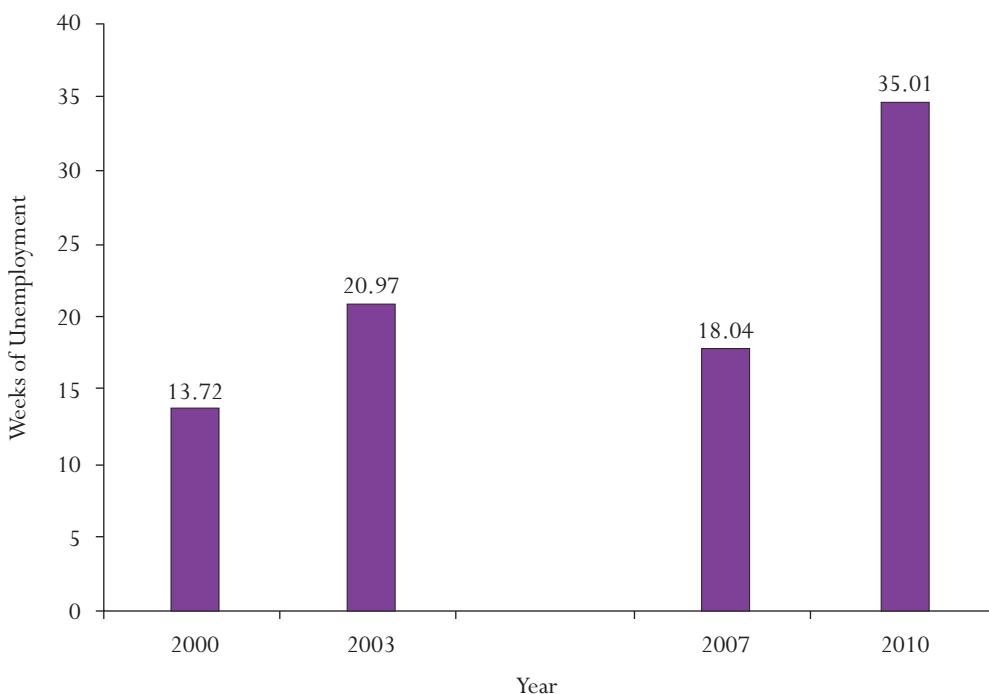
Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

ment durations only for the latter two periods (which are the only ones during which duration data are available from the CPS). As is well known, average unemployment rates increased the most during the relatively severe recessions of 1979–1982 and 2007–2010 and less so during the milder ones in the intervening years. While aggregate (monthly) unemployment rose to its highest level—nearly 11 percent—in 1982, the peak-to-trough increase was largest during the Great Recession of 2007–2010.

The increase in the duration of unemployment spells in the current downturn has been huge. Mean durations rose by half in the 2000–2003 recession (from about fourteen weeks to twenty-one weeks), but they have nearly doubled in the Great Recession (from eighteen to thirty-five weeks), after a secular increase in durations between 2000 and 2007.

More detailed data on unemployment rates and durations, as well as on changes in them over time, appear in tables 2.8 and 2.9. Table 2.8 presents unemployment rates in 2007 by age, education group, region, race, and gender so as to provide a sense of the unemployment differentials across groups that persist even in tight labor markets. Table 2.9 then shows changes for these groups in unemployment rates, unemployment durations, and percentages of the unemployed with long spells (defined as more than six months) over each of the last four downturns (for unemployment rates) or the last two (for unemployment durations and percentages unemployed for long spells).

The results presented in table 2.8 show high unemployment rates among blacks, the less-educated, younger workers, and Midwestern workers (relative to rates among whites, the

FIGURE 2.7 *Mean Unemployment Durations, 2000–2010*

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

more-educated, older workers, and workers from other regions), even in good times. Table 2.8 also shows that virtually all of these gaps widen during downturns, especially severe ones like 1979–1982 and 2007–2010. In particular, during the Great Recession we have seen unprecedented increases in unemployment rates among men, less-educated workers, young workers, and minorities (with Hispanics as well as blacks being particularly hard hit this time).¹⁹

The patterns of unemployment increases in the Great Recession are thus not dramatically different from those observed in earlier downturns, though their magnitudes are much more serious. Furthermore, the groups hard hit during the downturn are, for the most part, those who have suffered secular relative declines in employment and earnings outcomes, as observed earlier in the analysis. These groups include the less-educated, minority men, and (more recently) younger workers. Thus, the Great Recession has exacerbated the labor market difficulties that these groups have already experienced, certainly in the short term and perhaps in the longer term as well.

Finally, we note in table 2.9 that increases in unemployment durations and in the percentages of the unemployed suffering long spells of unemployment are somewhat more evenly spread across these groups. Thus, to the extent that long-term unemployment generates problems for workers who seek to reenter the labor market with obsolete skills or who have been stigmatized by their long unemployment spells, these difficulties might be experienced across a fairly broad group of workers.²⁰ Of course, the labor market has recovered some since the trough of the recession in 2010. The nation's unemployment rate has declined from over 10

TABLE 2.8 *Unemployment Measures, by Gender, Education, Race, and Census Region, 2007*

Category	Unemployment Rate (Percentage)	Mean Duration of Unemployment (Weeks)
All	4.57%	18.0
By gender		
Men	4.69	18.9
Women	4.44	17.1
By age		
Sixteen to thirty-four	6.56	16.2
Thirty-five to fifty-four	3.47	19.2
Fifty-five to sixty-nine	3.45	22.2
By education		
Less than high school	9.98	18.1
High school	5.56	18.2
Some college	4.30	17.3
College	2.43	19.1
Advanced degree	2.03	17.9
By race		
White	3.87	16.7
Black	7.87	23.2
Hispanic	5.26	15.1
By region		
Northeast	4.42	19.5
Midwest	5.12	19.8
South	4.19	17.1
West	4.73	16.3

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

percent to under 7 percent. Most of this decline, however, has been attributed by economists, not to rising employment, but to declining labor force participation by both retirees and those in their prime-age years (Congressional Budget Office 2014). In such a recovery, the employment rates of young or less-educated workers have improved only modestly. It is also important to remember that recessions, especially very serious ones, generally limit earnings and growth, even among those who are working (Hines, Hoynes, and Krueger 2001). In particular, young workers now entering the job market are likely to be "scarred" by lower earnings as well as lower employment for years to come (Kahn 2010). Furthermore, other impacts on worker health and the educational achievement of the children of unemployed workers are likely to be negative as well (von Wachter 2010).

Before concluding this section, we turn to a controversy that has been brewing recently: the extent to which the recent increase in unemployment might be *structural* rather than *cyclical*. If cyclical, high rates of unemployment exist primarily because of insufficient numbers of available jobs relative to workers; if structural, unemployment can be exacerbated by a *mismatch* between the characteristics of unemployed workers and those sought by employers with vacant jobs. Mismatches can exist between the skills sought by employers (whether general or sector-

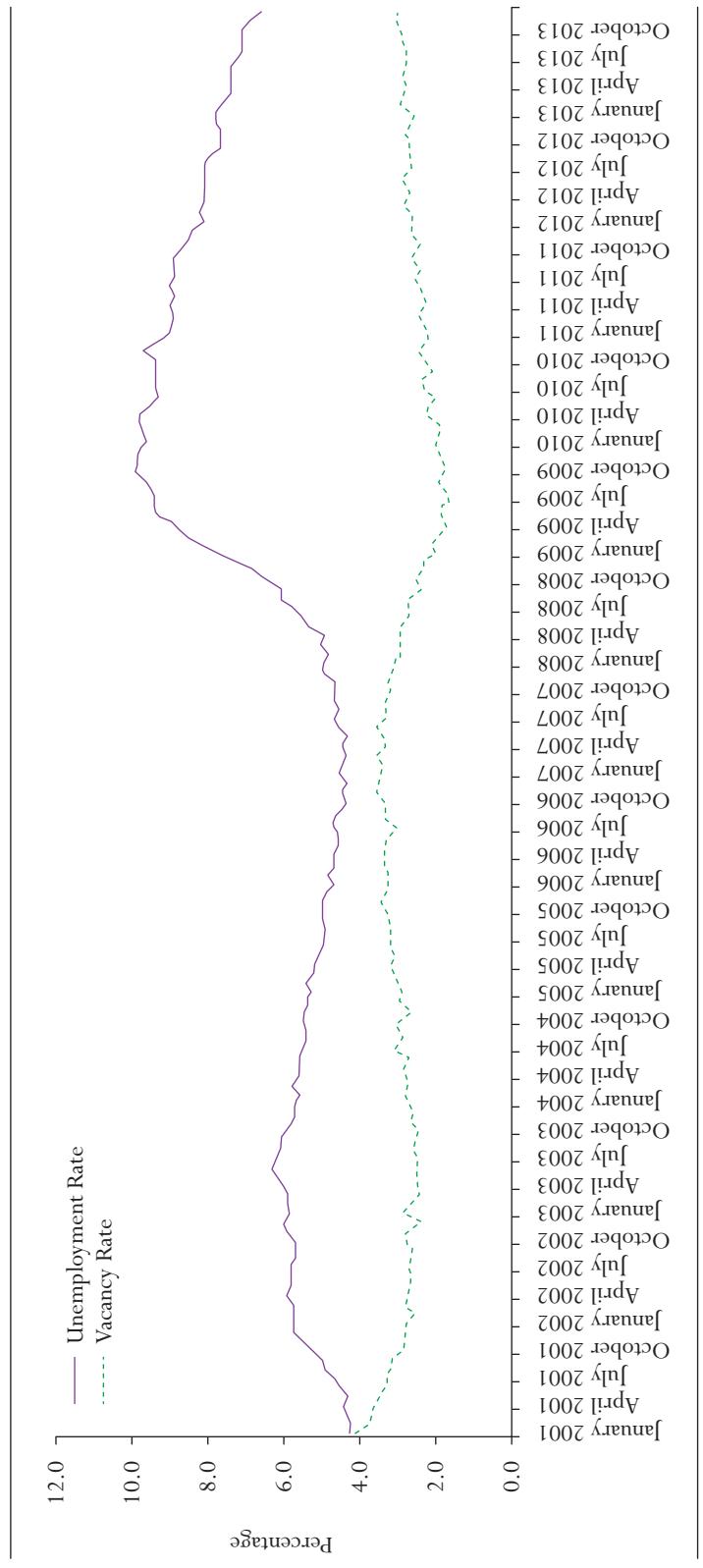
TABLE 2.9 *Peak-to-Trough Change in Unemployment Measures, by Gender, Education, Demographic Group, and Census Region, 1979–1982, 1989–1992, 2000–2003, and 2007–2010*

Category	Unemployment Rate			Mean Duration of Unemployment (Weeks)			Unemployment Duration over Six Months (Percentage of Unemployed Individuals)		
	1979–1982	1989–1992	2000–2003	2007–2010	2000–2003	2007–2010	2000–2003	2007–2010	
All	4.16%	2.27%	2.16%	5.12%	7.3	17.0	12.36%	26.89%	
By gender									
Men	5.34	2.91	2.65	6.00	7.4	16.6	13.69	26.85	
Women	2.73	1.57	1.64	4.18	6.9	17.3	10.65	26.77	
By education									
High school or less	5.69	3.03	2.50	7.29	6.0	17.1	10.62	26.69	
Bachelor's degree or more	1.03	1.01	1.65	2.87	9.0	15.3	14.46	25.41	
By age group									
Sixteen to thirty-four	5.20	2.56	2.69	6.18	5.8	14.3	9.63	22.70	
Thirty-five to fifty-four	3.26	2.18	1.92	4.65	8.4	18.3	14.51	29.22	
Fifty-five to sixty-nine	2.51	2.38	1.90	4.36	7.7	20.4	14.02	32.00	
By race									
White	3.65	2.10	1.89	4.31	8.1	17.6	13.56	28.08	
Black	6.79	2.68	3.22	7.76	7.9	15.8	14.30	24.23	
Hispanic	5.78	2.85	1.87	6.72	2.4	17.4	3.71	28.13	
By region									
Northeast	2.51	3.79	2.26	4.56	5.7	16.6	11.92	26.97	
Midwest	6.23	1.27	2.21	4.49	8.2	15.8	13.47	23.83	
South	3.76	1.69	2.15	5.15	6.8	16.9	11.04	27.00	
West	4.02	2.88	2.04	6.17	8.1	18.9	13.36	30.09	

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Notes: The sample is restricted to ages sixteen to sixty-nine. It excludes agriculture and the military. It also excludes full-time students and self-employed individuals.

FIGURE 2.8 National Unemployment and Job Vacancy Rates, 2001–2013



Source: Authors' calculations based on Bureau of Labor Statistics.

specific) and those held by job-seekers, and mismatches become more likely if jobs permanently disappear during a downturn and then later reappear in different sectors. Mismatches can also exist across geographic areas if jobs are growing in areas different from where unemployed workers live.

One way to measure structural versus cyclical unemployment is to compare unemployment and job vacancy rates. Cyclical movements should show only inverse movements between job vacancy and unemployment rates, while structural and mismatch problems might be reflected in rising job vacancy rates for any given level of unemployment.²¹

Figure 2.8 plots quarterly movements in aggregate job vacancy and unemployment rates over the entire period from 2001 to 2013. Mostly, the plot shows inverse movements between the two rates, suggesting a dominance of cyclical swings over time. Vacancy rates have clearly fallen during the Great Recession as unemployment rates have risen, suggesting that high unemployment since 2008 has still been mostly a cyclical phenomenon.

At the same time, we note that the job vacancy rates observed in this downturn are not dramatically lower than those observed in the much shallower recession of 2000–2003. And since early 2009, the vacancy rate has shown a distinct rise, even while unemployment remains at or near double-digit levels. The higher vacancy rates are also consistent with some recent journalistic accounts of employers having difficulty filling jobs that require some fairly specific technical skills.²²

While not conclusive, these results suggest that employers might be having a somewhat more difficult time filling their vacant jobs, perhaps owing to growing mismatch problems.²³ Along with the rise in the numbers of the long-term unemployed, the data also suggest that a return to unemployment rates below 5 percent might become even more difficult if employers' slowness in creating new jobs becomes compounded by their growing difficulty in filling them over time.

CONCLUSION AND POLICY IMPLICATIONS

We have analyzed wage, employment, and earnings outcomes in the U.S. labor market over the past three decades. We have analyzed secular trends in the labor market by looking at how worker outcomes have changed across the peak years of 1979, 1989, 2000, and 2007; and we have analyzed four recessions that also occurred in these years, especially the Great Recession that began at the end of 2007 and from which our job market has yet to really emerge (as of early 2014).

Our secular analysis indicates that labor market trends have been fairly uneven over time. During the period 1979–1989, improvements in employment rates allowed earnings to rise quite significantly, despite modest wage (and productivity) growth. During 1989–2000, employment continued to rise, while wage increases and productivity grew to raise earnings even more. In the period 2000–2007, employment rates fell and wages grew very modestly despite continuing high productivity growth.

In addition to the unevenness of labor market performance over time, there has been unevenness (but somewhat more consistency over time) in the relative performance of different groups in the job market. Generally, women have gained ground relative to men, but wage and earnings gaps have widened between education and earnings groups. In the 1980s, gaps grew across the entire education and earnings spectrum; in the 1990s and 2000s, earnings and employment rose somewhat more for the lowest groups relative to the middle, while gains at the top decile or percentile grew the most. In some periods and by some measures, minorities lost ground relative to whites, younger workers did so relative to older ones, and residents of the Midwest lost ground relative to those living in the Northeast and other geographic areas.

The fact that employment and wage growth tend to be somewhat positively correlated across groups and over time suggests that labor demand, relative to labor supply, has shifted in major ways across these groups. Indeed, we believe that skill-based technical change and globalization have contributed importantly to the trends we observe across education and gender groups. Our analysis of occupational and industrial patterns of employment sheds more light on these developments. Growth in the highest- and lowest-skill occupations exceeded growth in the middle, especially for clerical workers and equipment operators, while employment in manufacturing shrank dramatically but grew in the services, especially health care. On the other hand, the widely held view that the middle of the job market is completely collapsing seems overblown. Substantial demand remains in many sectors and occupational categories for workers with at least some postsecondary educational credential or training.

On the other hand, institutions (like unions) and policies continue to play important roles. Policy shifts, including antidiscrimination efforts, welfare reform, and the growth of work supports for low-income mothers (like the EITC and child care subsidies), as well as improvements in their education and experience, have all contributed to the improved status of women in the labor market. More negative trends among other groups, like less-educated African American men, reflect market forces and the behavioral responses of these groups along with a general lack of similarly supportive policies for these low-wage workers.

Finally, our analysis of cyclical downturns over the last thirty years confirmed that the downturn that began at the end of 2007 constitutes, indeed, a Great Recession. Increases in unemployment rates and durations, and especially the growth of long-term unemployment, were quite dramatic. For the most part, unemployment rates rose the most for the workers who had already lost ground on a secular basis—in other words, males, less-educated workers, minorities, and the young. The job market recovery since 2010 and the employment rate increases among young and less-educated workers have been quite modest to date. And there is at least some reason to be concerned about the structural factors impeding recovery—such as a rise in job vacancy rates while unemployment remains quite high, and growing ranks of the long-term unemployed, for whom reemployment often becomes a growing challenge, at least according to the experiences of other countries in recent years.

What does the future hold for the U.S. labor market, in both the short and longer terms? And what policies are suggested by this analysis to help those workers who have lost the most ground in the downturn and over a longer period? Most economists expect a continuing slow recovery from the current downturn, which is often the case after a financial “bubble” bursts. Unemployment is likely to remain high for the next several years, declining only modestly each year.²⁴ For example, the Congressional Budget Office (2014) forecasts that unemployment will still be above 6 percent for most of 2016 and well above 5 percent for most of the coming decade. Previous research shows that certain groups of workers—especially the young who enter the labor market during such inauspicious times and permanent job-losers who suffer long-term unemployment—are likely to be “scared” by their experiences and to suffer from lower earnings for many years, even after the labor market recovers.

And when a full recovery finally occurs, to what kind of labor market will we return? Are we more likely to revert to the economy of the 1990s, with its widely shared employment and earnings growth, or the 2000s, when the growth in demand for many kinds of labor was more limited and employment and earnings growth were limited and uneven as well?

We have no way to forecast future trends, but, unfortunately, the 1990s now look more like the anomalous period, while the period 2000–2007 more likely reflects the secular trends to which we will return. For instance, we have no reason to believe that the forces apparently generating limited labor demand for U.S. workers in the last decade—including technological

changes and growing globalization—will have very different effects in the coming decade.²⁵ We hope that productivity growth will remain strong, though that is not certain; even if it does, much of it may not show up in many workers' paychecks.

Other drains on earnings growth, such as rising health care costs, have abated somewhat, though future trends in executive and financial manager compensation (which shifted so much compensation to the top 10 and 1 percent of workers) remain quite unclear. Also, much of the employment growth that we observed in the past few decades was concentrated in sectors such as health care, financial services, and construction, where future employment growth is now more uncertain; and a decline over time in business start-ups in the United States might continue and limit new hiring and employment growth in the country more broadly (Manyika et al. 2011; Spence 2011).

With such an uncertain forecast for both the near term and longer term, how should labor market policy respond? At a minimum, expanded safety net provisions (including unemployment insurance, food stamps, and Medicaid) should remain in effect while the aggregate unemployment rate remains so high. Fears that such extensions will discourage job searches and re-employment might make sense in an economy with tight labor markets and significant job availability, but not in a market with so much slack.²⁶

Reemployment services that better help match unemployed workers to existing jobs and provide them with necessary assistance with job search or skills training should be considered as well, on top of other efforts to spur job creation in the short term. The latter could include tax cuts targeted toward employers that expand their payrolls and direct government expenditures on job creation (such as for infrastructure or state and local employees), as well as public service employment programs targeted toward the disadvantaged groups with the highest unemployment rates. Though such efforts have stalled politically, they should remain a high policy priority.

Over the longer term, and even in a generally weak labor market, there remains a strong case for improving the educational outcomes of workers. These outcomes should include certificates and degrees at two-year community and technical colleges as well as at four-year colleges and universities. Though earnings growth in the 2000s was modest even for college graduates, the enormous and sometimes growing gaps in earnings between more- and less-educated workers suggest tremendous opportunity for improving earnings and for dampening inequality if more workers could have such credentials. This means not only improving the access of many Americans to the full range of higher education options, but also raising rates of completion of degrees and certificates.²⁷

Of course, what happens in the labor markets depends not only on the quality of workers and their skills but also on the quality of the jobs created by employers. As we noted earlier, and contrary to many popular accounts, the U.S. labor market continues to create many millions of high-quality jobs (Holzer et al. 2011), but in contrast to jobs in previous generations, these jobs increasingly require workers who have good basic skills and educational credentials.²⁸

From a policy point of view, it is therefore important that the skills obtained by workers match the areas of the labor market where demand is strongest, and that we give them the credentials sought by employers in well-paying jobs. Potential workers need more career guidance from workforce development systems on where labor market demand is strong, and employers need to be engaged in the process of generating workers' skills to fill their available jobs through "sectoral" training programs, apprenticeships, and other kinds of incumbent worker training.²⁹ High-quality career and technical education in high schools, such as the Career Academies, which have provided strong labor market benefits to at-risk young men, should be strengthened as well (Kemple and Willner 2008; Lerman 2007).

We also need to encourage employers to create more good-paying jobs, as well as workers to develop the skills to fill them. Historically, we have used legal and institutional methods like higher minimum wages and collective bargaining to do so. Although we continue to believe that these institutions play important roles in the labor market, we also believe that their ability to raise private-sector wages is considerably lower than in earlier eras.³⁰ Thus, efforts to induce employers to create more good-paying jobs might have to rely more on “carrots,” such as subsidies and technical assistance related to broader economic development efforts, and less on “sticks” than in the past.³¹

For those workers whose education and skills remain limited and who face the prospect of employment only at low wages, other forms of income supplementation may need to be considered. For instance, the Earned Income Tax Credit from the federal government currently enhances the earnings of low-income parents with two or more children by as much as 40 percent, but childless adults and noncustodial parents paying child support benefit little from the current system. These limitations mean that many less-educated (and especially minority) men, who have fared so badly in the labor market in recent years, gain little from an important program that provides support to so many low-income mothers. Accordingly, expanding federal EITC eligibility and enhancing payments to currently underserved groups constitutes one way in which earnings can be supplemented and inequality reduced even in a labor market generating flat earnings growth and enormous gaps between the highest- and lowest-paid workers.³²

Finally, since the enormous increases in pay at the very top of the earnings distribution do not seem to always reflect productivity or efficient markets—indeed, they often reflect the opposite—it may be time to consider other measures to limit them. These might include more stringent regulations on compensation in the financial markets as well as changes in corporate governance practices that might limit exorbitant levels of executive pay.

APPENDIX

TABLE 2A.1 *Mean Hourly Wages (Ordinary Least Squares)*

Regressor Dummy	Dependent Variable ln (Hourly Wage)			
	1979	1989	2000	2007
Female	-0.398*** (0.002)	-0.306*** (0.002)	-0.263*** (0.002)	-0.247*** (0.002)
Black	-0.050*** (0.004)	-0.084*** (0.004)	-0.084*** (0.004)	-0.106*** (0.004)
Hispanic	-0.072*** (0.005)	-0.102*** (0.005)	-0.109*** (0.004)	-0.104*** (0.004)
Other race	-0.070*** (0.007)	-0.069*** (0.007)	-0.058*** (0.006)	-0.064*** (0.005)
High school	0.223*** (0.003)	0.206*** (0.003)	0.252*** (0.004)	0.235*** (0.004)
Some college	0.282*** (0.003)	0.350*** (0.004)	0.394*** (0.004)	0.380*** (0.005)
College	0.508*** (0.004)	0.607*** (0.004)	0.707*** (0.005)	0.704*** (0.005)
Advanced degree	0.596*** (0.006)	0.744*** (0.006)	0.876*** (0.006)	0.894*** (0.006)
Age thirty-five to fifty-four	0.252*** (0.002)	0.238*** (0.002)	0.228*** (0.003)	0.258*** (0.003)
Age fifty-five to sixty-nine	0.205*** (0.004)	0.186*** (0.004)	0.165*** (0.004)	0.219*** (0.004)
Census region				
Midwest	0.014*** (0.003)	-0.115*** (0.003)	-0.045*** (0.004)	-0.073*** (0.004)
South	-0.040*** (0.003)	-0.134*** (0.003)	-0.074*** (0.004)	-0.044*** (0.004)
West	0.079*** (0.003)	-0.045*** (0.004)	-0.028*** (0.004)	0.018*** (0.004)
Constant	2.469*** (0.003)	2.477*** (0.004)	2.464*** (0.005)	2.466*** (0.005)
Number of observations	165,316	162,572	147,846	162,221
R-squared	0.32	0.31	0.31	0.30

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Note: Heteroskedasticity-robust standard errors are in parentheses.

***Statistically significant at the 1 percent level.

TABLE 2A.2 *Median Hourly Wages (Quantile Regression)*

Regressor Dummy	Dependent Variable ln (Hourly Wage)			
	1979	1989	2000	2007
Female	-0.429*** (0.002)	-0.325*** (0.003)	-0.276*** (0.003)	-0.258*** (0.003)
Black	-0.056*** (0.004)	-0.093*** (0.005)	-0.086*** (0.005)	-0.110*** (0.005)
Hispanic	-0.078*** (0.006)	-0.112*** (0.006)	-0.115*** (0.005)	-0.101*** (0.005)
Other race	-0.076*** (0.007)	-0.067*** (0.008)	-0.045*** (0.007)	-0.059*** (0.006)
High school	0.226*** (0.003)	0.231*** (0.004)	0.262*** (0.006)	0.242*** (0.006)
Some college	0.292*** (0.004)	0.389*** (0.005)	0.422*** (0.006)	0.400*** (0.006)
College	0.532*** (0.004)	0.659*** (0.005)	0.754*** (0.006)	0.739*** (0.006)
Advanced degree	0.623*** (0.006)	0.806*** (0.006)	0.932*** (0.007)	0.934*** (0.007)
Age thirty-five to fifty-four	0.261*** (0.003)	0.250*** (0.003)	0.245*** (0.003)	0.272*** (0.003)
Age fifty-five to sixty-nine	0.214*** (0.004)	0.212*** (0.005)	0.190*** (0.005)	0.235*** (0.004)
Census region				
Midwest	0.014*** (0.003)	-0.115*** (0.004)	-0.049*** (0.004)	-0.074*** (0.004)
South	-0.053*** (0.003)	-0.139*** (0.004)	-0.084*** (0.004)	-0.050*** (0.004)
West	0.073*** (0.004)	-0.049*** (0.004)	-0.038*** (0.004)	0.017*** (0.004)
Constant	2.477*** (0.004)	2.456*** (0.005)	2.435*** (0.006)	2.436*** (0.007)
Number of observations	165,669	162,897	148,161	162,656
Pseudo R-squared	0.21	0.19	0.19	0.19

Source: Authors' calculations based on CPS, Outgoing Rotation Groups.

Note: Heteroskedasticity-robust standard errors are in parentheses.

***Statistically significant at the 1 percent level.

TABLE 2A.3 *Mean Annual Earnings (Ordinary Least Squares)*

Regressor Dummy	Dependent Variable ln (Annual Earnings)			
	1979	1989	2000	2007
Female	-0.742*** (0.006)	-0.584*** (0.006)	-0.495*** (0.007)	-0.463*** (0.005)
Black	-0.062*** (0.012)	-0.097*** (0.011)	-0.082*** (0.012)	-0.086*** (0.009)
Hispanic	0.007 (0.012)	-0.095*** (0.011)	-0.114*** (0.010)	-0.098*** (0.008)
Other race	-0.093*** (0.020)	-0.103*** (0.018)	-0.088*** (0.017)	-0.069*** (0.012)
High school	0.588*** (0.009)	0.358*** (0.010)	0.344*** (0.012)	0.338*** (0.011)
Some college	0.525*** (0.010)	0.528*** (0.011)	0.549*** (0.013)	0.559*** (0.011)
College	0.961*** (0.011)	0.858*** (0.012)	0.913*** (0.014)	0.913*** (0.012)
Advanced degree	1.071*** (0.014)	1.014*** (0.014)	1.180*** (0.016)	1.203*** (0.013)
Age thirty-five to fifty-four	0.588*** (0.006)	0.365*** (0.007)	0.353*** (0.007)	0.403*** (0.006)
Age fifty-five to sixty-nine	0.479*** (0.010)	0.191*** (0.011)	0.182*** (0.012)	0.277*** (0.009)
Census region				
Midwest	0.026*** (0.009)	-0.143*** (0.009)	-0.061*** (0.010)	-0.058*** (0.008)
South	-0.010 (0.009)	-0.146*** (0.008)	-0.049*** (0.010)	-0.022*** (0.008)
West	0.031*** (0.009)	-0.114*** (0.010)	-0.050*** (0.010)	0.006 (0.008)
Constant	9.482*** (0.011)	9.974*** (0.012)	9.866*** (0.015)	9.801*** (0.013)
Number of observations	78,665	63,893	54,391	83,322
R-squared	0.30	0.25	0.26	0.26

Source: Authors' calculations based on CPS, Annual Social and Economic Supplement.

Note: Heteroskedasticity-robust standard errors are in parentheses.

***Statistically significant at the 1 percent level.

TABLE 2A.4 *Median Annual Earnings (Quantile Regression)*

Regressor Dummy	Dependent Variable ln (Annual Earnings)			
	1979	1989	2000	2007
Female	-0.771*** (0.006)	-0.546*** (0.005)	-0.446*** (0.005)	-0.416*** (0.005)
Black	-0.073*** (0.011)	-0.117*** (0.009)	-0.077*** (0.009)	-0.102*** (0.008)
Hispanic	-0.011 (0.011)	-0.133*** (0.008)	-0.122*** (0.008)	-0.131*** (0.007)
Other race	-0.067*** (0.018)	-0.109*** (0.014)	-0.070*** (0.013)	-0.073*** (0.010)
High school	0.616*** (0.008)	0.361*** (0.008)	0.345*** (0.010)	0.334*** (0.010)
Some college	0.604*** (0.008)	0.546*** (0.008)	0.559*** (0.010)	0.554*** (0.010)
College	0.983*** (0.010)	0.841*** (0.009)	0.898*** (0.011)	0.900*** (0.011)
Advanced degree	1.076*** (0.014)	0.981*** (0.011)	1.139*** (0.013)	1.147*** (0.012)
Age thirty-five to fifty-four	0.550*** (0.006)	0.340*** (0.005)	0.327*** (0.006)	0.351*** (0.006)
Age fifty-five to sixty-nine	0.491*** (0.009)	0.231*** (0.008)	0.229*** (0.009)	0.267*** (0.008)
Census region				
Midwest	0.011 (0.009)	-0.141*** (0.007)	-0.061*** (0.008)	-0.077*** (0.007)
South	-0.028*** (0.008)	-0.149*** (0.007)	-0.072*** (0.008)	-0.044*** (0.007)
West	0.004 (0.008)	-0.114*** (0.007)	-0.061*** (0.008)	-0.004 (0.007)
Constant	9.631 (0.009)	10.011*** (0.009)	9.973*** (0.011)	9.949*** (0.011)
Number of observations	81,742	64,996	54,951	84,066
Pseudo R-squared	0.17	0.16	0.16	0.16

Source: Authors' calculations based on CPS, Annual Social and Economic Supplement.

Note: Heteroskedasticity-robust standard errors are in parentheses.

***Statistically significant at the 1 percent level.

NOTES

1. We use annual unemployment rates to measure labor market peaks and troughs in the business cycle. These tend to lag behind the dates of peaks and troughs as measured by changes in real gross domestic product (GDP) and the beginning and end dates of recessions, as determined by the National Bureau of Economic Research (NBER).
2. Other authors who have provided recent summaries of both the short- and longer-term trends include Autor (2010) and Mishel et al. (2012).
3. To reduce the influence of extreme outliers, calculations of mean annual earnings and hourly wages are restricted to individuals who earn, in 2010 dollars, between \$2 and \$5,000 per hour, and between \$1,000 and \$10 million per year.
4. The Bureau of Labor Statistics has created the newer CPI Research Series Using Current Methods (CPI-U-RS) for all urban workers, which tries to deal with upward biases in the traditional CPI-U. But even using the latter (as Mishel et al. have done), measured inflation rates are higher than those attained using the chain-weighted real GDP deflator (as we have done). For instance, measured inflation during the period 1979–2007 using the CPI-U, CPI-U-RS, and GDP deflator is 185.5, 166.1, and 150.8 percent, respectively. Other differences between our samples and Mishel et al.'s include our use of a broader age range and slightly different methods of dealing with sample outliers.
5. Holzer and Hlavac (2011) describe how more rapid increases in health care costs after 2000 led to smaller wage increases associated with given levels of real compensation growth. The increases in the share of profits in GDP, as well as huge increases over time in executive pay and financial market bonuses, also appear to have contributed to the declining shares of productivity growth that result in wage growth for most workers. Finally, the price indices used to adjust for inflation in output have risen more slowly than those used for earnings, thus leading to higher measured productivity than earnings growth over time, though it is not clear that this mattered more after 2000 than before.
6. Economists generally believe that productivity growth should *not* reduce employment rates in the long run, as higher productivity generates higher real incomes, which, in turn, generate rising levels of demand for goods and services and therefore for employment over the long run. But within a short time period during which consumer demand is limited, it might be possible for such a trade-off to exist.
7. Alternatively, the college–high school premium rose from 0.54 to 0.85 and the premium for advanced degrees over college rose from 0.30 to 0.39.
8. The same value is shown in table 2.4 for the men in the ninety-ninth percentile of college graduates and those with advanced degrees, since in the CPS both of these values are affected by the top-coding issue described earlier.
9. These views have been disputed, however, by Jagdish Bhagwati (2007) and Robert Lawrence (2008), among others.
10. To the extent that gender gaps in earnings continue to exist, these seem to be at least partly associated with the losses of experience and earnings growth associated with motherhood (Waldfogel 1998) and may also reflect the persistence of “glass ceiling” effects for professional and managerial women (Albrecht, Bjorklund, and Vroman 2003).
11. See also Levy and Temin (2007). According to Roubini and Mihm (2010), financial market bonuses in particular might reflect market failures such as asymmetric information between buyers and sellers of financial products, a lack of transparency that leads to underpricing of risk, and moral hazard among financial managers (especially if they feel their banks are “too big to fail” and the risks of their actions are borne by the public).
12. Barry Hirsch (2008) argues that because deregulation and imports made product markets more competitive in the past few decades, it became more difficult for unions to raise worker compensation levels absent offsetting increases in their productivity.
13. If both part-time and full-time enrollment rates are rising, then the inclusion of part-time students and exclusion of full-time students suggest lower rates of employment or hours of work for those groups with rising enrollment, whose members are likely to be stronger in academic ability than those who continue to work full-time. This could generate some downward trends in labor market outcomes among both younger and older workers. On the other hand, Harry Holzer, Paul Offner, and Elaine Sorensen (2005) present evidence suggesting that these compositional effects account for few of the employment trends observed over time for young men. Declining

- rates of retirement can also lead to rising employment among the elderly, and even rising wages if the most able workers are those who are working longer.
14. For evidence on recent trends in the black-white achievement gap, see Magnuson and Waldfogel (2008). Some evidence of growing achievement gaps over time across family income groups appears in Reardon (2011).
 15. Rising retirement ages and work effort among the elderly are likely to reflect improving health and a lack of sufficient assets to finance consumption during retirement on the “supply side” of the labor market, and perhaps growing demand for experienced workers or declining discrimination on the “demand side.”
 16. Before the current decade, most economists had attributed employment declines in manufacturing much more to technological advances than to the growing levels of imports, since the share of American-made products in world output had not declined nearly as much as had employment in the manufacturing industries. But the rise of manufacturing products imported to the United States from China since 2000 seems to have somewhat changed this view (Krugman and Wells 2009). Houseman and her colleagues (2010) argue that output and productivity growth in U.S. manufacturing has also been overstated, owing to various statistical biases.
 17. For instance, construction employment reached roughly 7 million workers in 2000, before the housing bubble really became inflated, before falling to about 5.5 million workers in 2010.
 18. Holzer and his coauthors (2011) use microdata from the Longitudinal Employer Household Dynamics (LEHD) data, based on unemployment insurance (UI) earnings records of states that are matched to various surveys by the U.S. Census Bureau. Since both workers and firms are identified in the UI data, which are longitudinal, separate worker effects and firm effects can be calculated for each that measure worker and job quality.
 19. The precipitous declines in construction and manufacturing employment since 2007 appear to have particularly lowered employment rates among Hispanic men, more than in previous downturns.
 20. For a review of the evidence on how long-term unemployment can reduce reemployment rates among workers, see Dao and Loungani (2010).
 21. Movements along the “Beveridge Curve,” which plots aggregate unemployment and vacancy rates, measure cyclical movements in the labor market, while outward shifts in the curve suggest the growing structural or frictional problems that raise the non-accelerating inflation rate of unemployment (or NAIRU). For a recent discussion that suggests such growing structural factors, see Elsby, Hobijn, and Sahin (2010). A skeptical reading of this argument appears in Mishel et al. (2012).
 22. See, for instance, Louis Uchitelle, “Despite Recession, High Demand for Skilled Labor,” *New York Times*, June 24, 2009; see also Michael Fletcher, “Why Does Fresno Have Thousands of Job Openings—and High Unemployment?” *Washington Post*, February 2, 2011.
 23. Another possibility is that lengthy spells of UI availability to workers during this downturn have limited their willingness to apply for available jobs, thereby raising job vacancy rates somewhat (Elsby et al. 2010).
 24. For a discussion of how recessions brought on by financial market turmoil lead to persistent unemployment over time, see Reinhart and Rogoff (2009).
 25. For pessimistic accounts of how global forces will affect workers in the coming decade, see Freeman (2007a) and Blinder (2007).
 26. Recent evidence suggesting that unemployment insurance only modestly affects job search and unemployment rates can be found in Card, Chetty, and Weber (2007).
 27. For a discussion of how rising rates of college completion might help dampen inequality, see Goldin and Katz (2008). For a discussion of how college completion rates can be improved, especially among lower- to middle-income Americans, see Haskins, Holzer, and Lerman (2009).
 28. In this study, the quality of a job is distinguished from the quality of workers by whether or not the firm pays a wage premium above what the worker usually obtains in others jobs in the labor market. With longitudinal earnings data over many years for both workers and firms, we were able to estimate “worker effects” and “firm effects” where the latter reflect job quality.
 29. For a discussion of how improvements in the attainment of degrees and certificates, especially at community colleges, can improve economic mobility for disadvantaged Americans, and also on the need to make sure that such certifications are linked to trends in labor market demand, see Furchtgott-Roth, Jacobson, and Moker (2009). For recent evidence on sectoral training programs, see Maguire et al. (2010), and for evidence on the success of Career Academies, see Kemple and Willner (2008). Robert Lerman (2007) also discusses the potential of career education to improve labor market outcomes for disadvantaged youth.

30. The fractions of private-sector workers covered either by federal minimum wages or collective bargaining are very low: for the latter, fewer than 7 percent of workers are now covered; the fraction covered by the former depends on the statutory minimum relative to the median market wage at any time, but is always below 10 percent and often below 5 percent. In addition, when labor and product markets become more competitive, as they no doubt have in recent decades, the ability of these institutions to raise wages without creating job losses diminishes as well, unless the higher wages are offset by higher worker productivity.
31. For a review of such efforts, including tax credits for incumbent worker training, technical assistance for firms trying to improve worker promotion possibilities, and the like, see Holzer et al. (2011).
32. For a discussion of how the EITC might be expanded to improve coverage of low-income childless adults and especially noncustodial fathers paying child support, see Edelman, Greenberg, and Holzer (2009).

REFERENCES

- Albrecht, James, Anders Bjorklund and Susan Vroman. 2003. "Is There a Glass Ceiling in Sweden?" *Journal of Labor Economics* 21(1): 145–77.
- Autor, David. 2010. *The Polarization of the Job Opportunities in the U.S. Labor Market*. Washington, D.C.: Center for American Progress.
- Autor, David, Lawrence Katz, and Melissa Kearney. 2007. "The Polarization of the U.S. Labor Market." *American Economic Review* 96(2): 189–94.
- . 2008. "Trends in U.S. Wage Inequality: Revising the Revisionists." *Review of Economics and Statistics* 90(2): 300–23.
- Autor, David, Lawrence Katz, and Alan Krueger. 1998. "Computing Inequality: Have Computers Changed the U.S. Labor Market?" *Quarterly Journal of Economics* 113(4): 1169–1213.
- Autor, David, Frank Levy, and Richard Murnane. 2003. "The Skill Content of Recent Technological Change: An Empirical Investigation." *Quarterly Journal of Economics* 118(4): 1279–1333.
- Bebchuk, Lucian, and Jesse Fried. 2004. *Pay Without Performance: The Unfulfilled Promise of Executive Compensation*. Cambridge, Mass.: Harvard University Press.
- Berman, Eli, John Bound, and Zvi Griliches. 1994. "Changes in the Demand for Skilled Labor Within U.S. Manufacturing: Evidence from the Annual Survey of Manufacturers." *Quarterly Journal of Economics* 109(2): 367–97.
- Bernanke, Ben. 2004. "The Great Moderation." Remarks at the annual meetings of the Eastern Economic Association. Washington, D.C. (February 20).
- Bernstein, Jared. 2008. "Comments on Structural Demand Shifts and Potential Labor Supply Responses in the New Century." In *Labor Supply in the New Century*, ed. Katharine Bradbury. Boston: Federal Reserve Bank of Boston.
- Bhagwati, Jagdish. 2007. *In Defense of Globalization*. Oxford: Oxford University Press.
- Blank, Rebecca. 2002. "Evaluating Welfare Reform in the United States." *Journal of Economic Literature* 40(4): 1105–66.
- . 2011. *Changing Inequality*. Berkeley: University of California Press.
- Blau, Francine, and Lawrence Kahn. 2000. "Gender Differences in Pay." *Journal of Economic Perspectives* (American Economic Association) 14(4): 75–99.
- . 2006. "The U.S. Gender Pay Gap in the 1990s: Slowing Convergence." *Industrial and Labor Relations Review* 60(1): 45–66.
- Blinder, Alan. 2007. "How Many U.S. Jobs Might Be Offshorable?" Working Paper 142. Princeton, N.J.: Princeton University, Center for Economic Policy Studies (CEPS).
- Borjas, George. 2007. "Immigration Policy and Human Capital." In *Reshaping the American Workforce in a Changing Economy*, ed. Harry J. Holzer and Demetra Smith Nightingale. Washington, D.C.: Urban Institute Press.
- Bound, John, and Richard Freeman. 1992. "What Went Wrong? The Erosion of Relative Earnings and Employment Among Blacks." *Quarterly Journal of Economics* 107(1): 201–32.
- Bound, John, and Harry Holzer. 1993. "Industrial Structure, Skill Levels, and the Labor Market for White and Black Men." *Review of Economics and Statistics* 75(3): 387–96.
- Card, David. 2005. "Is the New Immigration Really So Bad?" *Economic Journal* 115(507): F300–323.
- Card, David, Raj Chetty, and Andrea Weber. 2007. "The Spike at Benefit Exhaustion: Leaving the Unemployment System or Starting a New Job?" *American Economic Review* 97(2): 113–18.

- Card, David, and Jonathan Dinardo. 2002. "Skill-Biased Technological Change and Rising Wage Inequality: Some Problems and Puzzles." *Journal of Labor Economics* 20(4): 733–83.
- . 2007. "The Impact of Technological Change on Low-Wage Workers: A Review." In *Working and Poor: How Economic and Policy Changes Are Affecting Low-Wage Workers*, ed. Rebecca M. Blank, Sheldon H. Danziger, and Robert F. Schoeni. New York: Russell Sage Foundation.
- Card, David, Thomas Lemieux, and Craig Riddell. 2003. "Unionization and Wage Inequality: A Comparative Study of the U.S., U.K., and Canada." Working Paper 9473. Cambridge, Mass.: National Bureau of Economic Research.
- Congressional Budget Office. 2014. "The Slow Recovery of the Labor Market." Available at: www.cbo.gov/publication/45011.
- Dao, Mai Chi, and Prakash Loungani. 2010. "The Tragedy of Unemployment." Washington, D.C.: International Monetary Fund.
- Duncan, Greg J., and Richard J. Murnane, eds. 2011. *Whither Opportunity?* New York: Russell Sage Foundation.
- Edelman, Peter, Mark Greenberg, and Harry Holzer. 2009. "Expanding the EITC to Help More Low-Wage Workers." Washington, D.C.: Georgetown University, Georgetown Center on Poverty, Inequality, and Public Policy.
- Elsby, Michael, Bart Hobijn, and Aysegul Sahin. 2010. "The Labor Market Consequences of the Great Recession." Working Paper. Cambridge, Mass.: National Bureau of Economic Research.
- Feenstra, Robert, and Gordon Hanson. 1998. "The Impact of Outsourcing and High-Technology Capital on the United States." *Quarterly Journal of Economics* 114(3): 907–40.
- Freeman, Richard. 1995. "Are Your Wages Set in Beijing?" *Journal of Economic Perspectives* 9(3): 15–32.
- . 2007a. "Is a Great Labor Shortage Coming?" In *Reshaping the American Workforce in a Changing Economy*, ed. Harry J. Holzer and Demetra Smith Nightingale. Washington, D.C.: Urban Institute Press.
- . 2007b. *AmericaWorks: Critical Thoughts on the Exceptional U.S. Labor Market*. New York: Russell Sage Foundation.
- Furhtgott-Roth, Diana, Louis Jacobson, and Christine Moker. 2009. *Strengthening Community College's Influence on Economic Mobility*. Washington, D.C.: Pew Trusts Economic Mobility Project.
- Goldin, Claudia, and Lawrence Katz. 2008. *The Race Between Education and Technology*. Cambridge, Mass.: Harvard University Press.
- Haskins, Ron, Harry Holzer, and Robert Lerman. 2009. *Promoting Economic Mobility by Increasing Postsecondary Education*. Washington, D.C.: Pew Trusts Economic Mobility Project.
- Hines, James, Hilary Hoynes, and Alan B. Krueger. 2001. "Another Look at Whether a Rising Tide Lifts All Boats." In *The Roaring Nineties*, ed. Alan B. Krueger and Robert M. Solow. New York: Russell Sage Foundation.
- Hirsch, Barry T. 2008. "Sluggish Institutions in a Dynamic World: Can Unions and Industrial Competition Coexist?" *Journal of Economic Perspectives* 22(1): 153–76.
- Holzer, Harry J. 2009. "The Labor Market and Young Black Men: Updating Moynihan's Perspective." *Annals of the Academy of Political and Social Science* 621(1): 47–69.
- . 2010. *Is the Middle of the Job Market Really Disappearing?* Washington, D.C.: Center for American Progress.
- Holzer, Harry J., and Marek Hlavac. 2011. "An Uneven Road and Then a Cliff: U.S. Labor Markets, 2000–2010." US2010 Project policy brief. New York: Russell Sage Foundation.
- Holzer, Harry, Julia Lane, David Rosenblum, and Fredrik Andersson. 2011. *Where Are All the Good Jobs Going? What National and Local Job Quality and Dynamics Mean for U.S. Workers*. New York: Russell Sage Foundation.
- Holzer, Harry J., Paul Offner, and Elaine Sorensen. 2005. "Declining Employment Among Young Black Men: The Role of Incarceration and Child Support." *Journal of Policy Analysis and Management* 24(2): 329–50.
- Holzer, Harry, and Robert I. Lerman. 2007. "America's Forgotten Middle Skill Jobs: Education and Training Requirements in the Next Decade and Beyond." Report. Washington, D.C.: The Workforce Alliance.
- Houseman, Susan, Christopher Kurz, Paul Lengermann, and Benjamin Mandel. 2010. "Offshoring and the State of American Manufacturing." Research Paper 10-166. Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research.
- Juhn, Chinhui. 1992. "Decline of Male Labor Market Participation: The Role of Declining Market Opportunities." *Quarterly Journal of Economics* 107(1): 79–121.
- Kahn, Lisa. 2010. "The Long-Term Labor Market Consequences of Graduating from College in a Bad Economy." *Labour Economics* 17(2): 303–16.
- Katz, Lawrence, and David Autor. 1998. "Changes in the Wage Structure and Earnings Inequality." In *Handbook of Labor Economics*, Vol. 3A, edited by Orley Oshenfelter and David Card. Amsterdam: North Holland.

- Katz, Lawrence, and Kevin Murphy. 1992. "Changes in Relative Wages, 1963–1987: Supply and Demand Factors." *Quarterly Journal of Economics* 107(1): 35–78.
- Kemple, James, and Cynthia Willner. 2008. *Career Academies: Long-Term Impacts on Labor Market Outcomes, Educational Attainment, and Transitions to Adulthood*. New York: MDRC.
- Krueger, Alan, and Robert Solow, eds. 2002. *The Roaring Nineties*. New York: Russell Sage Foundation.
- Krugman, Paul, and Robin Wells. 2009. *Macroeconomics*. New York: Worth Publishers.
- Larrimore, Jeff, Richard V. Burkhauser, Shuaizhang Feng, and Laura Zayatz. 2008. "Consistent Cell Means for Top-coded Incomes in the Public Use March CPS (1976–2007)." *Journal of Economic and Social Measurement* 33(2-3): 89–128.
- Lawrence, Robert. 2008. *Blue Collar Blues: Is Trade to Blame for Rising U.S. Inequality?* Washington, D.C.: Peterson Institute for International Economics.
- Lee, David S. 1998. "Wage Inequality in the U.S. in the 1980s: Rising Dispersion or Falling Minimum Wage?" *Quarterly Journal of Economics* 114(3): 977–1023.
- Lemieux, Thomas. 2006. "Increased Residual Wage Inequality: Composition Effects, Noisy Data, or Rising Demand for Skill?" *American Economic Review* 96(3): 461–98.
- Lerman, Robert. 2007. "Career-Focused Training for Youth." In *Reshaping the American Workforce in a Changing Economy*, ed. Harry J. Holzer and Demetra Smith Nightingale. Washington, D.C.: Urban Institute Press.
- Levy, Frank, and Richard J. Murnane. 2004. *The New Division of Labor*. New York: Russell Sage Foundation.
- Levy, Frank, and Peter Temin. 2007. "Inequality and Institutions in 20th Century America." Working Paper 13106. Cambridge, Mass.: National Bureau for Economic Research.
- Magnuson, Katherine, and Jane Waldfogel, eds. 2008. *Steady Gains and Stalled Progress: Inequality and the Black-White Test Score Gap*. New York: Russell Sage Foundation.
- Manyika, James, Susan Lund, Byron Auguste, Lenny Mendonca, Tim Welsh, and Sreenivas Ramaswamy. 2011. *An Economy That Works: Job Creation and America's Future*. New York: McKinsey Global Institute (June).
- Maguire, Sheila, Joshua Freely, Carol Clymer, Maureen Conway, and Deena Schwartz. 2010. *Tuning In to Local Labor Markets: Findings from the Sectoral Employment Impact Study*. Philadelphia: Public/Private Ventures.
- Mishel, Lawrence, Josh Bivens, Elise Gould, and Heidi Shierholz. 2012. *The State of Working America*, 12th ed. Ithaca, N.Y.: Cornell University Press.
- Munnell, Alicia. 2007. "Policies to Promote Labor Force Participation of Older People." In *Reshaping the American Workforce in a Changing Economy*, ed. Harry J. Holzer and Demetra Smith Nightingale. Washington, D.C.: Urban Institute Press.
- Reardon, Sean. 2011. "The Widening Socioeconomic Status Achievement Gap: New Evidence and Possible Explanations." In *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*, ed. Greg J. Duncan and Richard J. Murnane. New York: Russell Sage Foundation.
- Reinhart, Carmen, and Kenneth Rogoff. 2009. *This Time Is Different: Eight Centuries of Financial Folly*. Princeton, N.J.: Princeton University Press.
- Roubini, Nouriel, and Stephen Mihm. 2010. *Crisis Economics*. New York: Penguin Press.
- Schmitt, John. 2003. "Creating a Consistent Hourly Wage Series from the Current Population Survey's Outgoing Rotation Group, 1979–2002." Washington, D.C.: Center for Economic and Policy Research.
- Spence, A. Michael. 2011. "Globalization and Unemployment." *Foreign Affairs* (July-August). Available at: <http://www.foreignaffairs.com/articles/67874/michael-spence/globalization-and-unemployment> (accessed September 11, 2014).
- Stiglitz, Joseph. 2003. *The Roaring Nineties*. New York: W.W. Norton.
- Von Wachter, Till. 2010. Testimony before Joint Economic Committee, U.S. Congress (May 26).
- Waldfogel, Jane. 1998. "Understanding the Family Gap in Pay for Women with Children." *Journal of Economic Perspectives* 12(1): 137–56.

Chapter 3

The Middle Class: Losing Ground, Losing Wealth

Edward N. Wolff

We Americans see ourselves not so much as a classless society but as a resolutely middle-class one, where ordinary people who work hard, obey the rules, and behave decently will prosper. “Middle-class” connotes not simply income but a mind-set. Americans from a range of incomes and a spectrum of occupations describe themselves as middle-class.

Optimism has been the leitmotif of the middle class—the belief that one generation will “do better” than the next, that a rising tide will lift all boats, that just as our nation’s economy grows, so too will our household budgets. From the left and the right, politicians have promised to help the “middle class.” For voters who feel shut out of the middle class, particularly the poor and minorities, politicians have promised to broaden opportunities—in short, to close the gap and push them into the middle class.

Until the start of the Great Recession in 2007, statistics on employment, wages, and net worth had buoyed that optimism. Consider the state of the middle class at the start of this millennium. Employment was up; indeed, some firms in parts of the country complained of worker shortages. Two-parent working households bolstered disposable income. More of us owned homes than ever before. A century ago, we were a nation of renters; by 2000, we were a nation of owners. Immigrants, minorities, poor families, and single heads of household all had a chance to buy into the American dream. Those homes, moreover, were growing in value. On paper anyway, a lot of us were wealthy—at least wealthy enough to borrow on those homes. Some of us used our homes as ATM machines. Borrowing was made easy through second mortgages, home equity loans, and credit cards. We could turn on the spigots to buy a second car, a bigger house, more amenities.

The stock market, too, was up, and many of us turned into “investors” ourselves. Not coincidentally, we were segueing from “defined benefit” pensions to “defined contribution” plans like IRAs and 401(k)s.

The financial marketplace emerged as a wondrous, complex creation. Banks were no longer the hometown savings-and-loan from the 1940s. Instead, they had merged into monolithic entities, some headquartered overseas. Furthermore, banks no longer held mortgage loans but sold them to a secondary market, which packaged and repackaged the loans into “tranches” to sell to investment banks and investors all over the globe. With access to capital, banks could make many more loans. And those mortgages evolved. The traditional fixed-rate, long-term mortgage requiring a large down payment gave way to a plethora of products: “no doc” (no documentation required) loans, NINJA (no income, no job, no assets) loans, variable rates, and balloon payments at the end of the loan. If a person had poor credit and could not qualify for “prime” rates,

no problem: a subprime market of lenders rose up to meet demand. Some prime-rate lenders established lucrative subprime businesses.

Yet starting in 2007, that wondrous creation did not look so wonderful. Some homeowners discovered that they could not pay according to the onerous terms of their amazingly cheap mortgages. Some investors discovered that the bad loans in the tranches made their investments worthless. Credit, once so freely available, tightened. Employers cut back. As the country entered what is now called the Great Recession, all those upward-trending statistics fell: stocks, housing prices, employment. Americans watched their personal wealth plummet. The news media reported sad tales of layoffs, bankruptcies, and foreclosures. The financial setbacks of individuals spread to cities and towns. As tax revenues slumped, governments began to retrench on public services, including schools, libraries, recreation, and transportation.

By now we have identified the key culprits. The marketers of mortgages in the subprime market earned commissions based on sales, not on the performance of the loans. Not surprisingly, they made loans to borrowers who could not meet the terms. A subset of subprime lenders—dubbed “predatory” lenders—expressly lured vulnerable people, especially minorities, into taking loans that they could not repay. The credit agencies in charge of rating the bundled mortgages sold to investors failed to do their job. The explosion of easy credit, especially the ubiquitous credit cards, strangled some households with debt. Job losses led to delinquencies and then to foreclosures.

Today, when those once-grim statistics—the stock market, employment, housing—are pushing upward and the economy is moving toward recovery, it is important to assess the losses of the middle class over the Great Recession. This chapter traces the impact of the Great Recession on the middle class, focusing mainly on its financial plight from 2007 to 2010 during one of the sharpest declines in stock and real estate prices. From 1983 to 2007, the debt of the middle class exploded. This chapter charts its further deterioration over the Great Recession, investigating trends in wealth inequality, changes in the racial wealth gap, wealth differences by age, and trends in homeownership rates, stock ownership, and mortgage debt. The period covered spans the years from 1962 to 2010. The choice of years is dictated by the availability of survey data on household wealth. By 2010, we are able to see the fallout from the financial crisis and subsequent recession.

I address seven trends: (1) the overall market fluctuations leading up to and including the Great Recession; (2) the median household wealth of the middle class; (3) the inequality of household wealth; (4) the debt of the middle class, particularly during the Great Recession; (5) homeownership and home equity; (6) stock ownership; and (7) variations in trends by race, ethnicity, and age.

DATA SOURCES AND METHODS

The primary data sources used for this study are the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 Survey of Consumer Finance (SCF), conducted by the Federal Reserve Board. Each survey consists of a core representative sample combined with a high-income supplement. The high-income supplement was selected as a list sample derived from tax data from the Internal Revenue Service (IRS) Statistics of Income (SOI). This second sample was designed to disproportionately select families that were likely to be wealthy.¹ The high-income supplement provides a much “richer” sample of high income and therefore potentially very wealthy families. About two-thirds of the cases come from the representative sample and one-third are drawn from the high-income supplement. In the 2007 SCF, the standard multistage area-probability sample contributed 2,915 cases, while the high-income supplement contributed another 1,507 cases.²

The principal wealth concept used here is “marketable wealth” (or “net worth”), which is defined as the current value of all marketable or fungible assets less the current value of debts. Net worth is thus the difference in value between total assets and total liabilities or debt. Total assets are defined as the sum of: (1) owner-occupied housing; (2) other real estate; (3) demand deposits; (4) time and savings deposits, certificates of deposit, and money market accounts; (5) government, corporate, and foreign bonds and other financial securities; (6) the cash surrender value of life insurance plans; (7) the cash surrender value of pension plans, including IRAs, Keogh, and 401(k) plans; (8) corporate stock and mutual funds; (9) net equity in unincorporated businesses; and (10) equity in trust funds. Total liabilities are the sum of: (1) mortgage debt, (2) consumer debt, including auto loans; and (3) other debt, such as educational loans.

This measure reflects wealth as a store of value and therefore a source of potential consumption. Thus, only assets that can be readily converted to cash (that are “fungible”) are included. Consumer durables such as automobiles, televisions, and furniture are excluded, since they are not easily marketed. (The resale value of automobiles typically far understates the value of their consumption services to the household.) Also, national accounts consider the purchase of vehicles as expenditures, not savings.³ As a result, my estimates of household wealth will differ from those provided by the Federal Reserve Board, which includes the value of vehicles in its standard definition of household wealth (see, for example, Kennickell and Woodburn 1999).

Also excluded is the value of future Social Security benefits that the family may receive upon retirement (usually referred to as “Social Security wealth”), as well as the value of retirement benefits from defined benefit (DB) pension plans (“pension wealth”). Even though these funds are a source of future income to families, they are not in families’ direct control and cannot be marketed.⁴ In contrast, the defined contribution (DC) plans (largely IRAs and 401[k]s) are included. (Including 401[k]s but not IRAs would lead to an understatement of household wealth.)

I used three other data sources. The first is the 1962 Survey of Financial Characteristics of Consumers (SFCC), also conducted by the Federal Reserve Board (see Projector and Weiss 1966). This stratified sample oversamples high-income households. Though the sample design and questionnaire differ from the SCF, the methodology is sufficiently similar to allow comparisons with the SCF data.⁵ The second is a synthetic data set, the 1969 Measurement of Economic and Social Performance (MESP) database. A statistical matching technique was employed to assign income tax returns for 1969 to households in the 1970 census of population. Property income flows (such as dividends) in the tax data were capitalized into corresponding asset values (such as stocks) to obtain estimates of household wealth.⁶ The third data set is the Panel Study of Income Dynamics (PSID), which spans the years from 1984 to the present and is basically a representative sample with a special supplement on house foreclosures and “distressed” mortgages.

THE GREAT RECESSION SETS IN

To understand the impact of the Great Recession, it is necessary to trace the trajectory from prosperity to hardship through key national statistical shifts.

Homeownership Trends

In the years leading up to the Great Recession, homeownership was on the rise. From 1989 to 2001, the median house price remained virtually the same in real terms.⁷ But more Americans were buying homes, and the homeownership rate shot up from 62.8 percent in 1989 to 67.7 percent in 2001, according to data from the SCF.

But house prices did not stay set. Starting in the early part of the twenty-first century (even during 2001's brief recession), house prices suddenly soared. The median price of existing one-family homes rose by 17.9 percent in real terms nationwide from 2001 to 2004. From 2001 to 2007, real housing prices gained 18.8 percent. As the price of housing rose, more Americans recognized the "home" as not just a place to live but a lucrative asset. Aided by an array of "creative" mortgages (including subprime ones), the homeownership rate expanded, from 67.7 percent in 2001 to 68.6 percent in 2007. More Americans were buying into the "American dream" of homeownership.

From 2001 to 2007, mortgage debt grew. With more people buying homes, some with minimal (or no) down payments, the average mortgage debt per household expanded by 59 percent, according to the SCF data. Crucially, outstanding mortgage loans as a share of house value rose from 33.4 to 34.9 percent, despite the 19 percent gain in real housing prices (table 3.4). When house prices collapsed after 2007, many homeowners found themselves "underwater"—that is, with loan balances greater than the value of their homes. High unemployment compounded the misery: many homeowners who lost their jobs became delinquent on their mortgages, followed by foreclosure (table 3.7).

At the end of 2007, the dream (and assets) were problematic. From 2007 to 2010, the median price of existing homes nosedived by 24 percent in real terms.⁸ Moreover, for the first time in thirty years the share of households owning their home fell, from 68.6 to 67.2 percent.

Stock Trends

Stocks also fell during the Great Recession, but the trajectory showed a different pattern. During the 1990s, the stock market boomed: the Standard & Poor's (S&P) 500 index showed prices surging 171 percent between 1989 and 2001.⁹ Just as homeownership rose, so did stock ownership: by 2001, over half of U.S. households owned stock either directly or indirectly. Thus, by 2001, the statistics signaled a comfortable, even prosperous middle class. In 2000, the stock market peaked. From 2000 to 2007, the market careened: plummeting, then recovering in 2004, then rebounding from 2004 to 2007. From 2001 to 2007, the S&P 500 was up 6 percent in real terms. However, the share of households who owned stock directly or indirectly fell from 52 percent to 49 percent. Then came the Great Recession. Stock prices (the S&P 500 index) crashed from 2007 to 2009 and then partially recovered in 2010, for a net decline of 26 percent in real terms. The stock ownership rate declined to 47 percent.

Employment and Wages

The Great Recession did not depress real wages, but employment plummeted. Median household income also declined sharply as more Americans found themselves jobless. Real wages, after stagnating for many years, had finally grown in the late 1990s. According to BLS figures, from 1989 to 2001 real wages rose by 4.9 percent and median household income in constant dollars inched up by 2.3 percent.¹⁰ Employment also surged over these years, growing by 16.7 percent.¹¹ The (civilian) unemployment rate remained relatively low, at 5.3 percent in 1989, at 4.7 percent in 2001, with a low point of 4.0 percent in 2000, and averaging 5.5 percent over this time.¹² Real wages then inched up from 2001 to 2007, with the BLS real mean hourly earnings up by 2.6 percent, while median household income gained only 1.6 percent. Employment also grew more slowly over these years, gaining 6.7 percent. The unemployment rate remained low again, at 4.7 percent in 2001 and 4.6 percent in 2007, averaging 5.2 percent over the period.

Real wages picked up from 2007 to 2010: the BLS real mean hourly earnings increased by 3.6 percent. In contrast, median household income in real terms declined by 6.4 percent over this period. The reason was unemployment: the unemployment rate surged from 4.6 percent in 2007 to 10.5 percent in 2010, though it did drop a bit to 8.9 percent in 2011. Employment statistics varied by region and state: Florida and Nevada suffered much more than Indiana, for instance.

Debt Trends

In the years leading up to the Great Recession, the country was morphing into a nation of debtors. Between 1989 and 2001, total outstanding consumer credit in 2007 dollars surged by 70 percent; from 2001 to 2007 it rose another 17 percent.¹³ Relaxed credit standards made more households eligible for credit cards. Banks, moreover, expanded credit limits to profit from late-payment fees and higher interest rates. Student loans added to the debt: according to the SCF data, the share of households reporting an educational loan rose from 13.4 percent in 2004 to 15.2 percent in 2007, then to 19.1 percent in 2010.¹⁴ The mean value of educational loans in 2010 dollars among loan holders increased by 17 percent, from \$19,410 in 2004 to \$22,367 in 2007, then by another 14 percent, to \$25,865, in 2010. The median value rose by 19 percent, from \$10,620 in 2004 to \$12,620 in 2007, then by another 3 percent, to \$13,000, in 2010. These loans were concentrated among younger households, and as we shall see, they were one of the factors (though not the principal one) that led to a precipitous decline in the net worth of these households between 2007 and 2010.

Wealth Trends

The switch from defined benefit pensions to defined contribution pensions bears mention. Statistics generally exclude the former from “wealth” and include the latter. As documented in Wolff (2011b), in 1989, 46 percent of all households reported holding a DB pension plan, which guarantees a steady flow of income upon retirement. By 2007, that figure was down to 34 percent. The decline was steep for younger households (under age forty-six), from 38 to 23 percent, as well as for middle-aged households (ages forty-seven to sixty-four), from 57 to 39 percent. With DC pension accounts, households accumulate savings for retirement purposes directly. In 1989, 24 percent of households had a DC plan; in 2007, 53 percent did. The share of younger households holding DC plans went from 31 percent to 50 percent; the share of middle-aged households increased from 28 to 64 percent.

In dollar values, while the average value of DB pension wealth among all households crept up by 8 percent, from \$56,500 in 1989 to \$61,200 in 2007, the average value of DC plans shot up more than sevenfold, from \$10,600 to \$76,800 (all figures are in 2007 dollars).¹⁵ Among younger households, average DB wealth fell in absolute terms, while DC wealth rose by a factor of 3.3. Among middle-aged households, the value of DB pensions also fell, while the value of DC plans mushroomed by a factor of 6.5. Since DB pension wealth is *not* included in the measure of marketable household wealth whereas DC wealth *is* included, the new pensions overstate the “true” gains in household wealth.¹⁶

MEDIAN WEALTH PLUMMETS OVER THE LATE 2000s

My previous research (see Wolff 1994, 1998, 2002, and 2011a), using SCF data from 1983 to 2007, presented evidence of sharply increasing household wealth inequality between 1983 and

1989, followed by little change between 1989 and 2007. Both mean and median wealth climbed briskly during the 1983–1989 period, as well as from 1989 to 2007. Most of the wealth gains from 1983 to 2007, however, were concentrated among the richest 20 percent of households.

Consider median wealth. From 1962 to 2007, it grew steadily in real terms (see table 3.1 and figure 3.1); notably, from 2001 to 2007, it grew 2.91 percent per year. However, the year 2007 marked a fiscal cliff: between 2007 and 2010, median wealth plunged by a staggering 47 percent! Indeed, median wealth was lower in 2010 than in 1969 (in real terms). The primary reasons, as we shall see, were the collapse in the housing market and the high leverage of middle-class families.¹⁷

Similarly, the Great Recession pushed more households into the negative or zero net worth category. In 1983, 15.5 percent of households reported negative or zero net worth; by 2007, that share had risen to 18.6 percent (figure 3.2). The year 2010 marked a peak of insolvency: 22.5 percent, the highest point over the half-century, had negative or zero net worth.

The trajectory of mean net worth shows a different pattern. It grew vigorously from 1962 to 1983, at 1.82 percent annually; from 1983 to 1989 it grew at 2.27 percent, from 1989 to 2001 at 3.02 percent, and from 2001 to 2007 at 3.10 percent. This modest acceleration was due largely to the rapid increase in housing prices counterbalanced by the reduced growth in stock prices between 2001 and 2007 in comparison to 1989 to 2001, and to the fact that in 2001 housing made up 28 percent of total assets and (total) stocks made up 25 percent of total assets. But it is important to note that mean wealth grew about twice as fast as the median between 1983 and 2007, indicating widening wealth inequality. The Great Recession also saw an absolute decline in mean household wealth. But where median wealth plunged by 47 percent, mean wealth fell by only 18 percent.¹⁸ Again, the more moderate decline of mean wealth signaled rising wealth inequality; in short, the wealthy suffered much less from the fallout from the Great Recession.

Household income is another dimension of well-being; indeed, insofar as rising levels of unemployment affect household income, policymakers look to this figure. The Great Recession showed a decline in household income, but not so great as the decline in household wealth. Based on the Current Population Survey (CPS), median household income in real terms advanced at a fairly solid pace from 1962 to 1983, at 0.85 percent per year (figure 3.3).

Until 2007, household income rose: from 1989 to 2001 it grew by 2.3 percent (in total) and from 2001 to 2007 by 1.6 percent. From 2007 to 2010, it fell off by 6.4 percent. This reduction was not nearly as great as that in median wealth. Mean income similarly advanced—from 1962 to 1983 at 1.2 percent annually, from 1983 to 1989 at 2.4 percent, and from 1989 to 2001 by 0.9 percent—until the years from 2001 to 2007, when it dipped by –0.1 percent annually. From 2007 to 2010 mean income dropped in real terms by 5.0 percent, slightly less than the rate of decrease in median income.

In sum, while median household income stagnated over the 1990s and 2000s, median net worth grew strongly over this period, at least until 2007. From 2001 to 2007, mean and median income changed very little, while mean and median net worth grew strongly. With the Great Recession, the middle class lost ground: there was a massive reduction in median net worth, but more modest declines in mean wealth and both median and mean income.

WEALTH INEQUALITY JUMPS IN THE LATE 2000s

The Great Recession widened the gap between the rich and the poor. In 1983 wealth inequality was close to its level in 1962 (see table 3.2 and figure 3.4).¹⁹ After rising steeply between 1983 and 1989, it remained virtually unchanged from 1989 to 2007. The share of wealth held by the

TABLE 3.1 *Mean and Median Net Worth, Wealth, and Income and Annual Growth Rates, 1962–2010*

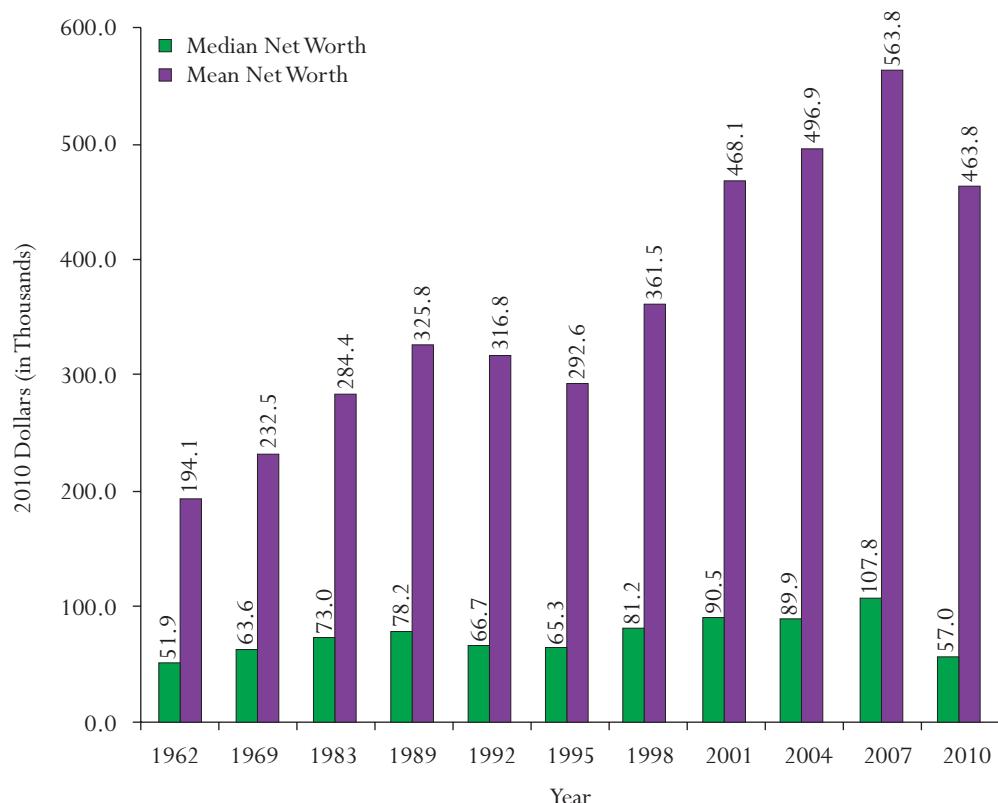
Values	1962	1969	1983	1989	1992	1995	1998	2001	2004	2007	2010
Net worth (2010 dollars in thousands)											
Median	51.9	63.6	73.0	78.2	66.7	65.3	81.2	90.5	89.9	107.8	57.0
Mean	194.1	232.5	284.4	325.8	316.8	292.6	361.5	468.1	496.9	563.8	463.8
Percentage with net worth											
Zero or negative	18.2	15.6	15.5	17.9	18.0	18.5	18.0	17.6	17.0	18.6	22.5
Less than \$5,000 ^a	30.0	20.9	25.4	27.6	27.2	27.8	27.2	26.6	26.8	26.6	33.5
Less than \$10,000 ^a	34.1	26.0	29.7	31.8	31.2	31.9	30.3	30.1	29.9	30.0	37.1
Nonhome wealth (2010 dollars in thousands)											
Median	14.1	17.7	15.8	18.6	15.6	14.2	23.8	28.6	21.0	24.7	10.0
Mean	154.4	197.3	206.4	243.2	241.5	224.5	284.0	367.5	368.6	421.6	360.7
Percentage with zero or negative nonhome wealth											
25.9	23.5	25.7	26.8	28.2	28.7	25.7	25.5	28.0	27.4	30.9	
Income (2010 dollars in thousands) ^b											
Median	38.2	49.8	45.7	50.8	47.6	48.8	52.0	52.0	51.2	52.8	49.4
Mean	43.5	56.7	55.6	64.2	60.4	64.3	69.4	71.7	69.8	71.1	67.5
Annual Growth Rates (percentages)											
Net worth											
Median	2.91	0.98	1.13	1.22	2.91	2.91	—	—	—	0.19	
Mean	2.58	1.44	2.27	3.02	3.10	3.10	—	—	—	1.81	
Nonhome wealth											
Median	3.33	-0.84	2.76	3.57	-2.41	-2.41	—	—	—	-0.71	
Mean	3.50	0.32	2.74	3.44	2.29	2.29	—	—	—	1.77	
Income ^b											
Median	3.78	-0.62	1.76	0.19	0.27	0.27	-1.15	-1.15	0.54		
Mean	3.80	-0.14	2.40	0.91	-0.13	-0.13	-1.10	-1.10	0.92		

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 Survey of Consumer Finance (SCF). Additional sources are the 1962 Survey of Financial Characteristics of Consumers (SFCC) and the 1969 MESP file.

Note: Wealth figures are deflated using the Consumer Price Index (CPI-U).

^aConstant 1995 dollars.

^bSource for household income data: U.S. Census Bureau, Current Population Survey (CPS). The 1962 figures are based on family income and the rate of change of family income between 1962 and 1969.

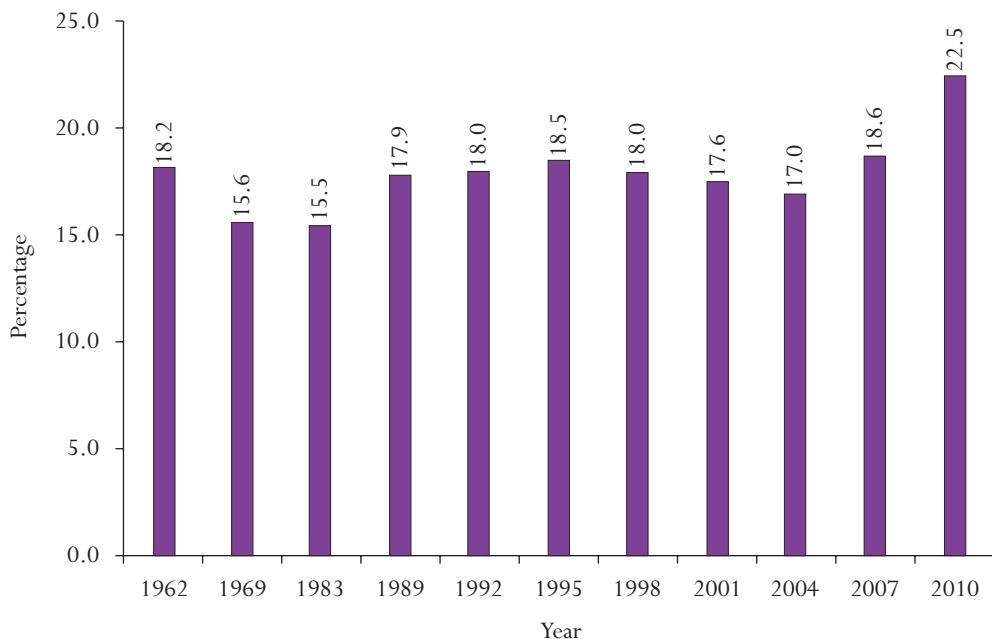
FIGURE 3.1 *Mean and Median Net Worth, 1962–2010*

Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

top 1 percent rose by 3.6 percentage points from 1983 to 1989; the Gini coefficient increased from 0.80 to 0.83.

Two principal factors account for changes in wealth concentration. The first is the change in income inequality. Between 1983 and 1989, the Gini coefficient for income rose by 0.041 points. Second, stock prices increased much faster than housing prices. The stock market boomed, and the S&P 500 Index in real terms was up by 62 percent, whereas median home prices increased by a mere 2 percent in real terms. As a result, the ratio between the two climbed by 58 percent. Middle- and lower-income Americans were less likely to own stock. For them, the key component of wealth was their home.

Between 1989 and 2007, the share of total wealth of the top percentile actually declined, from 37.4 to 34.6 percent, although an increase in the share of the next four percentiles more than compensated for this loss. As a result, the share of the top 5 percent increased from 58.9 percent in 1989 to 61.8 percent in 2007, and the share of the top quintile rose from 83.5 to 85.0 percent.²⁰ The share of the fourth and middle quintiles each declined by about a percentage point from 1989 to 2007, while that of the bottom 40 percent increased by almost one percentage

FIGURE 3.2 *Households with Zero or Negative Net Worth, 1962–2010*

Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

point. Overall, the Gini coefficient was virtually unchanged—it was 0.832 in 1989 and 0.834 in 2007.²¹

The Great Recession spurred a sharp rise in wealth inequality: the Gini coefficient rose from 0.83 to 0.87. Interestingly, the top percentile's share of total wealth showed less than a one-percentage-point gain.²² Most of the rise in wealth took place in the remainder of the top quintile, whose share of wealth climbed by almost four percentage points. The shares of the other quintiles dropped: the share of the lowest quintile fell from 0.2 percent to –0.9 percent.

The gap in household income does not explain this wealth gap; in fact, income inequality contracted during the Great Recession. In 2009 the top 1 percent of families (as ranked by income on the basis of the SCF data) earned 17 percent of total household income, and the top 20 percent accounted for 59 percent—large figures, but lower than the corresponding wealth shares.²³ The time trend for income inequality contrasts with that for wealth inequality. Income inequality rose sharply from 1961 to 1982: the Gini coefficient expanded from 0.428 to 0.480, and the share of the top 1 percent grew from 8.4 to 12.8 percent.²⁴ Income inequality increased sharply again between 1982 and 1988, with the Gini coefficient rising from 0.48 to 0.52 and the share of the top 1 percent increasing from 12.8 to 16.6 percent. There was very little change between 1988 and 1997. Between 1997 and 2000, however, income inequality again surged, with the share of the top percentile rising by 3.4 percentage points, the shares of the other quintiles falling again, and the Gini index advancing from 0.53 to 0.56.²⁵ This was followed by a modest uptick in income inequality: the Gini coefficient advanced from 0.562 in 2000 to 0.574

FIGURE 3.3 *Mean and Median Household Income, 1962–2010*

Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

in 2006. Overall, there were moderate rises in both wealth and income inequality between 2001 and 2007.

During the Great Recession, however, income inequality contracted. The Gini coefficient fell from 0.574 to 0.549, and the share of the top 1 percent dropped sharply, from 21.3 to 17.2 percent. Property income and realized capital gains (included in the SCF definition of income), as well as corporate bonuses and the value of stock options, plummeted over these years, which explains the steep decline in the share of the top percentile. Real wages, as I have shown, actually rose over these years, although the unemployment rate increased. As a result, the income of the middle class fell, but not nearly as much in percentage terms as that of the high-income groups. In contrast, transfer income such as unemployment insurance rose, so that the bottom also did better in relative terms than the top. As a result, overall income inequality fell over the years 2006 to 2009.²⁶ One of the puzzles we have to contend with is the fact that wealth inequality rose sharply over the Great Recession while income inequality fell. I return to this question later.

From 1983 to 2010, the economy had clear winners and losers (see table 3.3). The top 1 percent saw their average wealth (in 2010 dollars) rise by 71 percent. The remainder of the top quintile experienced increases from 52 to 101 percent, and average wealth for the fourth quintile

TABLE 3.2 *The Size Distribution of Wealth and Income, 1962–2010*

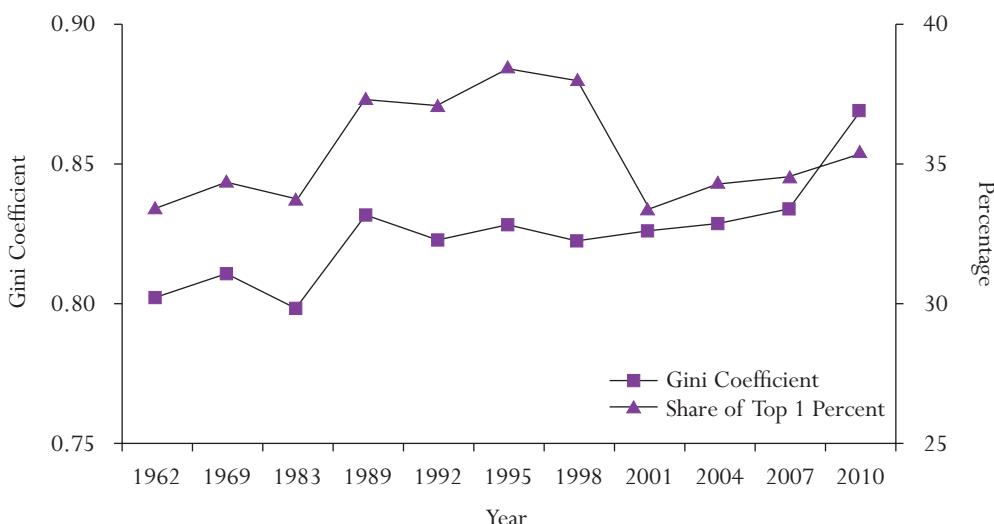
Year	Gini Coefficient	Share of Wealth or Income Held by:								
		Top 1 Percent	Next 4 Percent	Next 5 Percent	Next 10 Percent	Top 20 Percent	Fourth 20 Percent	Third 20 Percent	Bottom 40 Percent	All
		Net worth	Income	Net worth	Income	Net worth	Income	Net worth	Income	Net worth
1962	0.803	33.4%	21.2%	12.4%	14.0%	81.0%	13.4%	5.4%	0.2%	100.0%
1969	0.811	34.4	20.3	14.0	12.0	80.7	12.8	4.9	1.5	100.0
1983	0.799	33.8	22.3	12.1	13.1	81.3	12.6	5.2	0.9	100.0
1989	0.832	37.4	21.6	11.6	13.0	83.5	12.3	4.8	-0.7	100.0
1992	0.823	37.2	22.8	11.8	12.0	83.8	11.5	4.4	0.4	100.0
1995	0.828	38.5	21.8	11.5	12.1	83.9	11.4	4.5	0.2	100.0
1998	0.822	38.1	21.3	11.5	12.5	83.4	11.9	4.5	0.2	100.0
2001	0.826	33.4	25.8	12.3	12.9	84.4	11.3	3.9	0.3	100.0
2004	0.829	34.3	24.6	12.3	13.4	84.7	11.3	3.8	0.2	100.0
2007	0.834	34.6	27.3	11.2	12.0	85.0	10.9	4.0	0.2	100.0
2010	0.870	35.4	27.7	13.6	12.2	88.9	9.4	2.6	-0.9	100.0

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF. Additional sources are the 1962 SFCC and the 1969 MESP file. Income data are from these files.

Note: For the computation of percentile shares of net worth, households are ranked according to their net worth; for percentile shares of income, households are ranked according to their income.

tile grew by 21 percent. The middle quintile, on the other hand, lost 18 percent. By far the starker declines were in the bottom two quintiles: the poorest 40 percent lost 270 percent of their average wealth!

I calculate the proportion of the total increase in real household wealth between 1983 and 2010 that accrued to different wealth groups by dividing the increase in the total wealth of each percentile group by the total increase in household wealth, while holding constant the number of households in that group. If a group's wealth share remains constant over time, the percentage of the total wealth growth received by that group will equal its share of total wealth. If a group's share of total wealth increases (decreases) over time, then it will receive a percentage of the total wealth gain greater (less) than its share in either year. It should be noted, however, that in these calculations the households found in a given group may be different in the two years. The richest 1 percent received over 38 percent of the total gain in marketable wealth over the period

FIGURE 3.4 *Gini Coefficient and the Share of the Top 1 Percent for Net Worth, 1962–2010*

Source: Author's computations from the 1962 SFCC, the 1969 MESP file, and the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

from 1983 to 2010. This proportion was greater than the share of wealth held by the top 1 percent in any of the nine years. The next 4 percent received 36 percent of the total gain, and the next 15 percent received 27 percent. The top quintile collectively accounted for a little over 100 percent of the total growth in wealth, while the bottom 80 percent accounted for virtually none.²⁷

Income data show the same skewed pattern. A similar calculation using the SCF income data reveals that households in the top 1 percent of the income distribution saw their incomes grow by 59 percent from 1982 to 2009. Mean incomes increased by almost half for the next 4 percent, by over one-quarter for the next highest 5 percent, and by 13 percent for the next highest 10 percent. The fourth quintile of the income distribution experienced only a 3 percent growth in income. As for the middle quintile and the bottom 40 percent, they had absolute declines in mean income. Of the total growth in real income between 1982 and 2009, 39 percent accrued to the top 1 percent and over 100 percent to the top quintile.

In sum, the growth in the economy during the period from 1983 to 2010 was concentrated in a surprisingly small part of the population—the top 20 percent, particularly the top 1 percent.

HOUSEHOLD DEBT REMAINS HIGH

In 2010 debt as a proportion of gross assets was 17 percent, and the debt-equity ratio (the ratio of household debt to net worth) was 0.21. Even though owner-occupied housing accounted for 31 percent of total assets (see table 3.4 and figure 3.5), home equity—the value of a house minus any outstanding mortgage—amounted to only 18 percent of total assets. Real estate other than owner-occupied housing amounted to 12 percent of total assets, and business equity made up another 18 percent. Liquid assets (demand and time deposits, money market funds, CDs, and the cash surrender value of life insurance) made up 6 percent and pension accounts 15

TABLE 3.3 *Mean Wealth Holdings and Income, by Wealth or Income Class, 1983–2010 (In Thousands of 2010 Dollars)*

Variable	Top 1 Percent	Next 4 Percent	Next 5 Percent	Next 10 Percent	Top 100.7	Top 1,157	Fourth 20 Percent	Third 20 Percent	Bottom 40 Percent	All
Net worth (2010 dollars in thousands)										
1983	9,599	1,588	691	373	1,157	179	74	6	284	
2010	16,439	3,192	1,263	567	2,062	217	61	-11	464	
Percentage change	71.3	101.1	83.0	52.1	78.3	21.4	-17.9	-269.7	63.1	
Percentage of gain ^a	38.1	35.8	16.0	10.8	100.7	4.3	-1.5	-3.8	100.0	
Nonhome wealth (2010 dollars in thousands)										
1983	8,276	1,212	474	212	881	76	16	-4	193	
2010	15,172	2,662	950	378	1,720	101	12	-15	361	
Percentage change	83.3	119.6	100.6	78.3	95.3	32.1	-25.7	—	86.9	
Percentage of gain ^a	41.1	34.6	14.2	9.9	99.8	2.9	-0.5	-2.5	100.0	
Income (2010 dollars in thousands)										
1982	827	214	133	100	167	70	46	20	64	
2009	1,318	317	164	112	226	72	42	17	77	
Percentage change	59.4	48.4	23.6	12.5	35.4	3.3	-8.4	-12.9	19.3	
Percentage of gain ^a	39.4	41.6	12.7	10.1	103.7	3.6	-3.1	-4.1	100.0	

Source: Author's computations from the 1983 and 2010 SCF.

Note: For the computation of percentile shares of net worth, households are ranked according to their net worth; for percentile shares of nonhome wealth, households are ranked according to their nonhome wealth; and for percentile shares of income, households are ranked according to their income.

^aThe computation is performed by dividing the total increase in wealth of a given group by the total increase of wealth for all households over the period, under the assumption that the number of households in each group remains unchanged over the period. It should be noted that the households found in a given group (such as the top quintile) may be different in each year.

TABLE 3.4 Composition of Total Household Wealth, 1983–2010 (Percentage of Gross Assets)

	1983	1989	1992	1995	1998	2001	2004	2007	2010
Principal residence	30.1	30.2	29.8	30.4	29.0	28.2	33.5	32.8	31.3
Other real estate ^a	14.9	14.0	14.7	11.0	10.0	9.8	11.5	11.3	11.8
Unincorporated business equity ^b	18.8	17.2	17.7	17.9	17.7	17.2	17.1	20.1	18.0
Liquid assets ^c	17.4	17.5	12.2	10.0	9.6	8.8	7.3	6.6	6.2
Pension accounts ^d	1.5	2.9	7.2	9.0	11.6	12.3	11.8	12.1	15.3
Financial securities ^e	4.2	3.4	5.1	3.8	1.8	2.3	2.1	1.5	1.8
Corporate stock and mutual funds	9.0	6.9	8.1	11.9	14.8	14.8	11.9	11.8	11.4
Net equity in personal trusts	2.6	3.1	2.7	3.2	3.8	4.8	2.9	2.3	2.4
Miscellaneous assets ^f	1.3	4.9	2.5	2.8	1.8	1.8	1.8	1.7	1.7
Total wealth	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Debt on principal residence	6.3	8.6	9.8	11.0	10.7	9.4	11.6	11.4	12.9
All other debt ^g	6.8	6.4	6.0	5.3	4.2	3.1	3.9	3.9	4.5
Total debt	13.1	15.0	15.7	16.3	15.0	12.5	15.5	15.3	17.4
Selected ratios (percentage)									
Debt-equity ratio	15.1	17.6	18.7	19.4	17.6	14.3	18.4	18.1	21.0
Debt-income ratio	68.4	87.6	88.8	91.3	90.9	81.1	115.0	118.7	127.0
Net home equity/total assets ^h	23.8	21.6	20.1	19.5	18.2	18.8	21.8	21.4	18.4
Principal residence debt as ratio to house value	20.9	28.6	32.7	36.0	37.0	33.4	34.8	34.9	41.2
Stocks, directly or indirectly owned as a ratio to total assets ⁱ	11.3	10.2	13.7	16.8	22.6	24.5	17.5	16.8	17.8

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCE.

^aIn 2001, 2004, and 2007, this equals the gross value of other residential real estate plus the net equity in nonresidential real estate.

^bNet equity in unincorporated farm and nonfarm businesses and closely held corporations.

^cChecking accounts, savings accounts, time deposits, money market funds, certificates of deposits, and the cash surrender value of life insurance.

^dIRAs, Keogh plans, 401(k) plans, the accumulated value of defined contribution pension plans, and other retirement accounts.

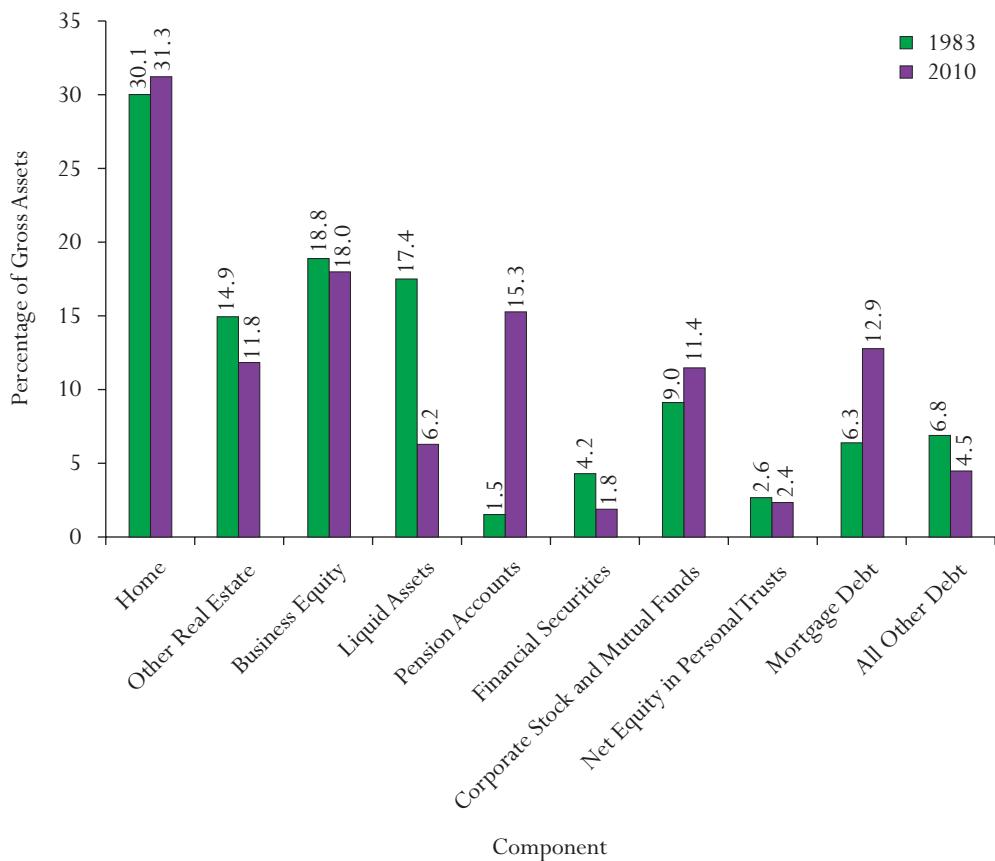
^eCorporate bonds, government bonds (including savings bonds), open-market paper, and notes.

^fGold and other precious metals, royalties, jewelry, antiques, furs, loans to friends and relatives, future contracts, and miscellaneous assets.

^gMortgage debt on all real property except principal residence; credit card, installment, and other consumer debt.

^hRatio of gross value of principal residence less mortgage debt on principal residence to total assets.

ⁱIncludes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

FIGURE 3.5 *Composition of Household Wealth, 1983 and 2010*

Source: Author's computations from the 1983 and 2010 SCF.

percent. Bonds and other financial securities amounted to 2 percent; 11 percent was corporate stock, including mutual funds, and 2 percent was trust equity.

The composition of household wealth shifted from 1983 to 2010. First, the share of gross housing wealth in total assets, after fluctuating between 28.2 and 30.4 percent from 1983 to 2001, increased to 32.8 percent in 2007, then fell to 31.3 percent in 2010. There are two main explanations: the homeownership rate and housing prices. According to the SCF, the homeownership rate, after falling from 63.4 percent in 1983 to 62.8 percent in 1989, rose to 67.7 percent in 2001 and 68.6 percent in 2007, but in 2010 it fell to 67.2 percent. Median house prices for existing homes rose by 19 percent in real terms between 2001 and 2007, but plunged by 26 percent from 2007 to 2010.

Second, equity in owner-occupied housing as a share of total assets, after falling from 24 percent in 1983 to 19 percent in 2001, rose to 21 percent in 2007, but dropped to 18 percent in 2010. Mortgage debt as a proportion of total assets increased from 21 percent in 1983 to 33 percent in 2001, 35 percent in 2007, and 41 percent in 2010. Moreover, mortgage debt on a principal residence climbed from 9.4 to 11.4 percent of total assets between 2001 and 2007 and

to 12.9 percent in 2010. The sharp decline in home equity as a proportion of assets from 2007 to 2010 is attributable to the sharp decline in housing prices; this decline varied by region, and some parts of the country were particularly hurt.

Third, as the debt-equity (net worth) ratio climbed, relative indebtedness increased as well, from 15 percent in 1983 to 18 percent in 2007, to 21 percent in 2010. Likewise, the ratio of debt to total income surged: from 68 percent in 1983 to 119 percent in 2007, to 127 percent in 2010, the high over this period. Mortgage debt is the culprit. If mortgage debt on a principal residence is excluded, the ratio of other debt to total assets actually fell, from 6.8 percent in 1983 to 3.9 percent in 2007, but then rose slightly to 4.5 percent in 2010.

The steep rise in the debt-to-equity and the debt-to-income ratios over the three years, 2007 to 2010, was entirely due to the reduction in wealth and income, not to a rise in the absolute level of debt. As shown in table 3.1, both mean net worth and mean income fell over this period. At the same time, debt in constant dollars contracted, with mortgage debt declining by 5.0 percent, other debt by 2.6 percent, and total debt by 4.4 percent. There were several key factors in that contraction: fewer people took out mortgages (influenced by higher down payments, less access to credit, and a feeling of uncertainty) and fewer people took out home equity loans, but foreclosures also erased a portion of the overall debt.

A fourth change is a dramatic increase in pension accounts, which represented 1.5 percent of total assets in 1983, 12 percent in 2007, and 15 percent in 2010. In 1983, 11 percent of households held these accounts; by 2001, 52 percent did. The mean value of these plans in real terms climbed dramatically. It almost tripled among account holders and skyrocketed by a factor of 13.6 among all households. These time trends partially reflect the history of DC plans. IRAs were established in 1974, followed by 401(k) plans in 1978 for profit-making companies. (403[b] plans for nonprofits are much older.) However, 401(k) plans and the like did not become widely available until about 1989.

From 2001 to 2007, the share of households with a DC plan leveled off and then fell modestly from 2007 to 2010, from 52.6 to 50.4 percent. The average value of DC plans in constant dollars continued to grow after 2001. Overall, it advanced by 21 percent from 2001 to 2007, by 11 percent from 2007 to 2010 among account holders, and by 7 percent among all households. Thus, despite the stock market collapse of 2007–2010 and the 18 percent decline of overall mean net worth, the average value of DC accounts continued to grow after 2007 because households shifted their portfolios out of other assets and into DC accounts.

Portfolio Composition by Wealth Class

The middle class and the rich invest their wealth differently. The richest 1 percent of households (ranked by wealth) invested over three-quarters of their savings in investment real estate, businesses, corporate stock, and financial securities in 2010 (see table 3.5 and figure 3.6). Corporate stocks, either directly or indirectly owned, accounted for 21 percent of these investments. Housing accounted for only 9 percent of the wealth of the 1 percent, liquid assets were 5 percent, and pension accounts were 8 percent. The debt-equity ratio was 3 percent, the ratio of debt to income was 61 percent, and the ratio of mortgage debt to house value was 19 percent.

Among the next richest 19 percent of U.S. households, housing was 30 percent of their total assets, their liquid assets accounted for 7 percent, and pension assets made up 21 percent. Investment assets—nonhome real estate, business equity, stocks, and bonds—made up 41 percent of total assets, and 20 percent was in the form of stocks directly or indirectly owned. Debt amounted to 14 percent of the net worth of the next 19 percent of households and 118 percent of their income, and the ratio of mortgage debt to house value was 30 percent.

TABLE 3.5 *Composition of Household Wealth, by Wealth Class, 2010 (Percentage of Gross Assets)*

	All Households	Top 1 Percent	Next 19 Percent	Middle Three Quintiles
Principal residence	31.3	9.4	30.1	66.6
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.2	5.5	6.8	5.9
Pension accounts	15.3	7.8	20.6	14.2
Corporate stock, financial securities, mutual funds, and personal trusts	15.7	25.4	14.9	3.1
Unincorporated business equity, other real estate	29.8	50.3	25.6	8.9
Miscellaneous assets	1.7	1.6	2.0	1.3
Total assets	100.0	100.0	100.0	100.0
Selected ratios (percentage)				
Debt-equity ratio	21.0	3.5	13.7	71.5
Debt-income ratio	127.0	60.6	117.9	134.5
Net home equity/total assets ^a	18.4	7.7	21.0	32.4
Principal residence debt/house value	41.2	18.9	30.1	51.3
All stocks/total assets ^b	17.8	20.6	20.1	8.2
Ownership rates (percentage)				
Principal residence	67.2	98.1	96.3	68.4
Other real estate	18.6	75.1	48.9	12.4
Pension assets	50.4	90.2	82.7	45.8
Unincorporated business	12.1	74.1	30.3	8.1
Corporate stock, financial securities, ^c mutual funds, and personal trusts	22.9	88.8	61.2	15.4
Stocks, directly or indirectly owned ^b	46.9	94.9	84.4	41.4
(1) \$5,000 or more	35.5	94.3	79.7	29.4
(2) \$10,000 or more	31.1	93.1	77.2	24.0

Source: Author's computations from the 2010 SCF.

Note: Households are classified into wealth class according to their net worth. Brackets for 2010 are:

Top 1 percent: net worth of \$6,616,000 or more.

Next 19 percent: net worth between \$373,000 and \$6,616,000.

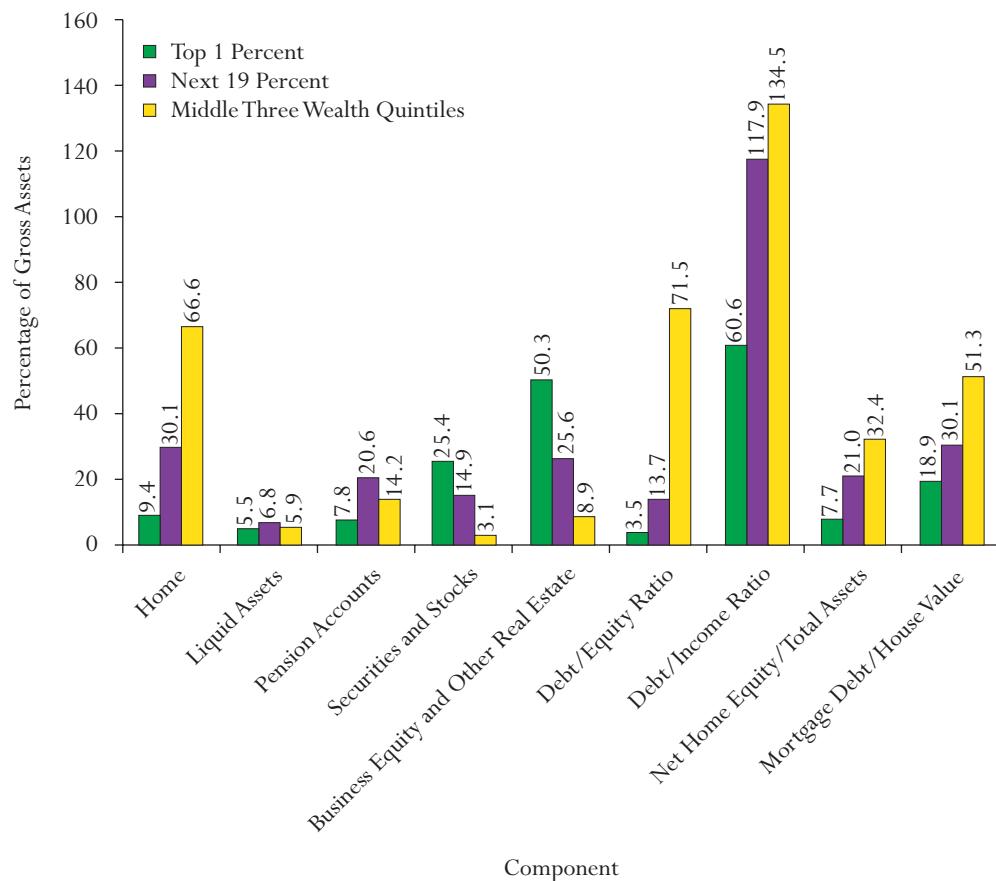
Quintiles 2 through 4: net worth between \$0 and \$373,000.

^aRatio of gross value of principal residence less mortgage debt on principal residence to total assets.

^bIncludes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

^cFinancial securities exclude U.S. government savings bonds in this entry.

In contrast, almost exactly two-thirds of the wealth of the middle three quintiles of households was invested in their homes in 2010. However, home equity amounted to only 32 percent of total assets, a reflection of the large mortgage debt of these households. Another 20 percent went into monetary savings of one form or another and into pension accounts. Together housing, liquid assets, and pension assets accounted for 87 percent of total assets, with the remainder in investment assets. Stocks directly or indirectly owned made up only 8 percent of their total assets. The debt-equity ratio was 0.72, substantially higher than that for the richest 20 percent, and the ratio of debt to income for the middle three quintiles was 135 percent—also much higher than that of the top quintile. Finally, their mortgage debt amounted to a little more than half the value of their principal residences.

FIGURE 3.6 *Composition of Household Wealth, by Wealth Class, 2010*

Source: Author's computations from the 2010 SCF.

Almost all households among the top 20 percent of wealth holders owned their homes, compared to 68 percent of households in the middle three quintiles. The “very rich”—those in the top percentile—stand out. Three-quarters of those households owned some other form of real estate, compared to 49 percent of “rich” households (those in the next 19 percent of the distribution) and 12 percent of households in the middle 60 percent. Eighty-nine percent of the very rich owned some form of pension asset, compared to 83 percent of the rich and 46 percent of the middle. Seventy-four percent of the very rich reported owning their own business, compared to 30 percent among the rich and 8 percent of the middle class. Among the very rich, 89 percent held corporate stock, mutual funds, financial securities, or a trust fund, in comparison to 61 percent of the rich and only 15 percent of the middle. Ninety-five percent of the very rich reported owning stock either directly or indirectly, compared to 84 percent of the rich and 41 percent of the middle. If we exclude small holdings of stock, the ownership rates drop off sharply among the middle three quintiles, from 41 percent to 29 percent for stocks worth \$5,000 or more and to 24 percent for stocks worth \$10,000 or more.

TABLE 3.6 *Composition of Household Wealth of the Middle Three Wealth Quintiles, 1983–2010 (Percentage of Gross Assets)*

	1983	1989	1998	2001	2004	2007	2010
Principal residence	61.6	61.7	59.8	59.2	66.1	65.1	66.6
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	21.4	18.6	11.8	12.1	8.5	7.8	5.9
Pension accounts	1.2	3.8	12.3	12.7	12.0	12.9	14.2
Corporate stock, financial securities, mutual funds, and personal trusts	3.1	3.5	5.5	6.2	4.2	3.6	3.1
Unincorporated business equity, other real estate	11.4	9.4	8.8	8.5	7.9	9.3	8.9
Miscellaneous assets	1.3	2.9	1.8	1.2	1.4	1.3	1.3
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Selected ratios (percentage)							
Debt-equity ratio	37.4	41.7	51.3	46.4	61.6	61.1	71.5
Debt-income ratio	66.9	83.0	101.6	100.3	141.2	156.7	134.5
Net home equity/total assets ^a	43.8	39.2	33.3	33.8	34.7	34.8	32.4
Principal residence debt/house value	28.8	36.5	44.4	42.9	47.6	46.6	51.3
All stocks/total assets ^b	2.4	3.3	11.2	12.6	7.5	7.0	8.2
Ownership rates (percentage)							
Principal residence	71.6	71.5	73.3	75.9	78.2	76.9	68.4
Other real estate	15.4	15.5	13.7	13.2	13.6	14.7	12.4
Pension assets	12.2	27.3	48.5	52.9	51.4	53.4	45.8
Unincorporated business	8.5	8.4	8.5	7.9	8.1	8.8	8.1
Corporate stock, financial securities, ^c mutual funds, and personal trusts	21.6	24.2	26.7	27.5	27.1	23.1	15.4

Source: Author's computations from the 1983, 1989, 1998, 2001, 2004, 2007, and 2010 SCF.

Note: Households are classified into wealth class according to their net worth. See notes to table 3.5.

^aRatio of gross value of principal residence less mortgage debt on principal residence to total assets.

^bIncludes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

^cFinancial securities exclude U.S. government savings bonds in this entry.

The staggering debt level of the middle class in 2010 raises the question of whether this is a recent phenomenon or whether it has long been the norm. Table 3.6 shows the wealth composition for the middle three wealth quintiles from 1983 to 2010. Houses as a share of assets remained virtually unchanged from 1983 to 2001, but increased from 2001 to 2010. It might seem surprising that despite the steep drop in home prices from 2007 to 2010, housing as a share of total assets actually increased slightly. The reason is that the other components of wealth fell even more than housing. While housing fell by 30 percent in real terms, other real estate fell by 39 percent, liquid assets by 48 percent, and stocks and mutual funds by 47 percent.

Pension accounts rose as a share of total assets by almost thirteen percentage points from 1983 to 2010, while liquid assets declined as a share of total assets by sixteen percentage points.

These changes paralleled changes in all households. The share of all stocks in total assets mushroomed from 2.4 percent in 1983 to 12.6 percent in 2001, then fell to 8.2 percent in 2010 as stock prices stagnated and then collapsed and middle-class households divested themselves of stocks. The proportion of middle-class households with a pension account surged by forty-one percentage points between 1983 and 2007, but fell off sharply by almost eight percentage points in 2010.

Changes in debt, however, represent the most dramatic movements. The debt-equity ratio of the middle class rose from 0.37 in 1983 to 0.61 in 2007; all of the increase occurred between 2001 and 2004, reflecting mainly the surge in mortgage debt. The debt-to-income ratio more than doubled from 1983 to 2007. Once again, much of the increase happened between 2001 and 2004. The rise in the debt-equity ratio and the debt-to-income ratio was much steeper for the middle class. In 1983, for example, the debt-to-income ratio was about the same for middle-class households as it was for all households. By 2007, the ratio was much larger for the middle class.

Then the Great Recession hit. The debt-equity ratio reached 0.72 in 2010, but there was actually a retrenchment in the debt-to-income ratio, which fell to 1.35 in 2010. The reason? From 2007 to 2010, the mean debt of the middle class in constant dollars actually contracted by 25 percent. There was, in fact, a 23 percent reduction in mortgage debt as families paid down their outstanding balances (and as foreclosures reduced households' debt.) Households' non-mortgage debt dropped 32 percent as families paid off credit card balances and other forms of consumer debt. (Also, a climate of uncertainty dampened Americans' proclivity to borrow.) The steep rise in the debt-equity ratio of the middle class between 2007 and 2010 was due to the sharp drop in net worth, while the decline in the debt-to-income ratio was almost exclusively due to the sharp contraction of overall debt.

As for all households, the ratio of home equity to assets fell for the middle class from 1983 to 2010, and mortgage debt as a proportion of house value rose. The decline in the ratio of home equity to total assets between 2007 and 2010 was relatively small despite the steep decrease in home prices, a reflection of the sharp reduction in mortgage debt. On the other hand, the rise in the ratio of mortgage debt to house values was relatively large over these years because of the falloff in home prices.

The “Middle-Class Squeeze”

Nowhere is the middle-class squeeze more vividly demonstrated than in its rising debt. As noted, the ratio of debt to net worth of the middle three wealth quintiles rose from 0.37 in 1983 to 0.46 in 2001, and then to 0.61 in 2007. Correspondingly, the middle-class debt-to-income ratio rose from 0.67 in 1983 to 1.00 in 2001, then zoomed to 1.57 in 2007.

This new debt took two major forms. First, when housing prices soared, families borrowed against the enhanced value of their homes by refinancing their mortgages or taking out home equity loans. In fact, mortgage debt on owner-occupied housing (principal residence only) as a proportion of total assets climbed from 29 percent in 1983 to 47 percent in 2007, and home equity as a share of total assets fell from 44 to 35 percent over these years. Second, families ran up enormous debt on their credit cards.

Where did the borrowing go? Some have asserted that borrowers invested in stocks. But stocks as a share of total assets fell from 13 to 7 percent between 2001 and 2007. The rise in housing prices almost fully explains the increase in the net worth of the middle class from 2001 to 2007. Of the \$16,400 rise in median wealth, gains in housing prices alone accounted for \$14,000 (86 percent) of it. It also appears that middle-class households, experiencing stagnating incomes, expanded their debt to finance normal consumption expenditures.

The large buildup of debt set the stage for the financial crisis of 2007 and the ensuing Great Recession. When the housing market collapsed in 2007, many households found themselves “underwater,” with mortgage debt larger than the value of their home. This factor, coupled with the loss of income emanating from the recession, led many homeowners to stop paying their mortgages. The resulting foreclosures led, in turn, to steep reductions in the value of mortgage-backed securities. Banks and other financial institutions holding such assets experienced a large decline in their equity, which touched off the financial crisis.

THE HOUSING MARKET

The housing sector plummeted. The prime culprits were the plethora of “creative” mortgages with often onerous terms, faulty credit rating agency practices, and the creation of financial instruments tied to the fate of the housing market (particularly, the securitization of mortgage debt). The housing bubble in the early part of the last decade set the stage for a major market “correction.” Indeed, as noted earlier, from 2007 to 2010 the median price of existing homes plummeted by 24 percent in real terms. Because housing makes up about two-thirds of middle-class assets, any economic downturn in the housing market erodes the wealth of the middle class.²⁸

As noted, the overall homeownership rate declined from 68.6 percent in 2007 to 67.2 percent in 2010, according to the SCF data (see table 3.7). This change seems modest, given all the media hype about home foreclosures. (However, there were huge regional variations: the South and West were particularly hard hit, as well as parts of neighborhoods in cities throughout the country.) Also, once the filing for foreclosure happens, the occupant remains the “owner” until the process is complete. That process can take up to two years while banks and owners negotiate, stall, try for short sales, and the like. Percentage-point reductions were sharper for African American and Hispanic households (1.9 percentage points) than for whites (almost no change); for single males (2.6 percentage points) than for married couples or single females (who actually had a net increase); for high school graduates (4.3 percentage points) than for other educational groups; for younger age groups than for those age seventy-five and older (a large net increase); and for households with annual incomes below \$25,000 and, surprisingly, those with incomes above \$75,000 than for middle-income households.

Moreover, the collapse in home values led to a surprisingly modest uptick in the number of families who were underwater with their mortgage or had negative home equity. By 2010, only 8.2 percent of homeowners were underwater. As discussed, although housing prices dropped by 24 percent in real terms from 2007 to 2010, there was also a substantial retrenchment of mortgage debt, which accounts for the relatively small share of homeowners (including those with no mortgages) who were underwater in 2010.²⁹

In general, the less expensive the house, the less likely the owners were to find themselves underwater. Consequently, the poorest households, who owned the least expensive houses, were least likely to end up underwater. Single females, the poorest of the three family types, and single males had a somewhat lower incidence of negative home equity among homeowners than married couples because they had less expensive houses and therefore lower mortgage debt. Similarly, owners with the lowest education (less than twelve years of schooling) had the smallest incidence of negative home equity, at 5 percent.³⁰ In contrast, 8 to 11 percent of high school graduates, those with some college, and college graduates found themselves underwater, with negative home equity.

The age pattern is consistent with expectations. Older owners, who bought homes before the “bubble” and had been paying off their mortgages, were least likely to end up underwater.

TABLE 3.7 Share of Homeowners with Negative Home Equity and Delinquent on Their Mortgage, by Household Characteristics, 2007–2010

	Homeownership Rate		Percentage of Homeowners with Negative Home Equity		Percentage Decline in Average Home Equity for Homeowners, 2007–2010	Percentage of Homeowners Delinquent on Their Mortgage, 2009
	2007	2010	2007	2010		
All households	68.6%	67.2	1.8	8.2	25.7	5.1
Race/ethnicity ^a						
Non-Hispanic white	74.8	74.6	1.7	8.0	20.6	3.4
African American	48.6	47.7	1.3	9.2	24.6	11.0
Hispanic	49.2	47.3	2.1	9.1	48.3	15.4
Family type						
Married couple	79.0	77.5	1.9	8.4	22.8	4.6
Single male	51.4	48.9	3.0	7.5	24.7	3.7
Single female	55.1	55.5	0.9	7.8	26.9	7.8
Years of schooling ^b						
Less than twelve years	52.8	54.3	0.4	5.0	29.7	11.8
Twelve years	68.9	64.6	2.4	8.4	27.2	6.0
Thirteen to fifteen years	62.3	61.5	2.1	10.5	31.8	5.0
Sixteen or more years	77.8	76.5	1.4	7.8	23.9	1.6
Age class ^c						
Under thirty-five	40.7	37.5	5.5	16.2	58.7	4.6
Thirty-five to forty-four	66.1	63.8	2.6	13.8	48.7	6.5
Forty-five to fifty-four	77.3	75.2	1.4	8.5	27.4	5.6
Fifty-five to sixty-four	81.0	78.1	0.9	5.3	13.6	4.7
Sixty-five to seventy-four	85.5	82.5	0.4	3.5	29.6	1.0
Seventy-five and older	77.0	81.3	0.0	2.7	9.3	3.9
Income class (2007 dollars)						
Under \$15,000	36.3	32.5	0.8	2.6	6.9	7.7
\$15,000–\$24,999	53.5	49.5	1.7	6.4	27.4	5.5
\$25,000–\$49,999	60.9	65.8	1.9	8.1	10.9	8.4
\$50,000–\$74,999	76.8	79.4	1.9	11.7	23.3	6.4
\$75,000–\$99,999	89.2	84.3	3.2	10.9	34.5	4.2
\$100,000–\$249,999	92.9	91.3	1.3	7.4	18.1	2.7
\$250,000 or over	97.2	96.1	0.3	1.4	14.6	0.4

Source: The first five columns are from the author's computations from the 2007 and 2010 SCF. The sixth column is from the author's computations from the 2009 PSID.

^aAsian and other races are excluded from the table because of small sample sizes.

^bHouseholds are classified by the schooling level of the head of household.

^cHouseholds are classified by the age of the head of household.

Only 3 percent of owners age seventy-five and older had negative equity, while owners under age thirty-five had the highest incidence, at 16 percent.³¹ The pattern by income is U-shaped. The lowest income class (under \$15,000 of annual income) and the highest (\$250,000 or more) had the lowest incidence of negative home equity. Negative home equity peaked at the \$50,000 to \$75,000 income class. In short, the collapse in housing prices hit the middle class the hardest.

They took out higher mortgage debt through refinancing, secondary mortgages, and home equity lines of credit, relative to their homes' value, compared to the poor or the rich (as shown in table 3.6).

Among all homeowners, the decline in average home equity was 26 percent in real terms from 2007 to 2010. This, again, is a surprisingly low figure given the 24 percent decline in real housing prices. The reason is that if average mortgage debt had remained constant over the three years, average home equity would have dropped by 43 percent.³² It was the contraction of average mortgage debt (including the fact that foreclosures erased debt) over these years that kept the percentage decline in home equity at 26 percent instead of 43 percent.

Hispanic homeowners suffered by far the largest decline in home equity—48 percent—of the three racial-ethnic groups. Black homeowners experienced a somewhat larger percentage decline than white homeowners. Single-female households experienced a somewhat larger decline than single males or married couples. The less-educated households suffered a larger decline than college graduates (only 24 percent for the latter). The youngest age group experienced a 59 percent fall in home equity, while the oldest age group experienced “only” a 9 percent decline.

This pattern probably reflects the timing of Hispanic, black, and younger home buyers, who bought later, when prices were peaking. Indeed, during the early 2000s mortgage companies and banks were using all kinds of devices to permit households with low incomes and low credit ratings to take out risky mortgages.

In a special supplement to its 2009 wealth survey on distressed mortgages, the PSID asked families about mortgage distress (foreclosures, delinquencies, mortgage modification, and expectations about payment difficulties in the coming twelve months). Results on the share of homeowners who were delinquent on their mortgages in 2009 are shown in the last column of table 3.7.

These results do not automatically line up with the share of households underwater. That is to say, a family with negative equity in its home will not necessarily “walk away” by stopping mortgage payments. (“Walking away” has consequences for credit ratings. In addition, there are the “friction” costs of moving.) Indeed, the low-income groups have the highest delinquency rate, which points to affordability as the main determinant of mortgage delinquency. Historically, people stopped paying their mortgages when they lost their job, their health, or their spouse. The Great Recession was different. Initially the “teaser” mortgages, with their onerous terms and balloon payments, were the spur. Soon afterward, however, rising unemployment emerged as the spur. Those individuals who are least able to handle unexpected financial hardships are the most likely to default, regardless of their home equity levels. However, a lack of home equity may make these individuals even more vulnerable to foreclosure, as it reduces their ability to refinance and impedes a short sale (where the owner must pay the outstanding balance).

The overall delinquency rate among homeowners in 2009 was 5 percent, and the percentage of those who were likely to continue to be behind or to fall behind soon was a startling 14 percent. Indeed, the percentage of individuals who were likely to fall behind or remain behind on their mortgage was approximately three times the percentage of individuals who were currently behind, suggesting that rates of default and foreclosure rose at least through 2011. Among white households, the percentage was only 3.4 percent, but it was 11 percent among blacks and 15 percent among Hispanics. (In contrast, the share underwater was slightly higher for blacks than Hispanics.) Single females were further behind on mortgage payments (an 8 percent delinquency rate) than single males or couples, even though single females had a smaller share of underwater mortgages than married couples.

Overall, the lower a homeowner's education, the lower his or her income (the two are correlated), and the younger a homeowner is the more likely he or she is to default on a mortgage. Briefly, those with the least education had a 12 percent delinquency rate, compared to 6 percent for high school graduates, 5 percent for those with some college, and 1.6 percent for college graduates. Similarly, the bottom income group had a delinquency rate of 7.7 percent; those with income of \$25,000 to \$50,000 had a rate of 8.4 percent; those with income of \$50,000 to \$75,000 defaulted at a rate of 6.4 percent; and only 0.4 percent of the highest income class defaulted. As for age, the delinquency rate for people age sixty-five to seventy-four was 1.0 percent, compared to 4.7 to 6.5 percent for non-elderly owners. Unemployment is a factor as well. Lower-income Americans, as well as younger Americans, are more vulnerable to employment shifts. Elderly Americans, who are generally retired, are less vulnerable to employment shifts. Also, many older homeowners incurred mortgage debt years ago, may not have refinanced, and may no longer even have a mortgage.

LEVERAGING: THE FALL IN WEALTH AND RISE IN WEALTH INEQUALITY

Two puzzles emerge from the preceding analysis. The first is the dramatic plunge in median net worth between 2007 and 2010 of 47 percent. This happened despite a moderate drop in median income of 6.4 percent in real terms and steep declines in housing and stock prices of 24 and 26 percent in real terms, respectively.

The second is the sharp increase in wealth inequality of 0.035 Gini points. It is surprising that wealth inequality rose so sharply, given that income inequality dropped by 0.025 Gini points (at least according to the SCF data) and the ratio of stock prices to housing prices was essentially unchanged. In fact, as I have shown elsewhere (Wolff 2002), wealth inequality is positively related to the ratio of stock to house prices, since the former is heavily concentrated among the rich and the latter is the chief asset of the middle class. A regression run of the share of wealth held by the top 1 percent of households (WLTH) on the share of income received by the top 5 percent of families (INC), and the ratio of the S&P 500 index to housing prices (RATIO), with twenty-one data points between 1922 and 1998, yields:

$$\text{WLTH} = 5.10 + 1.27 \text{ INC} + 0.26 \text{ RATIO}, R^2 = 0.64, N = 21 (0.9) (4.2) (2.5)$$

$$(0.9) \quad (4.2) \quad (2.5)$$

with t-ratios shown in parentheses. Both variables are statistically significant (INC at the 1 percent level and RATIO at the 5 percent level) and have the expected (positive) sign. Also, the fit is quite good, even for this simple model.

Changes in median wealth and wealth inequality from 2007 to 2010 can be explained to a large extent by leverage—the ratio of debt to net worth. The steep fall in median wealth was due in large measure to the high leverage of middle-class households. The spike in wealth inequality was largely due to “differential leverage” between the rich and the middle classes.³³

Two Arithmetic Examples

A simple arithmetical example illustrates the effects of leverage. Suppose average assets are 50 and average debt is 0 (left panel of table 3.8). Also, suppose that asset prices rise by 20 percent. Then average net worth also rises by 20 percent. However, now suppose that average debt is 40 and asset prices once again rise by 20 percent. Then average net worth increases from a base of 10 (50 minus 40) to 20 (60 minus 40) or by 100 percent. Thus, leverage amplifies the effects of

TABLE 3.8 *The Effects of Leverage and Differential Leverage on the Rate of Return*

	Leverage			Differential Leverage		
	Year 1	Year 2	Percentage Change	Year 1	Year 2	Percentage Change
“The Rich”				“The Rich”		
Assets	50	60		Stocks	50	40
Debt	0	0		Other assets	50	50
Net worth	50	60	20	Debt	0	0
Percentage increase in asset prices			20	Net worth	100	90
				Percentage change in stock prices		-10
“The Middle Class”				“The Middle Class”		
Assets	50	60		Housing	60	48
Debt	40	40		Other assets	10	10
Net worth	10	20	100	Debt	30	30
Percentage increase in asset prices			20	Net worth	40	28
				Percentage increase in asset prices		-20

Source: Author's compilation.

asset price changes. However, the converse is also true. Suppose that asset prices decline by 20 percent. In the first case, net worth falls from 50 to 40, or by 20 percent. In the second case, net worth falls from 10 to 0 (40 minus 40), or by 100 percent. Thus, leverage can also magnify the effects of an asset price bust.

Another example illustrates the effects of differential leverage (see bottom of table 3.8). Suppose the total assets of the very rich in a given year are 100, consisting of 50 in stocks and 50 in other assets, and their debt is 0, for a net worth of 100. For the “middle class,” suppose total assets are 70, consisting of 60 in housing and 10 in other assets, and their debt is 30, for a net worth of 40. The ratio of net worth between the very rich and the middle is 2.5 (100/40).

Suppose the value of both stocks and housing falls by 20 percent but the value of “other assets” remains unchanged. Then the total assets of the rich fall to 90 (40 in stocks and 50 in other assets), for a net worth of 90. The total assets of the middle class fall to 58 (48 in housing and 10 in other assets), but its debt remains unchanged at 30, for a net worth of 28. As a result, the ratio of net worth between the two groups rises to 3.21 (90/28). Even though housing and stock prices fall at the same rate, wealth inequality goes up. The reason is differential leverage between the two groups. If asset prices decline at the same rate, net worth decreases at an even greater rate for the middle than for the rich, since the debt-equity ratio is higher for the former than the latter. The converse is also true. A proportionate increase in house and stock prices will result in a decrease in wealth inequality.

Rates of Return

Table 3.9 shows estimated average annual rates of return for both gross assets and net worth over the period from 1983 to 2010. Results are based on the average portfolio composition over the period (see appendix table 3A.1 for the source data). For all households, the overall average annual rate of return on gross assets rose from 2.20 percent (1983–1989) to 3.25 percent

TABLE 3.9 *Average Annual Percentage Rates of Return, by Period and Wealth Class, 1983–2010*

	1983–1989	1989–2001	2001–2007	2007–2010	1983–2010
Gross assets					
All households	2.20	3.25	3.34	-6.95	1.90
Top 1 percent	3.00	3.88	3.86	-6.94	2.48
Next 19 percent	2.17	3.33	3.19	-6.70	1.93
Middle three quintiles	1.21	2.23	2.95	-7.52	1.08
Net worth					
All households	3.17	4.25	4.31	-7.39	2.73
Top 1 percent	3.38	4.15	4.03	-7.10	2.70
Next 19 percent	2.82	3.97	3.80	-7.35	2.42
Middle three quintiles	3.15	4.55	5.95	-8.89	3.06

Source: Author's computations from the 1983, 1989, 1991, 2007, and 2010 SCF.

Note: Rates of return by asset type are provided in appendix table 3A.1. Households are classified into wealth class according to their net worth. Calculations are based on household portfolios averaged over the period. Miscellaneous assets are excluded from the calculation.

(1989–2001), to 3.34 percent (2001–2007), before plummeting to -6.95 percent over the Great Recession. As shown in table 3A.1, the largest declines in asset prices over the years 2007 to 2010 occurred for residential real estate and the category businesses and nonhome real estate. The value of financial assets, including stocks, bonds, and other securities, registered an annual rate of return of "only" -2.23 percent because interest rates on corporate and foreign bonds remained strong over these years. The value of pension accounts had a -2.46 percent annual rate of return, reflecting the mixture of bonds and stocks held in pension accounts.

The average annual rate of return on net worth among all households also increased, from 3.17 percent in the first period to 4.25 percent in the second, then to 4.31 percent in the third, but it fell off sharply to -7.98 percent in the last period. The annual rates of return on net worth are uniformly higher—by about one percentage point—than those on gross assets over the first three periods, when asset prices were generally rising. In the 2007–2010 period, however, the opposite was the case, with the annual return on net worth 1.03 percent lower than that on gross assets. These results illustrate the effect of leverage, which raises the return when asset prices rise and lowers the return when asset prices fall. Over the full 1983–2010 period, the annual return on net worth was 0.77 percentage points higher than that on gross assets.³⁴

There are striking differences in returns by wealth class. The top 1 percent of wealth holders reaped the highest returns on gross assets, followed by the next 19 percent and then by the middle three wealth quintiles. The one exception is the 2007–2010 period, when the next 19 percent was first, followed by the top 1 percent and then the middle three quintiles. The differences are substantial. Over the full 1983–2010 period, the average annual rate of return on gross assets for the top 1 percent was 0.55 percentage points greater than that of the next 19 percent and 1.39 percentage points greater than that of the middle quintiles. The differences reflect the greater share of high-yield investment assets like stocks in the portfolios of the rich and the greater share of housing in the portfolio of the middle class (shown in table 3.5).

This pattern is almost exactly reversed for rates of return for net worth. In this case, in the first three periods, when asset prices were generally rising, the highest return was recorded by the middle three wealth quintiles, but in the 2007–2010 period, when asset prices were declining, the middle three quintiles registered the lowest (that is, most negative) return. The exception was the first period, when the top 1 percent had the highest return. The reason was the

substantial spread in returns on gross assets between the top 1 percent and the middle three quintiles—1.79 percentage points. Interestingly, returns for the top 1 percent were greater than those of the next 19 percent, and for the same reason.

Differences in returns between the top 1 percent and the middle three quintiles were substantial in some years. In 2001–2007, the return on net worth was 5.95 percent per year for the latter and 4.03 percent per year for the former, a difference of 1.92 percentage points. Over the Great Recession, the rate of return on net worth was –7.98 percent for the top 1 percent and –11.37 percent for the middle three quintiles, a difference of 4.27 percentage points. The spread in rates of return between the top 1 percent and the middle three quintiles reflects the much higher leverage of the middle class. In 2010, for example, the debt-equity ratio of the middle three quintiles was 0.72, while that of the top 1 percent was 0.04. The debt-equity ratio of the next 19 percent was also relatively low, at 0.14.

The huge negative rate of return on net worth of the middle three wealth quintiles was largely responsible for the precipitous drop in median net worth between 2007 and 2010. This factor, in turn, was due to the steep drop in asset prices, particularly housing, and the very high leverage of the middle wealth quintiles. Likewise, the very high rate of return on the net worth of the middle three quintiles over the 2001–2007 period (5.95 percent per year) played a big role in explaining the robust advance of median net worth, despite the sluggish growth in median income. This in turn was a result of their high leverage coupled with the boom in housing prices.

The substantial differential in rates of return on net worth between the middle three wealth quintiles and the top quintile (over four points lower) helps explain why wealth inequality rose sharply between 2007 and 2010 despite the decline in income inequality. Likewise, this differential over the 2001–2007 period (a spread of about two percentage points in favor of the middle quintiles) helps account for the stasis in wealth inequality over these years despite the increase in income inequality.

THE RACIAL DIVIDE WIDENS OVER THE GREAT RECESSION

The racial-ethnic divide widened during the Great Recession. Tables 3.10 and 3.11 divide households into non-Hispanic whites (“whites”), non-Hispanic African Americans (“blacks”), and Hispanics.³⁵ As shown table 3.10, in 2006 the ratio of mean incomes between white and black households was an already low 0.48, and the ratio of median incomes was 0.60. The ratios of mean and median wealth holdings were lower, at 0.19 and 0.06, respectively.³⁶ The homeownership rate for black households was 49 percent in 2007, a little less than two-thirds that of whites, and the percentage of black households with zero or negative net worth stood at 33, more than double that of whites.

Between 1982 and 2006, while the average real income of white households increased by 42 percent and the median by 10 percent, the former rose by only 28 percent for black households and the latter by 18 percent. As a result, the ratio of mean income slipped from 0.54 in 1982 to 0.48 in 2006, while the ratio of median income rose from 0.56 to 0.60.³⁷ The contrast in time trends between the ratio of means and that of medians reflects the huge increase in income for a relatively small number of white households—a result of rising income inequality among whites.

Between 1983 and 2001, average net worth in constant dollars climbed by 73 percent for whites, but rose by only 31 percent for black households, so that the net worth ratio fell from 0.19 to 0.14. Most of the slippage occurred between 1998 and 2001, when white net worth surged by a spectacular 34 percent and black net worth advanced by only a respectable 5 percent. Indeed, mean net worth growth among black households was slightly higher in the 1998–

TABLE 3.10 *Household Income and Wealth for Non-Hispanic Whites and Blacks, 1982–2010*

	Means			Medians		
	Non-Hispanic Whites	Non-Hispanic Blacks	Ratio	Non-Hispanic Whites	Non-Hispanic Blacks	Ratio
Income (in thousands of 2010 dollars)						
1982	68.2	36.7	0.54	48.0	26.7	0.56
1988	74.7	33.2	0.45	49.7	18.9	0.38
1991	74.2	37.2	0.50	45.7	25.9	0.57
1994	68.2	32.9	0.48	45.8	24.3	0.53
1997	77.4	38.0	0.49	49.5	26.8	0.54
2000	93.4	45.3	0.48	54.2	30.8	0.57
2003	89.8	44.0	0.49	55.4	32.3	0.58
2006	97.1	46.9	0.48	52.6	31.6	0.60
2009	86.8	41.4	0.48	51.0	30.0	0.59
Net worth (in thousands of 2010 dollars)						
1983	332.3	62.5	0.19	95.7	6.4	0.07
1989	393.2	65.9	0.17	113.6	2.9	0.03
1992	380.5	70.7	0.19	95.3	16.0	0.17
1995	346.8	58.3	0.17	87.3	10.5	0.12
1998	429.3	78.0	0.18	109.3	13.4	0.12
2001	573.5	81.7	0.14	131.0	13.1	0.10
2004	616.4	117.1	0.19	136.6	13.7	0.10
2007	685.8	129.0	0.19	151.1	9.7	0.06
2010	593.3	84.5	0.14	97.0	4.9	0.05
Homeownership rate (percentage)						
1983	68.1	44.3	0.65			
1989	69.3	41.7	0.60			
1992	69.0	48.5	0.70			
1995	69.4	46.8	0.67			
1998	71.8	46.3	0.64			
2001	74.1	47.4	0.64			
2004	75.8	50.1	0.66			
2007	74.8	48.6	0.65			
2010	74.6	47.7	0.64			
Percentage of households with zero or negative net worth						
1983	11.3	34.1	3.01			
1989	12.1	40.7	3.38			
1992	13.8	31.5	2.28			
1995	15.0	31.3	2.09			
1998	14.8	27.4	1.85			
2001	13.1	30.9	2.35			
2004	13.0	29.4	2.27			
2007	14.5	33.4	2.30			
2010	18.6	33.9	1.83			

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

Note: Households are divided into four racial-ethnic groups: non-Hispanic whites; non-Hispanic blacks; Hispanics; and American Indians, Asians, and others. For 1995, 1998, and 2001, the classification scheme does not explicitly indicate non-Hispanic whites and non-Hispanic blacks for the first two categories, so that some Hispanics may have classified themselves as either white or black.

TABLE 3.11 *Household Income and Wealth for Non-Hispanic Whites and Hispanics, 1982–2010*

	Means			Medians		
	Non-Hispanic Whites	Hispanics	Ratio	Non-Hispanic Whites	Hispanics	Ratio
Income (in thousands of 2010 dollars)						
1982	68.2	41.2	0.60	48.0	31.8	0.66
1988	74.7	34.0	0.46	49.7	23.8	0.48
1991	74.2	35.0	0.47	45.7	24.4	0.53
1994	68.2	44.2	0.65	45.8	31.5	0.69
1997	77.4	41.6	0.54	49.5	30.8	0.62
2000	93.4	46.3	0.50	54.2	29.6	0.55
2003	89.8	44.4	0.49	55.4	30.0	0.54
2006	97.1	48.8	0.50	52.6	36.8	0.70
2009	86.8	49.1	0.57	51.0	34.0	0.67
Net worth (in thousands of 2010 dollars)						
1983	332.3	54.0	0.16	95.7	3.7	0.04
1989	393.2	64.7	0.16	113.6	2.4	0.02
1992	380.5	84.6	0.22	95.3	5.7	0.06
1995	346.8	73.4	0.21	87.3	7.2	0.08
1998	429.3	106.0	0.25	109.3	4.0	0.04
2001	573.5	98.6	0.17	131.0	3.6	0.03
2004	616.4	132.1	0.21	136.6	6.4	0.05
2007	685.8	179.2	0.26	151.1	9.6	0.06
2010	593.3	90.3	0.15	97.0	1.3	0.01
Homeownership rate (percentage)						
1983	68.1	32.6	0.48			
1989	69.3	39.8	0.57			
1992	69.0	43.1	0.62			
1995	69.4	44.4	0.64			
1998	71.8	44.2	0.61			
2001	74.1	44.3	0.60			
2004	75.8	47.7	0.63			
2007	74.8	49.2	0.66			
2010	74.6	47.3	0.63			
Percentage of households with zero or negative net worth						
1983	11.3	40.3	3.01			
1989	12.1	39.9	3.38			
1992	13.8	41.2	2.28			
1995	15.0	38.3	2.09			
1998	14.8	36.2	2.09			
2001	13.1	35.3	2.69			
2004	13.0	31.3	2.41			
2007	14.5	33.5	2.30			
2010	18.6	35.8	1.93			

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

Note: See table 3.10 note for details on racial-ethnic categories.

2001 years, at 1.55 percent per year, than in the preceding fifteen years, at 1.47 percent per year. Between 2001 and 2007, however, mean net worth among blacks gained an astounding 58 percent, while white wealth advanced by 29 percent, so that by 2007 the net worth ratio was back to 0.19, the same level as in 1983.

One salient difference between the two groups is the much higher share of stocks in the white portfolio and the much higher share of homes in the portfolio of black households. In 2001 the gross value of principal residences formed 46 percent of the total assets of black households, compared to 27 percent among whites, while (total) stocks were 25 percent of the total assets of whites and only 15 percent of total assets of black households. In the case of median wealth, the black-white ratio fluctuated over time but was almost exactly the same in 2007 as in 1983—0.06 compared to 0.07.

The homeownership rate of black households grew from 44 to 47 percent between 1983 and 2001, but relative to white households, the homeownership rate slipped slightly, from 0.65 in 1983 to 0.64 in 2001. From 2001 to 2007, the white homeownership rate rose slightly, from 74.1 to 74.8 percent, and the ratio of homeownership rates advanced slightly, to 0.65. The percentage of black households with zero or negative net worth fell from 34 percent in 1983 to 31 percent in 2001 (and also declined relative to the corresponding rate for whites). In the ensuing six years, however, the share rose back to 33 percent (though relative to white households it remained largely unchanged).

The picture differs for Hispanics (see table 3.11). The ratio of mean income between Hispanics and non-Hispanic whites in 2007 was 0.50, almost the same as that between black and white households. However, the ratio of median income was 0.70, much higher than the ratio between black and white households. The ratio of mean net worth was 0.26 compared to a ratio of 0.19 between blacks and whites. However, the ratio of medians was 0.06, almost identical to that between blacks and whites. The Hispanic homeownership rate was 49 percent, almost identical to that of black households, and 34 percent of Hispanic households reported zero or negative wealth, almost the same as for African Americans.

Hispanic households made considerable progress from 1983 to 2007. Mean income grew by 18 percent and median income by 16 percent, so that while the ratio of mean income slid from 60 to 50 percent, the ratio of median income advanced from 66 to 70 percent. Between 1983 and 2001, mean wealth doubled for Hispanic households and the ratio of mean net worth increased slightly, from 16 to 17 percent. Mean net worth among Hispanics then climbed by another 82 percent between 2001 and 2007, and the corresponding ratio advanced to 26 percent, quite a bit higher than that between black and white households. The surge in Hispanic wealth from 2001 to 2007 can be traced to a five-percentage-point jump in the Hispanic homeownership rate.

From 1983 to 2007, median wealth among Hispanics remained largely unchanged, so that the ratio of median wealth between Hispanics and whites stayed virtually the same. In contrast, the homeownership rate among Hispanic households surged from 33 to 44 percent between 1983 and 2001, and the ratio of homeownership rates between the two groups grew from 0.48 in 1983 to 0.60 in 2001. Between 2001 and 2007, the Hispanic homeownership rose once again, to 49 percent, about the same as for black households, and the homeownership ratio rose sharply to 0.66. The percentage of Hispanic households with zero or negative net worth fell steadily over time, from 40 percent in 1983 to 34 percent in 2007 (about the same as for black households), and the share relative to white households tumbled from a ratio of 3.0 to 2.3.

Despite some progress from 2001 to 2007, the respective wealth gaps between minorities and whites were still much greater than the corresponding income gaps in 2007. While mean income ratios were about 50 percent, mean wealth ratios were about 20 to 25 percent, and the share with zero or negative net worth was around one-third, in contrast to 15 percent among

TABLE 3.12 *Composition of Household Wealth, by Race and Ethnicity, 2007 (Percentage of Gross Assets)*

	Non-Hispanic Whites	Non-Hispanic Blacks	Hispanics
Principal residence	30.8	54.0	52.5
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.6	7.6	3.9
Pension accounts	12.5	12.3	7.7
Corporate stock, financial securities, mutual funds, and personal trusts	17.1	3.4	2.5
Unincorporated business equity, other real estate	31.3	20.9	32.9
Miscellaneous assets	1.7	1.8	0.4
Total assets	100.0	100.0	100.0
Selected ratios (percentage)			
Debt-equity ratio	15.4	55.3	51.1
Debt-income ratio	109.0	152.2	187.9
Net home equity/total assets ^a	20.8	27.3	28.8
Principal residence debt/house value	32.4	49.4	45.2
All stocks/total assets ^b	18.3	5.0	5.1

Source: Author's computations from the 2007 SCF.

^aRatio of gross value of principal residence less mortgage debt on principal residence to total assets.

^bIncludes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

non-Hispanic white households (a difference that appears to mirror the gap in poverty rates). While blacks and Hispanics were left out of the wealth surge of the years 1998 to 2001 because of relatively low stock ownership, they actually benefited from this (and the relatively high share of houses in their portfolios) in the 2001–2007 period. However, all three racial-ethnic groups saw an increase in their debt-to-asset ratio from 2001 to 2007.

By 2010, the racial picture had shifted. While the ratio of both mean and median income between black and white households changed very little between 2007 and 2010 (mean income, in particular, declined for both groups), the ratio of mean net worth dropped from 0.19 to 0.14. The proximate causes were the higher leverage of black households and their higher share of housing wealth in gross assets (see table 3.12). In 2007 the debt-equity ratio among blacks was an astounding 0.55, compared to 0.15 among whites, while housing as a share of gross assets was 0.54 for the former as against 0.31 for the latter. The ratio of mortgage debt to home value was also much higher for blacks (0.49) than for whites (0.32). The sharp drop in home prices from 2007 to 2010 thus led to a relatively steeper loss in home equity for the former (25 percent) than the latter (21 percent) (see table 3.12). This factor explains the steeper fall in mean net worth for black households relative to white households.³⁸

The Great Recession hit Hispanic households much harder than black households in terms of wealth. Mean income among Hispanic households rose a bit from 2007 to 2010, and the ratio with respect to white households increased from 0.50 to 0.57. On the other hand, the median income of Hispanics fell, as did the ratio of median income between Hispanics and whites. However, the mean net worth of Hispanics, in 2010 dollars, fell almost *in half*, and the ratio of this to the mean wealth of whites plummeted from 0.26 to 0.15. The same factors were responsible here as with black households. In 2007 the debt-equity ratio for Hispanics was 0.51, compared

to 0.15 among whites, while housing as a share of gross assets was 0.53 for the former as against 0.31 for the latter (see table 3.12). The ratio of mortgage debt to home value was also higher for Hispanics (0.45) than for whites (0.32). As a result, home equity dropped by 48 percent among Hispanic homeowners, compared to 21 percent among white homeowners (see table 3.7). This factor was largely responsible for the huge decline in Hispanic net worth both in absolute and relative terms.

Hispanic net worth plummeted, first, because a large proportion of Hispanic owners bought their homes from 2001 to 2007, when prices were peaking. As a result, they suffered a disproportionately large percentage drop in their home equity. Second, Hispanic homeowners were clustered in regions where home prices fell the most, like California, Arizona, and Nevada (the “sand states”) and Florida.

There was also a steep drop in the homeownership rate among Hispanic households of 1.9 percentage points from 2007 to 2010. Indeed, after catching up to white households in this dimension from 1983 to 2007, Hispanic households fell back in 2010 to the same level as in 2004. These results accord with those of table 3.7, which shows that Hispanics had by far the highest percentage of homeowners who were delinquent in their mortgage payments in 2009 of any group. Also, the “sand states” and Florida suffered especially large hikes in unemployment.

WEALTH SHIFTS FROM THE YOUNG TO THE OLD

The cross-sectional age-wealth profiles generally follow the predicted hump-shaped pattern of the life-cycle model (table 3.13). Mean wealth increases with age up through age sixty-five, then falls off. Homeownership rates have a similar profile, though the falloff after the peak age is much more attenuated than for the wealth numbers. (In 2004 homeownership rates actually showed a steady rise with age.) In 2010 the wealth of elderly households (age sixty-five and older) was 2.1 times as high as that of the non-elderly, and their homeownership rate was nineteen percentage points higher. Despite the apparent similarity in profiles, there were notable shifts in the relative wealth holdings by age group from 1983 to 2007. The relative wealth of the youngest age group (under thirty-five years of age) declined from 21 percent of the overall mean in 1983 to 17 percent in 2007. In 2007 the mean wealth of the youngest age group was \$95,900 (in 2010 dollars), only slightly more than the mean wealth of this age group in 1989 (\$93,100). Though educational loans expanded markedly over the 2000s and by 2007 one-third of households in this age group reported an outstanding student loan, 74 percent of the total debt of this age group was mortgage debt and only 9.5 percent took the form of student loans.

The mean net worth of the next-youngest age group (age thirty-five to forty-four) relative to the overall mean collapsed from 0.71 in 1983 to 0.58 in 2007. The relative wealth of the next-youngest age group (age forty-five to fifty-four) also declined, from 1.53 in 1983 to 1.19 in 2007. The relative wealth of fifty-five- to sixty-four-year-olds was about the same in 2007 (1.69) as it was in 1983. The relative net worth of sixty-five- to seventy-four-year-olds plummeted from 1.93 in 1983 to 1.61 in 1989, but recovered to 1.86 in 2007. The wealth of the oldest age group (age seventy-five and older) gained ground, from only 5 percent above the mean in 1983 to 16 percent above in 2007.

Changes in homeownership rates mirror these trends. While the overall ownership rate increased by 5.2 percentage points, from 63.4 to 68.6 percent, between 1983 and 2007, the share of households in the youngest age group owning their own home increased by only 2.1 percentage points. The homeownership rate of households between ages thirty-five and forty-four actually fell by 2.3 percentage points, and that of forty-five- to fifty-four-year-olds declined by 0.9 percentage points. The older groups reported the biggest gains in homeownership: 3.9

TABLE 3.13 *Age-Wealth Profiles and Homeownership Rates, by Age, 1983–2010*

	1983	1989	1992	1995	1998	2001	2004	2007	2010
Mean net worth (ratio to overall mean)									
Under thirty-five	0.21	0.29	0.20	0.16	0.22	0.19	0.14	0.17	0.10
Thirty-five to forty-four	0.71	0.72	0.71	0.65	0.68	0.64	0.65	0.58	0.41
Forty-five to fifty-four	1.53	1.50	1.42	1.39	1.27	1.25	1.21	1.19	1.14
Fifty-five to sixty-four	1.67	1.58	1.82	1.81	1.91	1.86	1.91	1.69	1.81
Sixty-five to seventy-four	1.93	1.61	1.59	1.71	1.68	1.72	1.57	1.86	1.74
Seventy-five and older	1.05	1.26	1.20	1.32	1.12	1.20	1.19	1.16	1.36
Mean nonhome wealth (ratio to overall mean)									
Under thirty-five	0.17	0.28	0.18	0.14	0.21	0.19	0.12	0.15	0.09
Thirty-five to forty-four	0.59	0.68	0.69	0.62	0.67	0.61	0.64	0.54	0.39
Forty-five to fifty-four	1.53	1.48	1.45	1.43	1.31	1.27	1.24	1.19	1.14
Fifty-five to sixty-four	1.72	1.60	1.89	1.86	1.99	1.94	1.97	1.80	1.89
Sixty-five to seventy-four	2.12	1.69	1.60	1.75	1.66	1.74	1.61	1.86	1.76
Seventy-five and older	1.10	1.27	1.14	1.26	1.00	1.11	1.08	1.10	1.27
Homeownership rate (percentage)									
All ages	63.4	62.8	64.1	64.7	66.3	67.7	69.1	68.6	67.2
Under thirty-five	38.7	36.3	36.8	37.9	39.2	40.2	41.5	40.8	37.5
Thirty-five to forty-four	68.4	64.1	64.4	64.7	66.7	67.6	68.6	66.1	63.8
Forty-five to fifty-four	78.2	75.1	75.5	75.4	74.5	76.1	77.3	77.3	75.2
Fifty-five to sixty-four	77.0	79.2	77.9	82.3	80.6	83.2	79.1	80.9	78.1
Sixty-five to seventy-four	78.3	78.1	78.8	79.4	81.7	82.5	81.2	85.5	82.5
Seventy-five and older	69.4	70.2	78.1	72.5	76.9	76.2	85.1	77.0	81.3

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

Note: Households are classified according to the age of the household head.

percentage points for those ages fifty-five to sixty-four, 7.1 percentage points for ages sixty-five to seventy-four, and 7.6 percentage points for the oldest group.³⁹ By 2007, homeownership rates rose monotonically up to ages sixty-five to seventy-four and then dropped for the oldest age group. The statistics point to a relative shifting of homeownership away from younger and toward older households between 1983 and 2007.

Changes in wealth were even more dramatic from 2007 to 2010. In actual (2010) dollar terms, the average wealth of the youngest age group collapsed from \$95,500 in 2007 to \$48,400 in 2010—the second-lowest point over the twenty-seven-year period (the lowest occurred in 1995).⁴⁰ The relative wealth of the thirty-five- to forty-four-year-old age group also shrank drastically, from \$325,000 to \$190,000, its lowest point over the whole 1983–2010 period. One possible reason for these steep declines in wealth is that younger households were more likely to have bought homes near the peak of the housing cycle.

In contrast, the relative net worth of fifty-five- to sixty-four-year-olds increased sharply. The oldest age group gained in relative terms, though it fell in absolute terms, from \$653,700 to \$629,100. The relative wealth of sixty-five- to seventy-four-year-olds declined relatively and fell in absolute dollars as well, from \$1,048,600 to \$808,500. Homeownership rates fell for all age groups from 2007 to 2010 (except the very oldest), but the percentage-point decline (3.3 percentage points) was greatest for the youngest age group.

Changes in the relative wealth position of different age groups depend in large measure on relative asset price movements and differences in asset composition. The latter are highlighted

in table 3.14 for the year 2007. Homes accounted for over half the value of total assets for the age group thirty-five and younger, and the share declined to about one-quarter for fifty-five- to sixty-four-year-olds, then rose to 30 percent for the oldest age group. Liquid assets as a share of total assets remained relatively flat with age group at around 6 percent, except for the oldest group, for whom it was 11 percent, perhaps reflecting their conservative financial strategy. Pension accounts as a share of total assets rose from 4 percent for the youngest group to 16 percent for fifty-five- to sixty-four-year-olds and fell to 5 percent for the oldest age group. This pattern reflects the buildup of retirement assets until retirement age, when retirees begin to liquidate those assets.⁴¹ Corporate stock and financial securities showed a steady rise with age, from a 4 percent share for the youngest group to a 26 percent share for the oldest. A similar pattern was evident for total stocks as a percentage of all assets. Unincorporated business equity and non-home real estate were relatively flat as a share of total assets with age, at about 30 percent. The debt-equity ratio declined from 0.93 for the youngest group to 0.02 for the oldest; the debt-to-income ratio fell from 1.68 to 0.30, youngest to oldest, and similarly, mortgage debt as a share of house value decreased from 0.65 to 0.05. Home equity as a proportion of total assets rose from 19 to 29 percent from the youngest to oldest age groups.

Younger households are more heavily invested in homes and more heavily in debt, while the portfolio of older households is skewed toward financial assets, particularly corporate stock. As a result, younger households benefit relatively when housing prices rise and inflation is strong, while older households benefit relatively from rising stock prices. Changes in the relative net worth position of age groups over the 1983–2007 period were largely due to these relative asset price movements. In particular, as with minority households, the higher leverage of younger age groups made them vulnerable when asset prices, particularly housing prices, declined. The steep decline in house prices from 2007 to 2010 thus led to a relatively steeper loss in home equity for the youngest age group (59 percent) than overall (26 percent) (see table 3.7). This factor, in turn, led to a much steeper fall in net worth.

The story is very similar for the next-youngest age group, thirty-five- to forty-four-year-olds. In 2007 their debt-equity ratio was 0.41, their ratio of mortgage debt to house value was 0.51, and their share of housing in gross assets was 0.44. All were much higher than average. As with the youngest age group, the drop in home prices from 2007 to 2010 caused a large fall in home equity (49 percent) in this age group, which in turn caused a steep fall in their relative net worth.

SUMMARY AND CONCLUSION

Median wealth showed robust growth during the 1980s and 1990s and an even faster advance from 2001 to 2007. Then the Great Recession hit. From 2007 to 2010, house prices fell by 24 percent in real terms, stock prices by 26 percent, and median wealth by a staggering 47 percent. Median income also dropped by a relatively modest 6.4 percent. The percentage of households with nonpositive net worth rose sharply, from 18.6 to 22.5 percent.

Wealth inequality, after remaining relatively stable from 1989 to 2007, increased over the Great Recession. The Gini coefficient climbed from 0.834 to 0.870, and the share of the top 20 percent from 85 to 89 percent. The share of the bottom 40 percent plunged from 0.2 to –0.9 percent. In contrast, income inequality, after rising moderately from 2000 to 2007 (an increase of 0.012 Gini points), dropped substantially from 2006 to 2009 (a decrease of 0.025 Gini points).

The percentage increase in net worth (also income) from 1983 to 2010 was much greater for the top wealth (and income) groups than for those lower in the distribution. Between 1983 and 2010, the top 1 percent received 38 percent of the total growth in net worth and 39 percent

TABLE 3.14 *Composition of Household Wealth, by Age Class, 2007 (Percentage of Gross Assets)*

	All	Under Thirty-Five	Thirty-Five to Forty-Four	Forty-Five to Fifty-Four	Fifty-Five to Sixty-Four	Sixty-Five to Seventy-Four	Seventy-Five and Older
Principal residence	32.8	54.3	43.7	33.8	25.6	28.2	30.2
Liquid assets (bank deposits, money market funds, and cash surrender value of life insurance)	6.6	5.7	5.4	6.4	6.3	6.1	10.5
Pension accounts	12.1	6.0	10.7	13.0	15.8	12.9	5.0
Corporate stock, financial securities, mutual funds, and personal trusts	15.5	4.2	8.6	13.1	16.4	20.5	25.6
Unincorporated business equity, other real estate	31.3	28.7	30.1	32.0	34.4	30.2	27.1
Miscellaneous assets	1.7	1.2	1.5	1.7	1.5	2.1	1.6
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Selected ratios (percentage)							
Debt-equity ratio	18.1	92.7	41.3	20.2	11.9	7.1	2.1
Debt-income ratio	118.7	167.5	156.5	118.2	100.0	79.7	29.9
Net home equity / total assets ^a	21.4	18.8	21.3	20.9	18.1	23.4	28.7
Principal residence debt/house value	34.9	65.4	51.4	38.3	29.2	16.9	4.9
All stocks/total assets ^b	16.8	5.9	11.2	15.1	19.4	21.5	20.0

Source: Author's computations from the 2007 SCF.

Note: Households are classified into age class according to the age of the household head.

^aRatio of gross value of principal residence less mortgage debt on principal residence to total assets.^bIncludes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts.

of the total increase in income. The figures for the top 20 percent were 101 percent and 104 percent, respectively—that is to say, the upper quintile enjoyed all of the gains of this period.

The years 2001 to 2007 also saw a sharply rising debt-to-income ratio, which reached its highest level in almost twenty-five years, at 1.19 among all households in 2007. The debt-equity ratio also rose, from 0.14 to 0.18. Most of the rising debt was from increased mortgages on homes. From 2007 to 2010, both ratios rose, the former moderately, from 1.19 to 1.27, and the latter more steeply, from 0.18 to 0.21. This was true despite a moderate retrenchment of overall average debt of 4.4 percent, and it reflected the drop in both mean wealth and income.

Home values as a share of total assets among all households remained relatively unchanged from 1983 to 2010 (around 30 percent). However, home equity as a share of total assets fell from 0.24 in 1983 to 0.18 in 2010, reflecting rising mortgage debt, which grew from 21 percent of house value in 1983 to 35 percent in 2007 and then jumped to 41 percent in 2010. The large increase in the ratio from 2007 to 2010 was a result of falling home values. (Average mortgage debt actually declined by 5.0 percent in constant dollars.)

Trends are more pronounced for the middle class. Among the middle three wealth quintiles, there was a huge increase in the debt-income ratio, from 1.00 in 2001 to 1.57 in 2007, and an almost doubling of the debt-equity ratio, from 0.32 to 0.61 percent. The debt-equity ratio was also much higher among the middle 60 percent of households in 2007, at 0.61, than among the top 1 percent (0.028) or the next 19 percent (0.121). However, from 2007 to 2010, while the debt-equity ratio advanced to 0.72, the debt-to-income ratio fell to 1.35. The reason is the substantial retrenchment of average debt among the middle class over these years. Overall debt fell by 25 percent in real terms, mortgage debt declined by 23 percent, and other debt fell by 32 percent. The fact that the debt-equity ratio rose over these years reflected the steep drop in median net worth.

From 2007 to 2010, the average home equity among homeowners declined by 26 percent. This reduction would have been higher except for the contraction of mortgage debt noted earlier. Hispanics, younger households, and middle-income households were hit particularly hard in terms of the loss of home equity.

In terms of retirement preparedness from defined contribution accounts, there was generally an improvement from 2007 to 2010, except for middle-class households. The share of households with a DC account, after rising from 11 percent in 1983 to 53 percent in 2007, fell to 50 percent in 2010. However, average DC pension wealth grew from 2007 to 2010, largely because portfolios shifted. Pension accounts as a share of total assets, after rising from 1.5 percent in 1983 to 12 percent in 2007, jumped to 15 percent in 2010. Among middle-class families, however, the share with a DC plan, after growing robustly from 12 percent in 1983 to 53 percent in 2007, fell off sharply to 46 percent in 2010, and the change in real dollar terms from 2007 to 2010 was -24 percent.

The key to understanding the plight of the middle class over the Great Recession was their high degree of leverage and the high concentration of assets in their homes. The steep decline in median net worth between 2007 and 2010 was primarily due to the very high negative annual rate of return on net worth of the middle three wealth quintiles (-8.9 percent). This, in turn, was attributable to the precipitous fall in home prices and the very high degree of leverage in these quintiles. High leverage, moreover, helps explain why median wealth fell more than house (and stock) prices over these years and declined much more than median household income.

The large spread in rates of return on net worth between the middle three wealth quintiles and the top quintile (over a point and a half lower) also largely explains why wealth inequality increased steeply from 2007 to 2010 despite the decline in income inequality. Indeed, the middle class took a bigger relative hit on their net worth from the decline in home prices than the

top 20 percent did from the stock market plunge. This factor is also reflected in the fact that median wealth dropped much more in percentage terms than mean wealth over the Great Recession. The evidence further suggests that middle-class households went into debt partly in order to increase their leverage and raise their rate of return, at least when asset (particularly home) prices were rising. Of course, the increased leverage also made them vulnerable when asset prices collapsed.

The racial disparity in wealth holdings, after fluctuating from 1983 to 2007, was almost exactly the same in 2007 as in 1983. The Great Recession hit black households much harder than whites, however, and the ratio of mean wealth between the two groups plunged from 0.19 in 2007 to 0.14 in 2010, mainly owing to a 34 percent decline (in real terms) in African American wealth. The relative (and absolute) losses suffered by black households from 2007 to 2010 were due to the fact that blacks had a higher share of homes in their portfolio than did whites and much higher debt-equity ratios (0.55 and 0.15, respectively).

Hispanic households made sizable gains on (non-Hispanic) white households from 1983 to 2007. The ratio of mean net worth grew from 0.16 to 0.26, the homeownership rate among Hispanic households climbed from 33 to 49 percent, and the ratio of homeownership rates with white households advanced from 48 percent in 1983 to 66 percent in 2007. In a reversal of fortunes, however, the Great Recession decimated Hispanic households' gains. Their mean net worth plunged in half, the ratio of their mean net worth with white households fell from 0.26 to 0.15, their homeownership rate fell by 1.9 percentage points, and their home equity plummeted by 48 percent. The relative (and absolute) losses suffered by Hispanic households over these three years were also mainly due to the much larger share of homes in their wealth portfolio and their much higher debt-equity ratio (0.51 versus 0.15). Also, a high percentage of Hispanics bought their homes close to the housing cycle peak.

The Great Recession also pummeled young households. The ratio of net worth between households under age thirty-five and all households fell from 0.21 in 1983 to 0.17 in 2007 and then plunged to 0.10 in 2010. In (real) dollar terms, their mean net worth declined by 49 percent from 2007 to 2010. The ratio of thirty-five- to forty-four-year-olds' net worth to the overall figure fell from 0.71 in 1983 to 0.58 in 2007 and then declined precipitously to 0.41 in 2010. In dollar terms, their wealth fell by 42 percent over the latter three years. The same two factors explain the losses suffered by young households—the higher share of homes in their wealth portfolio and their much higher leverage ratios.

What has happened since 2010? Median household income still has not recovered (it is actually down 1.5 percent in real terms from 2010 to 2011, according to the latest CPS data), and the unemployment rate remains high, at 7.9 percent in January 2013, according to BLS data, though below its peak of 10.0 percent in October 2009. The stock market is recovering. As of March 2013, stock prices in nominal terms had risen above the last peak, in 2007. With the recovery in the stock market, data from the WorldTop Incomes Database, based on IRS tax data, indicate a sharp increase in income inequality from 2010 and 2011 as property income and capital gains also recovered. The housing sector also is on the upswing, beginning in 2012, when median house prices rose about 7 percent over the year.

What are some of the policy implications of these findings? Though a complete analysis is not possible here, I will present a few ideas about how we might prevent a recurrence of the financial crisis of the late 2000s. While most studies and commentators have focused on the asset-building side, I am more concerned with the liability side here. As noted extensively throughout this chapter, middle-class households found themselves extremely overleveraged in 2007. This factor, together with loose credit, helped fuel the housing bubble and resultant mortgage crisis (see, for example, Mian and Sufi 2011). This, in turn, helped set off the financial

crisis and ensuing Great Recession. As I argue, the credit market was rife with perverse incentives that helped to precipitate the Great Recession.

As noted earlier, loose credit allowed prospective homeowners to obtain mortgages that were not justified by the level of their household income. This process was compounded by the securitization of home mortgages, since it allowed banks and other financial institutions to issue more mortgages. Indeed, perverse incentives were built into this system, since banks and other financial institutions were able to package these new mortgages and sell them off almost immediately to other investors. As a result, mortgage loan defaults were not directly a concern of the initial lenders. This system was aided and abetted by credit rating agencies such as Standard & Poor's. Once again, perverse incentives were at work: credit rating agencies were paid directly by the bond issuers, so they had a strong motivation to collude with the bond issuers and provide a high rating to such suspect bonds.

As a result, President George W. Bush's well-intentioned effort to promote minority homeownership from 2001 to 2008 generally backfired. The huge expansion of credit, particularly in the mortgage market, led to a large growth of mortgage loans requiring little in the way of down payment and, indeed, little in the way of income documentation. Loans were issued to families who were not creditworthy and who lacked the wherewithal to repay them, particularly in times of economic distress. Indeed, many lenders preyed on unsuspecting, gullible, and financially illiterate potential homeowners, mainly minority and low-income households. Such predatory lending led to the excessive use of subprime mortgages and even "no-doc" and NINJA mortgages, which left a lot of people, particularly minorities, vulnerable to the collapse of the housing market.

The federal government also played a role in the process. The main culprits were Fannie Mae and Freddie Mac, which guaranteed or even bought up a lot of suspect mortgages. Very little attempt was made to ensure the creditworthiness of these loans. The Federal Housing Administration (FHA) played a subsidiary role during these years by insuring mortgage loans that it had no right to insure.

On the basis of the disastrous experience with the housing market from 2007 onward and the ensuing general—indeed, international—financial crisis that emanated from it, policy recommendations must take the form of better ways to structure the market for mortgage loans. Credit flowed too freely in the years leading up to the Great Recession, spurring the raft of unsustainable mortgages. The snowball effect of delinquencies and foreclosures led to the collapse of the whole credit system.

Greater government restrictions on mortgage loans may appear harmful when people are trying to buy a home, but they can prove beneficial in the long run if they prevent families from foreclosure and possible bankruptcy. The policy upshot is to enact tighter controls on mortgage loans. Today credit markets, particularly mortgage markets, have tightened their credit lines. As of 2013, 20 percent down payments and higher FICO credit scores are now standard. Regulations need to be put in place, however, to ensure that credit restrictions are not loosened as the economy recovers. Moreover, new regulations preventing "predatory" lending must also be put in place. New regulations are already contained in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The Dodd-Frank Act covers mortgages that have already been issued but are not yet in effect (qualified mortgages, or QMs), as well as mortgages that have not yet (at least, not as of March 2013) been issued (qualified residential mortgages, or QRMs).

New restrictions must also be placed on the securitization of mortgage loans. In particular, I would recommend that the issuing financial institution be required to buy back a minimum percentage of the securities it issues (say, 5 percent). This requirement would ensure that the financial institution has a strong incentive to issue only creditworthy mortgages.

What to do about Fannie Mae and Freddie Mac is another important concern. Apparently, these two agencies cannot be left to self-monitor their activities, as the huge bailout of both by the federal government gives testament. An oversight committee might make a lot of sense. The credit rating agencies like Standard & Poor's must also be subject to greater scrutiny. The existing legal system may actually be the best way to handle this problem. Numerous lawsuits to collect damages have already been filed against these agencies, and the adverse outcome of such suits may provide them with a strong incentive to rationally rate new securities that are issued.

On the more immediate front, the federal government's Home Affordable Refinance Program (HARP), designed to aid underwater homeowners, has so far been a disappointment, although it might be too early to judge it a failure. Its purpose is to prevent foreclosures by reducing the outstanding balances on mortgage loans. Most banks have been reluctant, however, to reduce the outstanding principal on first mortgages. As reported in the *New York Times* in February 2013, even though a settlement was reached by the federal government that required banks to grant \$25 billion worth of mortgage relief, only 71,000 borrowers had had their primary mortgages modified through 2012, versus 170,000 who received reductions and even forgiveness of their second mortgages, including home equity loans. As the *Times* noted, forgiveness of second mortgages does not prevent foreclosure if there is a balance outstanding on the primary mortgage loan, and foreclosures have continued for these homeowners.

The program must continue to help those people who are either in the foreclosure pipeline or about to enter it. Forgiveness of loans does, of course, have an economic impact. First, there is the well-known problem of moral hazard—for giving loans today may encourage reckless behavior on the part of potential homeowners in the future. Second, even loan "forgiveness" may impair the credit ratings of these homeowners, thus impairing their ability to secure future credit. Third, the use of so-called short sales—which are to a large extent replacing foreclosed sales—is likely to harm future credit ratings as well. Interestingly, the fact that house prices are now going up (by about 7 percent in 2012 alone) may alleviate many of the problems associated with underwater homeowners.

APPENDIX

TABLE 3A.1 *Average of Annual Nominal Rates of Return (percentage), by Asset Type and Period,
1983–2010*

Description	1983–2010	1983–1989	1989–2001	2001–2007	2007–2010
Residential real estate	3.39	4.02	4.49	5.84	−7.22
Business and nonhome real estate	4.05	3.94	4.10	9.75	−7.33
Liquid assets	4.41	6.70	4.69	3.11	1.28
Financial assets (including stocks)	9.01	13.32	13.01	2.34	−2.24
Pension accounts ^a	5.96	6.07	8.57	4.86	−2.46
Mortgage debt	0.00	0.00	0.00	0.00	0.00
Nonmortgage debt	0.00	0.00	0.00	0.00	0.00
Inflation (CPI-U average)	2.95	3.72	3.02	2.66	1.71

Source: Wolff, Zacharias, and Masterson (2009), updated by the author to 2010.

Notes: Real rate of return = $(1 + \text{nominal rate}) / (1 + \Delta\text{CPI}) - 1$.

Owner-occupied housing: U.S. Census Bureau, *Statistical Abstract of the United States*, 2009, “Median Price of Existing One-Family Homes Sold, 1968 to 2005,” table 943; updated with data from National Association of Realtors, “Median Sales Price of Existing Single-Family Homes for Metropolitan Areas,” available at: www.Realtor.org/research (accessed April 10, 2013).

Business and nonhome real estate: Holding gains (taken from the Flow of Funds, table R.100) divided by equity in non-corporate business (taken from the Flow of Funds, table B.100), Federal Reserve, “Financial Accounts of the United States” (statistical release), available at: <http://www.federalreserve.gov/releases/Z1> (accessed April 10, 2013).

Liquid assets: The weighted average of the rates of return on checking deposits and cash, time and saving deposits, and life insurance reserves. The weights are the proportion of these assets in their combined total (calculated from the Flow of Funds, table B.100). The assumptions regarding the rates of return are: zero for checking deposits, the rate of return on a one-month CD (taken from Board of Governors of the Federal Reserve System, “Table H.15: Selected Interest Rates—Daily,” available at: <http://www.federalreserve.gov/releases/h15/data.htm>, accessed April 10, 2013) for time and saving deposits, and one plus the inflation rate for life insurance reserves.

Financial assets: The weighted average of the rates of return on open market paper, Treasury securities, municipal securities, corporate and foreign bonds, corporate equities, and mutual fund shares. The weights are the proportion of these assets in total financial assets held by the household sector (calculated from the Flow of Funds, table B.100). The assumption regarding the rate of return on open market paper is that it equals the rate of return on one-month finance paper (taken from Board of Governors of the Federal Reserve System, “Table H.15: Selected Interest Rates—Daily,” available at: <http://www.federalreserve.gov/releases/h15/data.htm>, accessed April 10, 2013). The data for the rates of return on other assets are taken from The White House, Council of Economic Advisers, *Economic Report of the President* 2009, table B.73, available at: <http://www.gpo.gov/fdsys/pkg/ERP-2009/pdf/ERP-2009.pdf> (accessed April 10, 2013). The assumptions regarding Treasury securities, municipal securities, corporate and foreign bonds, and corporate equities are, respectively: average of Treasury security yields; high-grade municipal bond yield; average of corporate bond yields; and annual percentage change in the S&P 500 index. Mutual fund shares are assumed to earn a rate of return equal to the weighted average of the rates of return on open market paper, Treasury securities, municipal securities, corporate and foreign bond, and corporate equities. The weights are the proportions of these assets in the total financial assets of mutual funds (calculated from the Flow of Funds, table L.123).

Pension (defined contribution [DC]) accounts: Net acquisition of financial assets (taken from the Flow of Funds, table F.119c) divided by total financial assets of private DC plans (taken from the Flow of Funds, table, L.119c).

Inflation rate: Calculated from the CPI-U, published by the Bureau of Labor Statistics.

^aSeries begins in 1986.

TABLE 3A.2 Sample Sizes by Household Characteristics and Year, 1983–2010

	1983	1989	1992	1995	1998	2001	2004	2007	2010
All households	4,262	3,143	3,906	4,299	4,305	4,442	4,519	4,418	6,482
Income level (1998 dollars)									
Under \$15,000	999	546	705	717	702	675	644	624	1,196
\$15,000–\$24,999	650	362	461	533	513	516	515	490	970
\$25,000–\$49,999	1,173	726	883	1,058	952	979	1,013	939	1,586
\$50,000–\$74,999	587	436	499	558	598	612	579	559	861
\$75,000–\$99,999	208	234	251	295	310	294	326	347	410
\$100,000–\$249,999	310	363	484	523	519	527	562	537	659
\$250,000 or more	335	477	622	615	712	839	880	923	800
Wealth level (1998 dollars)									
Under \$25,000	1,570	804	1,159	1,259	1,295	1,294	1,418	1,171	2,537
\$25,000–\$49,999	406	217	298	306	246	271	273	232	413
\$50,000–\$99,999	584	338	366	454	401	389	348	321	522
\$100,000–\$249,999	725	486	548	590	583	563	534	580	776
\$250,000–\$499,999	308	344	318	369	427	392	392	422	576
\$500,000–\$999,999	203	224	259	300	286	317	346	370	417
\$1,000,000 or over	466	730	958	1,021	1,068	1,215	1,208	1,322	1,242

Race								
Non-Hispanic whites	3,406	2,558	3,148	3,562	3,498	3,580	3,519	3,518
Non-Hispanic blacks	472	308	358	380	414	462	484	410
Hispanics ^a	108	161	218	177	251	279	348	313
Asian and other races	117	116	183	180	143	121	168	177
Age class ^b								
Under thirty-five	1,157	542	805	886	837	810	757	702
Thirty-five to forty-four	777	688	830	908	926	929	886	812
Forty-five to fifty-four	680	612	775	907	956	1,064	1,081	1,014
Fifty-five to sixty-four	673	569	595	657	687	733	919	930
Sixty-five to seventy-four	527	452	574	560	522	499	512	549
Seventy-five and older	289	280	327	381	377	407	364	411
Education ^c								
Less than twelve years	1,281	667	613	608	613	615	547	503
Twelve years	1,151	787	921	1,086	1,037	1,059	1,057	1,075
Thirteen to fifteen years	742	548	737	920	913	874	880	861
Sixteen years or more	1,088	1,141	1,635	1,685	1,742	1,894	2,035	1,979
								2,902

Source: Author's computations from the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, and 2010 SCF.

^aHispanics can be of any race.

^bHouseholds are classified according to the age of the household head.

^cHouseholds are classified according to the education of the household head.

NOTES

1. For a discussion of the design of the list sample in the 2001 SCF, see, for example, Kennickell (2001).
2. See appendix table 3A.2 for sample sizes by year and household characteristics.
3. Another rationale is that if cars are included in the household portfolio, their “rate of return” would be substantially negative since cars depreciate very rapidly over time (the overall rate of return on the household portfolio is calculated later in the chapter).
4. For estimates of Social Security and pension wealth, see Wolff (2011b).
5. For details on the adjustments, see Wolff (1987).
6. For details on this calculation, see Wolff (1980).
7. The source for housing price data, unless otherwise indicated, is U.S. Census Bureau, *2009 Statistical Abstract*, “Section 20: Construction and Housing,” table 935, available at: <http://www.census.gov/compendia/statab/2009/2009edition.html/> (accessed April 10, 2013).
8. National Association of Realtors, “Median Sales Price of Existing Single-Family Homes for Metropolitan Areas [2009, 2010, 2011],” available at: <http://www.realtor.org/sites/default/files/reports/2012/embargoes/2012-q1-metro-home-prices-49bc10b1efdc1b8cc3eb66dbcad55f7/metro-home-prices-q1-single-family-2012-05-09.pdf> (accessed April 10, 2013).
9. For stock price data, see table B-96 in The White House, Council of Economic Advisers, *Economic Report of the President, 2012*, available at: <http://www.whitehouse.gov/administration/eop/cea/economic-report-of-the-President/2012> (accessed April 10, 2013).
10. For the wage figures (based on the BLS hourly wage series), see *ibid.*, table B-47; for the income data, see *ibid.*, table B-33.
11. The figure is for civilian employment; see *ibid.*, table B-36.
12. See *ibid.*, table B-42.
13. Federal Reserve Board, “Z1: Financial Accounts of the United States,” table B.100, available at: <http://www.federalreserve.gov/releases/Z1/> (accessed April 10, 2013).
14. Unfortunately, no data on educational loans are available in the 2001 SCF.
15. The computation of DB pension wealth is based on the present value of expected pension benefits upon retirement. See Wolff (2011b) for details.
16. For more discussion of the overstatement of “true” gains in household wealth, see Wolff (2011b).
17. If vehicles are included in the measure of wealth, the percentage decline in net worth from 2007 to 2010 is lower—“only” 39 percent. The reason is that automobiles make up a substantial portion of middle-class wealth.
18. The decline in mean net worth is 15 percent when vehicles are included in the measurement.
19. This is not to say that there was no change in wealth inequality over these years. Indeed, in previous work I used estate tax data to document a sharp reduction in wealth inequality from about 1969 to 1976 and then an equally sharp rise from 1976 to 1983 (Wolff 2002).
20. Actually, the big slippage in the share of the top 1 percent occurred between 1998 and 2001. The main reason appears to be a sizable drop—from 72 to 66 percent—in the share of households in the top 1 percent owning their own business. Whereas the mean net worth of the top 1 percent increased by 13.5 percent in real terms, the mean value of unincorporated business equity and other real estate grew by only 6.2 percent.
21. It might seem somewhat surprising that wealth inequality remained relatively unchanged during the latter part of the George H. W. Bush administration, the Clinton administration, and the George W. Bush administration. However, as we shall see later in the chapter, stability in wealth inequality over these years was due largely to the sharp increase in the relative indebtedness of the middle class.
22. Once again, the main culprit explaining the rather meager increase in the share of the top 1 percent is unincorporated business equity, whose mean value fell by 26 percent in real terms from 2007 to 2010, compared to a 16 percent overall decline in the mean net worth of the top 1 percent.
23. It should be noted that the income in a survey year (say, 2007) is for the preceding year (2006).
24. The 1969 MESP data suggest a huge expansion in income inequality from 1962 to 1969, but it is likely that the income data in the MESP file are flawed.
25. It should be noted that the SCF data show a much higher level of income inequality than the CPS data. In the year 2000, for example, the CPS data show the top 5 percent share to be 22.1 percent, with a Gini coefficient of 0.462.

The difference is primarily due to three factors. First, the SCF oversamples the rich (as noted earlier), while the CPS is a representative sample. Second, the CPS data are top-coded (that is, there is an open-ended interval at the top, typically at \$75,000 or \$100,000), whereas the SCF data are not. Third, the SCF income definition includes realized capital gains, whereas the CPS definition does not. However, the CPS data also show a large increase of inequality between 1989 and 2000, with the share of the top 5 percent rising from 18.9 to 22.1 percent, and the Gini coefficient from 0.431 to 0.462.

26. The CPS data, in contrast, show little change in household income inequality, with the Gini coefficient falling slightly, from 0.470 in 2006 to 0.468 in 2009. For the CPS data, see U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, “Table H-4: Gini Ratios for Households, by Race and Hispanic Origin of Householder, 1967 to 2010,” available at: http://www.census.gov/hhes/www/income/data/historical/household/2010/H04_2010.xls (accessed April 14, 2013). However, data from the World Top Incomes Database, based on IRS tax data, reveals a sizable decline in income inequality from 2007 to 2010. In particular, incomes at the 99.99th, 99.9th, and 99th percentiles drop sharply over these years; see www.topincomes.paris-schoolofeconomics.eu (accessed July 2, 2014).
27. Almost all of the increase in the share of the total wealth gains accruing to the top 1 percent and the top quintiles can be traced to just two periods: 1983–1989 and 2007–2010. During the other years, the proportion of the total wealth gains going to the top groups was more or less equal to their wealth share.
28. For additional analysis of recent trends in homeownership, see Rosenbaum (2012).
29. Perhaps this is not surprising after all. The homeowners who fell underwater were those who had bought homes recently, when prices were at an all-time high. The collapse in home prices put these homeowners underwater. However, *most* homeowners had bought their homes well before the price collapse. As a result, they saw their home values first soar and then fall back. Most of these homeowners had a home that in 2010 was worth less than in 2005–2006 but much more than when they originally bought it.
30. One possible explanation for this finding is that the least-educated group is also the oldest group, who probably bought homes in the more distant past. This fact could explain their low incidence of negative home equity.
31. On the basis of the 2007 SCF, the overall debt-to-net-worth ratio declines sharply with age, from 93 percent for the under-thirty-five age group to 2 percent for those age seventy-five and older (see table 3.14).
32. In 2007 the average house value was \$207,600 and the average mortgage debt was \$72,400, resulting in an average home equity of \$135,200. If house prices had declined by 24 percent and mortgage debt had remained fixed, then average home equity would have fallen to \$77,000, a decline of 43 percent.
33. On the surface, there appears to be a strong positive relationship between median net worth and house prices. For example, between 1983 and 1989 median net worth grew by 2.3 percent and median home prices rose by 7.0 percent (both in constant dollars); between 1995 and 1998 both were essentially unchanged; and between 2007 and 2010 the former plunged by 47 percent and the latter by 25 percent. However, between 2001 and 2004, for example, median wealth fell by 0.7 percent while home prices boomed by 17 percent. It does turn out that there is a positive correlation between median net worth and home prices, but the correlation is relatively weak—0.37 over the nine survey years between 1983 and 2010.
34. For details of my earlier analysis for the 1969–1975 period in the United States, see Wolff (1979).
35. The residual group, American Indians and Asians, is excluded here because of its small sample size.
36. It should be noted that the unit of observation is the household, which includes both families (two or more related individuals living together) and single adults. As is widely known, the share of female-headed households among African Americans is much higher than that among whites. This difference partly accounts for the relatively lower income and wealth among African American households.
37. The 1988 income figure for black households appears to be an outlier. The low income for blacks in that year probably reflects the small sample size for blacks (and Hispanics as well) and the survey-to-survey sample variability (see appendix table 3A.2).
38. There was almost no change in the relative homeownership rates of the two groups—both experienced moderate losses—while the share of households with nonpositive net worth actually increased more in relative terms for white households than for black ones. Unfortunately, there are no data available to separate out actual declines in house prices for white, black, and Hispanic homeowners.
39. As with racial minorities, the sample size is relatively small for the oldest age group; thus, the nine-percentage-

- point increase in their homeownership rate from 2001 to 2004 may be due to sampling variation (see appendix table 3A.2).
40. As in 2007, the principal source of debt for the youngest age group was mortgage debt, which amounted to 70 percent of total debt in 2010. However, educational loans now made up 15 percent of total liabilities in this age group, up from 10 percent in 2007, and 40 percent of these households had an outstanding student loan in 2010.
 41. This pattern may also be partly a cohort effect, since 401(k) plans and other defined contribution plans were not widely introduced into the workplace until after 1989.

REFERENCES

- Kennickell, Arthur B. 2001. "Modeling Wealth with Multiple Observations of Income: Redesign of the Sample for the 2001 Survey of Consumer Finances." Washington, D.C.: Federal Reserve Board (October). Available at: <http://www.federalreserve.gov/pubs/oss/oss2/method.html> (accessed February 7, 2013).
- Kennickell, Arthur B., and R. Louise Woodburn. 1999. "Consistent Weight Design for the 1989, 1992, and 1995 SCFs, and the Distribution of Wealth." *Review of Income and Wealth* 45(2): 193–216.
- Mian, Atif, and Amir Sufi. 2011. "House Prices, Home Equity-Based Borrowing, and the U.S. Household Leverage Crisis." *American Economic Review* 101(5): 2132–56.
- Projector, Dorothy S., and Gertrude S. Weiss. "Survey of Financial Characteristics of Consumers." Washington: Federal Reserve Board (August). Available at: http://www.federalreserv.gov/econresdata/scf/files/6263_sfec62book.pdf (accessed September 3, 2014).
- Rosenbaum, Emily. 2012. "Home Ownership's Wild Ride, 2001–2011." US2010 Project (March). Available at: http://www.s4.brown.edu/us2010/projects/authors_ho.htm (accessed July 27, 2014).
- Wolff, Edward N. 1979. "The Distributional Effects of the 1969–1975 Inflation on Holdings of Household Wealth in the United States." *Review of Income and Wealth* 25(2): 195–207.
- . 1980. "Estimates of the 1969 Size Distribution of Household Wealth in the U.S. from a Synthetic Data Base." In *Modeling the Distribution and Intergenerational Transmission of Wealth*, ed. James Smith. Chicago: University of Chicago Press.
- . 1987. "Estimates of Household Wealth Inequality in the United States, 1962–1983." *Review of Income and Wealth* 33(3): 231–56.
- . 1994. "Trends in Household Wealth in the United States, 1962–1983 and 1983–1989." *Review of Income and Wealth* 40(2): 143–74.
- . 1998. "Recent Trends in the Size Distribution of Household Wealth." *Journal of Economic Perspectives* 12(3): 131–50.
- . 2002. *TOP HEAVY: A Study of Increasing Inequality of Wealth in America*. Newly updated and expanded edition. New York: New Press.
- . 2011a. "Recent Trends in Household Wealth in the U.S.: Rising Debt and the Middle Class Squeeze." In *Economics of Wealth in the 21st Century*, ed. Jason M. Gonzales. Huntington, N.Y.: Nova Science Publishers.
- . 2011b. *The Transformation of the American Pension System: Was It Beneficial for Workers?* Kalamazoo, Mich.: W. E. Upjohn Institute for Employment Research.
- Wolff, Edward N., Ajit Zacharias, and Thomas Masterson. 2009. "Levy Institute Measure of Economic Well-Being: Postwar Trends in Economic Well-Being in the United States." The Levy Economics Institute of Bard College, February.

Chapter 4

Median Income and Income Inequality: From 2000 and Beyond

Richard V. Burkhauser and Jeff Larrimore

The first decade of the twenty-first century was a turbulent economic period for the average American.¹ Based on Current Population Survey (CPS) data, in 2000 median household income hit a record high, but fell for the next four years in the aftermath of the 2001 recession. By the end of 2007, even after three years of growth, median income was still below its 2000 peak. When the Great Recession hit in 2007, median income fell by a total of 6.78 percent over the next three years—a percentage drop greater than in any previous recession since the CPS began annual collection of this information in the 1960s.

Consequently, the household income of the median American was lower in 2010 than in 2000, both because median income did not grow over the business cycle of 2000–2007 and because it then fell by a record amount over the three years of the Great Recession. Furthermore, an increasing number of policymakers, considering research based on Internal Revenue Service (IRS) income tax data, argued that while the income of the average American was stagnating, U.S. income inequality was rapidly growing.

In this chapter, we pose four questions about income trends:

1. Are the incomes of the middle class stagnating?
2. Is income inequality between the rich and the poor growing?
3. What has been the impact of economic changes (for example, employment, earnings, transfer payments) on median incomes and inequality?
4. In the future, as our population ages and grows more ethnically and racially diverse, will those demographic shifts increase inequality and slow median income growth?

We evaluate the evidence of a stagnating American middle class and an increasingly unequal income distribution over the first decade of the twenty-first century, reporting the agreement and disagreement among researchers. We use the public use version of the March Current Population Survey to track levels and trends in income and its distribution over this period. Then, in a shift-share model, we estimate the importance of demographic and economic factors in accounting for trends in both median income and income inequality over the tumultuous 2000s, comparing the trends to previous decades. Finally, as the United States ages and grows more ethnically and racially diverse, we extend our shift-share model to predict the consequences of those demographic changes on median income and income inequality in the future.

The vast majority of research on trends in median income and income inequality in the United States is based on two data sources—the CPS and the Internal Revenue Service's Statistics of Income (SOI) tax return data. Only the CPS can be used to consistently measure changes in median income, so we use CPS data to estimate trends in median income. However, the CPS did not begin collecting this data annually for households until the 1960s. Although the IRS data series begins much earlier, it captures the income only of those Americans who file federal income tax returns—and therefore is poorly suited for measuring trends in median income. The IRS data are far more suitable, however, for measuring long-term historical trends in income inequality back to the early twentieth century, something the CPS data can do annually only since the late 1960s.

But can the CPS be used to measure trends in income inequality even then? The answer matters, since these two data sets yield different findings. Although researchers using both data sets agree that income inequality is currently at or near its peak over the past fifty years, they disagree on the timing of inequality growth. Research using the CPS data suggests that inequality increased substantially in the 1970s and 1980s but has since grown at only a moderate pace (Burkhauser et al. 2011; Gottschalk and Danziger 2005). Conversely, research using IRS tax return data suggests that inequality continued to grow rapidly through the 1990s and 2000s (Piketty and Saez 2003).²

Because recent public debates have highlighted income distribution trends, these discrepancies merit attention. Here we summarize the state of research using CPS- and IRS-based data. We reconcile their seemingly contradictory results, argue that the CPS is capable of capturing trends in income inequality, use the CPS to measure changes not only in median income but also in income inequality in the 2000s, and compare these changes to changes in previous decades.

We then focus on the demographic changes (in age, racial composition, and marital status) and economic changes (in employment and earnings, nonlabor income, transfer payments, and so on) behind these trends. Although demographic factors form a baseline for our analysis, economic factors play the most important role over the last thirty years. We argue that while the employment and earnings of men have influenced median household income trends, since 1979 the employment and earnings of women have played a far more important role.³

Finally, looking ahead, the Baby Boom generation will increasingly age into retirement, and the Hispanic population will continue to grow. We predict that, unless we reduce the persistent income gap between older and younger households and between white and minority households, these two demographic changes will drag down median income over the next two decades.

DATA

We base our analysis on data from the unrestricted public use March Current Population Survey, a nationally representative survey of approximately 200,000 individuals conducted by the U.S. Census Bureau. The March CPS supplement contains a detailed questionnaire on the sources of income of household members and is commonly used to evaluate income and income inequality trends (see, for example, Blank 2011; Burkhauser et al. 2011; Daly and Valletta 2006; Gottschalk and Danziger 2005).

We focus on the pretax, size-adjusted, household income of persons, including labor and nonlabor earnings as well as in-cash government transfers.⁴ We adjust all income for inflation using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS) to capture income trends in real dollar terms.⁵

Overview of the March CPS and Corrections to Capture Top Incomes

The March CPS does not report the actual top incomes. To protect the confidentiality of high-income respondents and to prevent the random sampling of them from adding volatility to income estimates, the Census Bureau “top-codes” each of the twenty-four income sources.⁶ The income of any individual with income above this top-code threshold is reported as the top-code threshold, not the actual recorded income. Top-coding is performed on each income source separately, including social security income and unemployment compensation (UC) (Burkhauser, Feng, and Jenkins 2009). The top-code thresholds also vary by source. For example, top-codes on primary earnings range from \$50,000 to \$200,000, depending on the year, and top-codes for social security income range from \$10,000 to \$50,000, depending, again, on the year. Since top-code thresholds are not consistent from year to year, the fraction of the population that is top-coded changes over time. In 1985 fewer than 1 percent of individuals had top-coded incomes, while in 2007 almost 6 percent did (Larrimore et al. 2008). Since different amounts of income are suppressed in each year, inequality measures using the unrestricted public use March CPS data may be inconsistent. To overcome these problems we use cell means from Larrimore and his colleagues (2008) that provide information on incomes above the top-code threshold.⁷

Additionally, the data show an artificial increase in inequality between 1992 and 1993 owing to changes in census data collection procedures (Jones and Weinberg 2000; Ryscavage 1995).⁸ We removed this artificial spike.⁹

COMPARING IRS AND CPS DATA

As discussed earlier, although we use the March CPS data, some researchers who are focused on inequality instead use tax return data provided by the IRS Statistics of Income. Those researchers have recently observed faster inequality growth than has been observed by those using the March CPS. For example, Emmanuel Saez, after updating data from Piketty and Saez (2003), observes that from 2000 to 2010 the share of income going to the top 1 percent of the income distribution, excluding capital gains, rose by 5.6 percent (from 16.49 percentage points to 17.42 percentage points).¹⁰ In contrast, Carmen DeNavas-Walt, Bernadette Proctor, and Jessica Smith (2011) observe in their annual report for the Census Bureau that when looking at their preferred inequality measure, the Gini coefficient, income inequality rose by just 1.5 percent (from 0.462 to 0.469) in the CPS data over the same time period. These differences are even greater when looking at the earlier 1990s period.

A common explanation for these differences is that deficiencies in one or both data sets restrict their ability to capture true income trends. For example, the survey-based CPS may suffer from greater recall bias than seen in IRS administrative data. Furthermore, the Census Bureau’s top-codes restrict the CPS’s ability to observe changes at the top of the income distribution. To the extent that inequality changed in this censored region of the data, researchers using the CPS may inaccurately measure trends (see, for example, Burkhauser et al. 2003–2004; Burkhauser et al. 2009; Levy and Murnane 1992; Piketty and Saez 2006; Slemrod 1996). Consequently, some researchers argue against using both the restricted-access and public use CPS data to measure income trends.

On the other hand, while IRS-based research avoids recall bias, respondents, particularly high-income earners, have a financial incentive to underreport income or to classify income in ways that minimize their taxes (for example, classifying income as either wage earnings or busi-

ness profits) and result in an appearance of lower incomes (Sivadasan and Slemrod 2008). Hence, changes in tax laws can lead researchers who use tax-based data to conflate increases in income now subject to taxation with an increase in income. For instance, after the reductions in the top individual tax rates during the 1980s, many high-earners switched from classifying income as Subchapter-C corporation profits, which are not reported on personal income tax forms, to Subchapter-S corporation profits and personal wages, which are reported (Slemrod 1995).¹¹

These data deficiencies in both data sets cannot be ignored. But Burkhauser, Feng, Jenkins, and Larrimore (2012) show that the differences in results between users have more to do with differences in their methodologies for measuring income and inequality than with data inconsistencies in one or both data sets. In particular, they highlight three major differences: the focus on household income,¹² the definition of income,¹³ and differing measures of inequality.¹⁴ To test the importance of these measurement differences, Burkhauser and his colleagues compare inequality using the two data sets, while imposing the same sharing units, income definitions, and inequality metrics.¹⁵ They observe that outside of the top 1 percent of the income distribution, the two data sets provide remarkably consistent results. Even within the top 1 percent, the results are largely consistent across the two data sets when the top-coding of census data is addressed. These researchers conclude that differences in results in the literatures based on these two data sets therefore diverge, not because of fundamental flaws in either data set, but because researchers are measuring different income and inequality concepts that are not always aligned. As such, we use the Census Bureau's March CPS data, which, unlike the tax records, allow for analyses of median incomes, since it is nationally representative rather than representative of tax filers only.

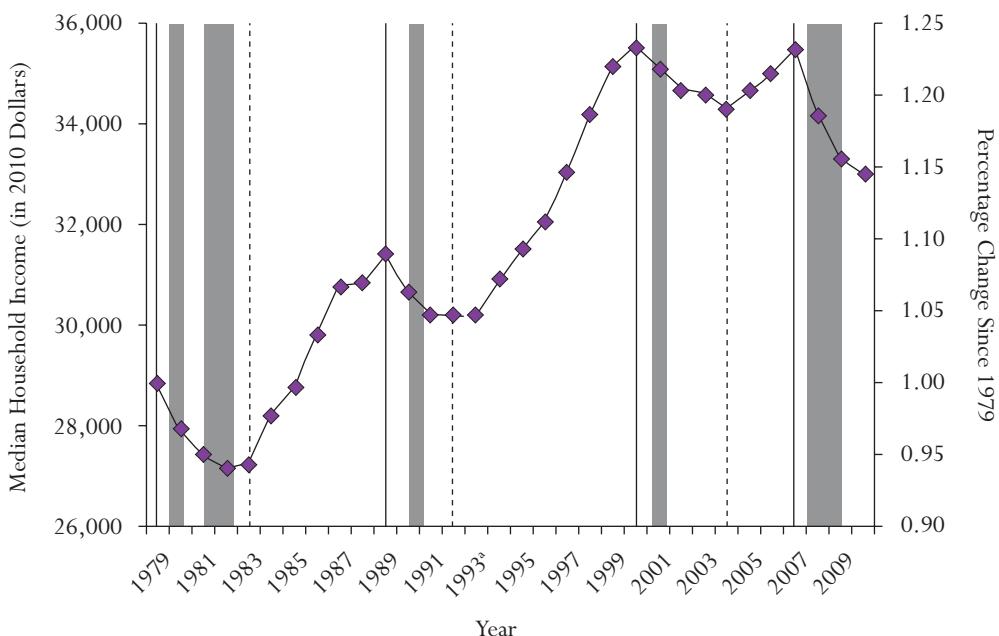
TRENDS IN MEDIAN INCOME AND INCOME INEQUALITY

In figure 4.1, we report trends in size-adjusted, household, pre-tax, post-transfer in-cash income, excluding capital gains, of the median American between 1979 and 2010.¹⁶ Although we focus on income and inequality trends over the past decade, the figure is extended back to 1979 to provide context for the more recent results. The left axis denotes median income in constant dollars; the right axis normalizes 1979 to 1 to denote its percentage change since 1979. The peaks of each business cycle (1979, 1989, 2000, and 2007) are denoted by solid vertical lines; troughs (1983, 1992, and 2004) are denoted by dashed vertical lines.¹⁷

Although median income is sensitive to business-cycle variations (cyclical changes), historically median income has risen when measured at equivalent points in the business cycle. This was true in both the 1979–1989 business cycle, when it rose by about 9 percent, and the 1989–2000 business cycle, when it rose by about 13 percent. However, this did not happen over the 2000–2007 business cycle. In the aftermath of the 2001 recession, median income fell from its all-time high in 2000; after bottoming out in 2004, it rose over the next three years to \$35,500, or \$71,000 for a household of four, in 2007, just below its previous peak in 2000. This was the first business cycle since at least the 1970s when median income was not higher at the peak following a business cycle than at the previous peak.¹⁸

Of course, any analysis of the past decade must include the Great Recession that began at the end of 2007 and continued through 2010.¹⁹ When we include this period and compare troughs of business cycles, the picture is similar to our description for peaks. Unlike the previous business cycles, when we measure trough to trough, median income falls between 2004 and 2010. In this case, however, the 3.7 percent drop between 2004 and 2010 is already much larger than the 0.2 percent drop between the peak years 2000 and 2007. Furthermore, the 7 percent decline in median size-adjusted household income from 2007 through 2010 is steeper than the fall in median income over the 1979–1983 recession (5.6 percent), the 1989–1992 recession (4.0 percent), or the 2000–2004 recession (3.5 percent). Thus, the 2000s were particularly tumultuous

FIGURE 4.1 Trends in Median Size-Adjusted Household Income, 1979–2010



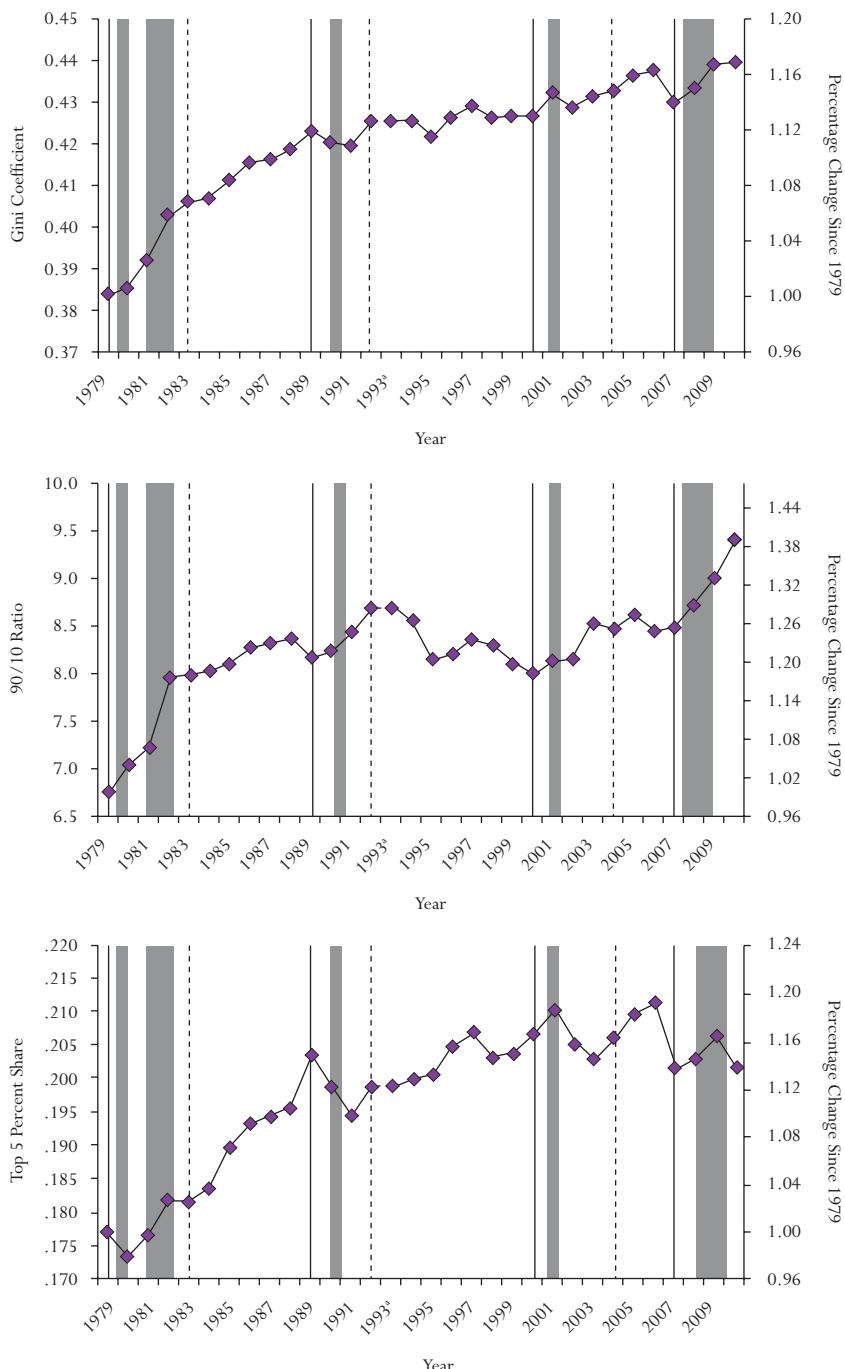
Source: Authors' calculations using Current Population Survey (CPS) data.

Notes for figures 4.1 and 4.2: 1979 is normalized to 1. The peak and trough years of business cycles based on median income and, in the case of 1983, unemployment are denoted with solid black and dashed vertical lines, respectively. The starting year of the period (1979) also represents a peak business cycle year. Official NBER recession periods are denoted by vertical gray bars. 1983 is treated as the trough of the recession starting in 1979 despite the slight increase in median income from 1982 to 1983, given that unemployment remained above 10 percent through June 1983. Owing to a change in CPS survey collection methods, income trends are not directly comparable between 1992 and 1993 (Ryscavage 1995; Weinberg 2006).

^aBecause we assume that the change in the income series in this year is due solely to collection method differences, we assume that no change in the income series occurred in this year. This assumption matches the one described in Larimore (forthcoming). It is similar to that used by Atkinson, Piketty, and Saez (2011) and Burkhauser et al. (2012).

for those in the middle class: over a seven-year business cycle, the middle class saw little change in their median income. With the Great Recession, the middle class saw their median income plummet—the sharpest drop since the CPS began collecting annual measures of this value. Figure 4.2 shows trends in income inequality (specifically, the trends in size-adjusted, household, pretax, post-transfer cash income, excluding capital gains) using three common measures: the Gini coefficient, the 90/10 ratio, and the top 5 percent income share.²⁰ In each graph, the left axis denotes the level of the inequality measure and the right axis denotes its percentage change since 1979. As in figure 4.1, solid vertical lines denote business-cycle peaks (1979, 1989, 2000, and 2007) and dashed vertical lines represent business-cycle troughs (1983, 1992, and 2004).

Regardless of the inequality measure, several facts emerge. First, the level of inequality in 2010 was substantially above that observed three decades ago in 1979. This jibes with the conventional wisdom: income inequality is increasing. In 2010 inequality was 17 percent above the 1979 level by the Gini coefficient measure, 39 percent higher using 90/10 ratios, and 14 percent higher using the top 5 percent. However, while inequality is currently at or near record highs in all three series, using each of these three inequality measures, inequality growth was fastest in

FIGURE 4.2 *Trends in the Distribution of Size-Adjusted Household Income, 1979–2010*

Source: Authors' calculations using CPS data.

Notes: See figure 4.1.

^aSee figure 4.1.

the 1979–1989 business cycle before it slowed dramatically or reversed over the subsequent two business cycles through 2007. In the most recent full business cycle (2000–2007), the measures offer divergent statistical pictures. The Gini coefficient increases by just 0.7 percent (from 0.427 to 0.430), and the top 5 percent income share actually declines. Only the 90/10 ratio exhibits a larger increase in inequality than it did in the 1990s—although even here the 6.2 percent increase in the 90/10 ratio is smaller than the 20 percent increase in this inequality measure in the 1980s.

The Great Recession also coincided with changes in income inequality. Using the broad-based Gini coefficient, inequality grew by 2.3 percent between 2007 and 2010. The annual growth in the Gini coefficient over this period (0.76 percent per year) was well above the annual inequality growth in either of the previous two complete business cycles, although it was still below the 1.0 percent annual Gini growth over the 1980s. The 90/10 ratio shows a faster pace in the increase in income inequality—an increase of 3.5 percent per year during the Great Recession versus growth of 2.1 percent per year in the 1980s. However, different measures of the distribution can lead to different trends. Inequality as the share of income held by the top 5 percent of the distribution changed very little over the Great Recession and earlier recessions. These findings suggest that the growth in inequality during the Great Recession came primarily at the lower end of the distribution. While the top earners (the top 5 percent of household incomes) saw their income decline along with the rest of the population, the poor suffered the most.²¹

OUR METHOD OF ACCOUNTING FOR SHIFTS IN MEDIAN INCOME AND INCOME INEQUALITY

Policymakers and analysts should also understand the factors behind these trends. To isolate those factors, we use a shift-share analysis similar to Burtless (1999), Daly and Valletta (2006), Iceland (2003), and Larrimore (forthcoming). We separately estimate the degree to which changes in demographic and economic factors over the full peak-to-peak business-cycle years (2000–2007) and the peak-to-trough recession years (2007–2010) account for the changes in median income and income inequality reported in figure 4.1 and figure 4.2 (top graph). We then compare these trends to those over similar business cycles and peak-to-trough recession years of the 1980s and 1990s.

Our shift-share approach allows the demographic composition (age, race, ethnicity, and marital status) and the sources of income of our population to change, one factor at a time, thus separately accounting for changes in income and income inequality. For example, we account for the impact of the changing U.S. racial composition, holding all else constant. We do so by assuming that the income distributions of whites, blacks, and Hispanics at the beginning of each business cycle or economic downturn remain the same over the entire business cycle or recession period we explore, while allowing the share of the population in each of these racial groups to shift to match actual population trends. Hence, the shift in the share of each racial group alone accounts for the change in income that we measure.

Once we account for demographic factors, we focus on economic factors. We first separately consider the employment and earnings of male and female heads of household and their spouses. As previously noted, for ease of exposition future references to men and women refer only to the household heads and their spouses, as other household members are considered separately. We then consider the labor earnings of other household members, the returns from private nonlabor income sources, and the benefits from public transfer programs. By definition, these changes in individual sources of income will sum to the total change in median household income or income inequality found in the CPS data.

We use a two-step procedure to determine the impact of changes in the distribution of these sources on median income or income inequality. We initially consider the change in the distribu-

tion of each income source using a rank-preserving income exchange. Taking the income distribution from the first year of each business cycle, we assign each individual a percentile rank based on his or her level of income from a given source, conditional on his or her demographic characteristics and employment status. We then construct an equivalent ranking for the income source in the end-year of the business cycle—or, when analyzing economic declines, in the trough year of the business cycle. When we analyze the relationship between changes to the distribution of this source of income and the overall income distribution, we replace the source-level income from an individual at the X percentile of the source-level distribution with the source-level income from the individual at the X percentile of the source-level distribution in the latter year. We then replace the change in income statistics and inequality resulting from this replacement with the changes in the level and distribution of income from this income source. For example, John Smith receives income from wage earnings, along with income from other sources. His wage earnings are at the sixtieth percentile of earnings of males with the same demographic characteristics. We calculate his total income as the sum of his wage earnings and income from other sources at year 1. At year 2, we assume that his wage earnings are still at the sixtieth percentile, but that they may be higher or lower than they were initially depending on what the wage earnings are at that time for a man at the sixtieth percentile of the wage earnings distribution. Incomes from other sources remain unchanged. We then calculate his new total income by summing his new imputed wage earnings with his earnings from other sources. Repeating this for all members of the population and calculating inequality statistics for this new income distribution provides the extent to which inequality would have changed from year 1 to year 2 if the changes to the male earnings distribution occurred but no changes occurred for other income sources.

This procedure, by construction, holds the rank-correlation of income across income sources constant over time. For example, if the man at the fiftieth percentile of the male-head earnings distribution in 2000 is married to the woman at the thirtieth percentile of the female-head earnings distribution at the beginning of the business cycle, we assume that this will still be the case at the end of the business cycle in 2007. To capture the change in the rank-correlation of income over time, we redo the rank-preserving income exchange analysis, treating household (head and spouse) earnings as a single, combined income source.

We perform the rank-preserving income exchange with the sources combined and compare it to the change in household income distributions when conducting the procedure on each separately. We attribute this change to the changing correlation of the income sources. We determine each of the correlation components in this way, combining the income source with all previously analyzed income sources (using the order of the rows in the table of results as our order of analysis). With this procedure, the correlation change for a given income source represents the changing correlation of that source relative to all the previously analyzed income sources.

Although we include the income of all household members in our analysis, we focus on changes in the employment and earnings of the household head and, if that head is married, of his or her spouse. The household head and spouse are, in most cases, the primary earners (defined in the CPS as the primary owners or primary renters of the dwelling), and their employment and earnings outcomes are correlated. But even more importantly, we want to focus on the changing roles of women and men in the labor market and their impact on the trends in median income and income inequality (figure 4.1 and figure 4.2, top graph).

To avoid double-counting, we consider the impact of each factor conditional on previously considered factors. For example, we account for the importance of declining marriage rates on changes in income, conditional on the age, race, and ethnicity of the individual. Details on the specific procedures are available in the technical appendix, and a discussion of the order of analysis is available in the decomposition stacking order discussion box.²²

Decomposition Stacking Order

A well-known limitation of the shift-share approach we employ here is that our results may be sensitive to the order in which we analyze the components of income trends (Daly and Valletta 2006; Fournier 2001; Jenkins 1995; Larrimore, forthcoming). This concern increases as the period of our analysis grows, since the interaction effects have more time to compound.

Although any ordering is arbitrary, the logic we use is to begin with factors that are least affected by an individual's behavior. Hence, we first consider factors that cannot be changed by individuals in response to their other life circumstances—their age, race, and ethnicity. We then analyze a factor that, while alterable, is generally not a short-run choice—the individual's marital status. Only then do we measure factors that are more alterable—the income elements—roughly in the order of their importance to a household. We start with the employment and earnings of men, which are the primary income source for households; we follow with the employment and earnings of women, and then we include all other income sources. Since public transfers are often means-tested, we consider them last.

To minimize stacking-order concerns, we analyze each business cycle separately. Thus, we analyze the 1979–1989 business cycle based on the 1979 base year, the 1989–2000 business cycle based on the 1989 base year, and the 2000–2007 business cycle based on the 2000 base year. This method is particularly important for readers who are concerned, for example, about the impact of changing race relations since 1979 on our results. If the earnings gap was falling between races or ethnicities and we did not reset the base year for each business cycle, our demographic factors could overestimate the impact of race and ethnicity on income trends. However, given the stability of the white-black and white-Hispanic earnings gaps over the past thirty years, this concern should be limited in any case; analyzing each business cycle separately should further mitigate remaining concerns.

Larrimore (forthcoming), using a similar decomposition approach, reversed the order in which he analyzed income elements. This is a common way to address stacking-order concerns (see, for example, Daly and Valletta 2006). As in the present study, Larrimore found little difference in his results. Although he did not include race, ethnicity, or age in his initial decomposition or its reversal, those factors must always be analyzed first, since, by definition, they would have no effect on the income distribution if placed last. This is because race, ethnicity, and age have only indirect rather than direct effects on incomes. Given the clear and persistent race-ethnicity income gaps we observe in the CPS data and the natural age-earnings profile, with substantial income declines around retirement age, it is appropriate to assign responsibility for some level of the income trends to these demographic patterns. This is our reason for assigning changes based only on racial, ethnic, and age composition to race-ethnicity and age, while assigning any change in relative incomes within these demographic groups to the various income factors. We view any widening or shrinking of the earnings gap between incomes of different race, ethnicity, or age groups as a change in the earnings distribution from the prior equilibrium in the country and assign the income and distributional effects of that change to the earnings factors rather than to the demographic ones.

Given the close relationship between income variables and demographic variables, we are not able to completely eliminate the stacking-order effects that are present in all decomposition analyses. But we believe we have provided a plausible approach to mitigating them.

DECOMPOSING MEDIAN INCOME TRENDS FROM 2000 TO 2007

We report the outcomes of our shift-share analysis in table 4.1. To avoid distortions from business-cycle variation, we present peak-year to peak-year comparisons of each business cycle in an attempt to capture longer-term secular change. Table 4.1 (row 1) reports the average percentage-point change per year in the median size-adjusted, pretax, post-transfer, in-cash income of persons across each of the last three business cycles (1979–1989, 1989–2000, and 2000–2007). These average percentage-point changes in median income per year were first reported in figure 4.1. The next fourteen rows of table 4.1 report the percentage-point change in median income per year accounted for by the change in the demographic or economic factors. Each row has three values, one for each period we consider. The sum of the fourteen values we report for the 1979–1989 business cycle in column 1 of each of these rows equals 0.87, the average yearly change in median income over this business cycle.

We first consider three major demographic trends: an aging population, a more racially and ethnically diverse population, and the decline in the rate of marriage.²³ Table 4.1 (rows 2 to 4) reports the change we account for by changes in these demographic factors, holding the distribution of incomes within each demographic group constant at its level at the start of each business cycle. These estimated effects focus exclusively on changes in the share of people in the demographic groups, not on changes in the income gaps between these groups.

Although demography is not destiny and income trends within demographic groups can change, age, race, ethnicity, and marital status have historically been key predictors of U.S. income. This continues to be the case.

Mean income rises with age, peaks around age fifty-five, and declines as more and more people retire (see appendix figure 4A.1). Hence, an upward shift in the share of younger or older people relative to those of working age reduces the growth of median income in the population over time.

TABLE 4.1 *Factors Accounting for Changes in Median Size-Adjusted Household Income During Each Business Cycle Since 1979 (Average Change per Year)*

	1979–1989	1989–2000	2000–2007
Percentage change in median income	0.87	1.11	-0.02
Change accounted for by:			
Age	-0.00	0.05	0.13
Race and ethnicity	-0.14	-0.15	-0.29
Marriage	-0.01	-0.03	-0.12
Male-head employment	-0.05	0.12	-0.10
Male-head earnings	-0.02	0.31	0.20
Female-head employment	0.31	0.24	-0.01
Female-head earnings	0.37	0.33	0.22
Spouse correlation	0.02	0.01	0.09
Earnings of others	0.09	0.12	-0.06
Earnings of others correlation	-0.04	0.01	-0.05
Private nonlabor income	0.42	0.00	-0.05
Private nonlabor correlation	-0.11	0.01	-0.02
Public transfers	0.01	0.07	0.02
Public transfers correlation	0.01	0.03	0.01

Source: Authors' calculations using CPS data.

Similarly, the gap in mean size-adjusted household income between whites (who have relatively higher incomes) and blacks and Hispanics (who have relatively lower incomes) is persistent across the last three business cycles (see appendix table 4A.1). Hence, an upward shift in the share of blacks and Hispanics relative to whites reduces the growth of median income in the population. Similarly, a gap exists between those living in married households and those in unmarried households: an upward shift in the latter also reduces the growth of median income in the population.²⁴ Without a concomitant reduction in the income gaps with working-age Americans, whites, and those living in married households, the growth in median income slows. These demographic changes provide an underlying baseline for the median income trends shown in figure 4.1. These changes slowed the pace of median income growth over each of our three business cycles (table 4.1).

First, consider the aging of the population. Over the 2000–2007 business cycle, the youngest of the Baby Boomers born between 1946 and 1964 were entering their peak earning years, while the oldest boomers had not yet reached age sixty-five. This aging of the population accounted for an average increase of 0.13 percentage points per year in median income (table 4.1, row 2) from 2000 to 2007, a substantially larger increase than during the previous two business cycles. But as discussed in more detail later, as the Baby Boom generation ages into retirement over the next two decades, this trend will reverse and drag down increases in median income growth.

The country is also growing more racially diverse—with an even greater impact on median income. The racial groups include white non-Hispanics, blacks, and Hispanics. The Hispanic share of the population has increased (see table 4A.1). From 2000 to 2007, the Hispanic share grew by 3.14 percent (0.45 percent per year), almost twice as fast as it grew in the 1980s business cycle (2.35 percent, 0.24 percent per year). Although these changes may seem small, given that the mean size-adjusted household income of Hispanics has recently been around 60 percent of that of whites, a small increase in the Hispanic share of the population translates into a sizable downward shift in median income.

During each business cycle since 1979, the increase in the share of blacks and Hispanics in the population accounted for at least a 0.14-percentage-point-per-year reduction in median income, holding constant each racial group's income distribution (table 4.1, row 3).²⁵ Over the 2000–2007 cycle, this demographic shift nearly doubled, accounting for a 0.29-percentage-point-per-year decline in median income. This represents the difference between the 0.02-percentage-point-per-year decline in median income actually observed (table 4.1, row 1) and what would have been a 0.27-percentage-point-per-year growth in median income. In sum, the growth in the share of blacks and especially Hispanics in the population, together with their persistent income gap with whites, was the single most important factor accounting for the change in median income from 2000 to 2007. In previous business cycles, this was not the case.

One possible cause of the persistent white-Hispanic income gap is that low-skilled Hispanics are migrating to the United States for higher-paying jobs. When they succeed, they raise their own income, but they may well be driving down the U.S. median income, other things being equal. Another force behind the persistent gap, however, may be an underinvestment in the education and training of Hispanics born in the United States.

Declining rates of marriage also drag down median income, since married households report higher incomes than unmarried ones. The decreased share of Americans living in married households accounted for a 0.12-percentage-point-per-year decline in median income in 2000–2007 (table 4.1, row 4). The reason remains the same: the income gap between married and nonmarried households, which, once again, is substantially higher than in the previous two business cycles.

Overall, demographic factors accounted for a 0.28-percentage-point-per-year slowdown in median income in 2000–2007 (from 0.13 to 0.29 to 0.12), nearly twice the slowdown they accounted for in each of the previous two business cycles. The persistently wide income gap between Hispanics and whites over the past three decades as the share of Hispanics in the population has increased emerges as the key explanation. The substantial increase in the Hispanic population that is expected over the next two decades will continue to drag down median income growth should the wide income gap between these groups remain. The nation will be hindered in its ability to return to periods of substantial median income growth without shrinking this racial income gap. Similarly, the aging of the Baby Boom generation will also pull down median income, although closing that income gap would mean higher elderly transfer payments (such as Social Security), increases in returns on assets for elderly individuals, or increases in work during retirement.

Changes in the Employment and Earnings of Men and Women

Although the long-term demographic changes reported here provide an important baseline, economic factors play a much more important role in accounting for changes in median income and income inequality within business cycles. These economic factors also account for the bulk of the change in median income across business cycles (table 4.1, remainder of rows). Thus, we turn to the impact of changes in specific income sources on median income across our three business cycles.

In considering the impact of changes in each income source on household income, we first focus on the primary members of a household: the household head and, if that head is married, on his or her spouse. In table 4.1 (rows 5 and 6), we focus on changes in the employment and labor earnings of men who are household heads or spouses of a household head. In rows 7 and 8, we focus on changes in the employment and earnings of women—again, those who are household heads or spouses of a household head. Using data from the March 2007 CPS data, we find that these household heads and spouses made up 79 percent of the entire adult population and received 89 percent of all labor earnings in the United States. Thus, our household head measures capture the vast majority of U.S. labor earnings.

The decision of women to enter the workforce made its mark. The employment and labor earnings of men are important, but they are not the primary factors behind the substantial changes in household income distributions. Instead, the earnings of women and their employment in itself are more central. As table 4.2 shows, while men are much more likely to be employed than women (columns 1 and 3 versus columns 5 and 7) and on average have greater labor earnings than their female counterparts (columns 2 and 4 versus columns 6 and 8), the changes in their employment and labor earnings over the last three business cycles are small compared to those of women.

Over the 1979–1989 business cycle, the full-time employment of women increased by 6.93 percentage points versus a 1.03 decline for their male counterparts. At the same time, the mean labor earnings of female full-time workers increased by 19.17 percent versus a 7.26 percent increase for their male counterparts. The differences were smaller over the 1989–2000 business cycle: a 6.43-percentage-point increase for women versus a 2.21-percentage-point increase for men in full-time employment, and 17.01 versus 14.89 percent increases in mean full-time labor earnings. Over the 2000–2007 business cycle, women’s full-time employment was stagnant (a 0.60-percentage-point increase), and the mean earnings of these full-time workers increased by only 7.88 percent. But men did even worse—full-time employment declined by 1.84 percentage points, and full-time mean earnings declined by 2.72 percent.

TABLE 4.2 *Employment and Earnings (in 2010 Dollars) of Household Heads and Their Spouses, by Gender, During Each Business Cycle Since 1979*

	Male Household Heads				Female Household Heads			
	Employed Full-Time	Mean Full-Time Earnings	Employed Part-Time	Mean Part-Time Earnings	Employed Full-Time	Mean Full-Time Earnings	Employed Part-Time	Mean Part-Time Earnings
1979	63.42%	\$55,459	19.36%	\$26,687	26.99%	\$30,374	29.59%	\$11,429
1989	62.39	\$59,487	17.77	\$26,811	33.92	\$36,196	27.01	\$14,246
Change	-1.03	\$4,028	-1.59	\$124	6.93	\$5,822	-2.58	\$2,817
Percentage change		7.26		0.47		19.17		24.65
1989	62.39	\$59,487	17.77	\$26,811	33.92	\$36,196	27.01	\$14,246
2000	64.60	\$68,345	14.20	\$31,132	40.35	\$42,352	23.81	\$18,778
Change	2.21	\$8,858	-3.57	\$4,321	6.43	\$6,156	-3.20	\$4,532
Percentage change		14.89		16.12		17.01		31.81
2000	64.60	\$68,345	14.20	\$31,132	40.35	\$42,352	23.81	\$18,778
2007	62.76	\$66,485	14.62	\$33,290	40.95	\$45,690	21.84	\$20,196
Change	-1.84	(\$1,860)	0.42	\$2,158	0.60	\$3,338	-1.97	\$1,418
Percentage change		-2.72		6.93		7.88		7.55

Source: Authors' calculations using CPS data.

Changes in women's employment (0.31 percentage points per year) and earnings (0.37 percentage points per year) combined (0.68 percentage points per year) emerged as the most important factor accounting for increasing median income over the 1979–1989 business cycle (table 4.1, rows 7 and 8). In contrast, the employment and labor earnings of men (rows 5 and 6) combined accounted for a decline of 0.07 percentage points per year of median income.

Although the combined growth (0.43 percentage points per year) in men's employment (0.12) and labor earnings (0.31) was more important in accounting for the growth of median income in the 1989–2000 business cycle, the growth in the employment and labor earnings of women was even more important—a combined increase of 0.57 percentage points per year.

The falloff in the employment and earnings of men and women over the 2000–2007 business cycle accounts for the overall slow growth in median income over this period relative to earlier periods. Although the earnings of both men (0.20) and women (0.22) accounted for increases of around 0.20 percentage points per year, the relatively stagnant employment growth of women and an absolute decline in the employment of men accounted for concomitant declines in median income. The net result: female employment and earnings accounted for only a 0.21-percentage-point-per-year increase in median income, and male employment and earnings accounted for only a 0.10 percent increase in median income during the 2000s business cycle. These increases are far smaller than those of the 1990s business cycle.

Women augmented their households' income by entering the labor force. Over the 1980s and 1990s, the employment and earnings of women were the primary drivers of the growth in median household income. Now that more women are working and the rate of increase has slowed, what will replace these drivers? This presents a challenge.

Changes to Spouses' Earnings Correlations

The correlation of the earnings of the man and woman in a couple can also affect income growth or decline (table 4.1, row 9). Although these increases in earnings correlations influenced incomes at the tails of the distribution (as discussed later), they generally accounted for only minor variations in median household income.²⁶

Changes to All Other Sources of Income

The three remaining sources of household income are the earnings of other household members who are not household heads or their spouses, private nonlabor earnings, and public transfers. In all cases, the data represent the changing correlation of that source to all previously analyzed income sources.

As can be seen in appendix table 4A.2, the mean values of each of these nonlabor income sources are small relative to the mean earnings of heads and spouses reported in table 4.2. Even so, shifts in the shares of these sources of income have accounted, over certain business cycles, for a nontrivial change in median income.

The discussion thus far has focused only on women and men who are household heads or the spouses of household heads, but the earnings of other household members matter as well. The earnings of other household members moved in the same direction as those of women (who are household heads or spouses of household heads) and accounted for a 0.09-percentage-point-per-year increase in median income—less than the 0.37-percentage-point-per-year increase accounted for by female householders, but more than the 0.02 decline accounted for by male householders (table 4.1, row 10). The earnings of other household members then accounted for a slightly larger 0.12-percentage-point-per-year increase in median income over 1989–2000. The small growth in the earnings of other household members and these increases together with the concomitant growth of public transfers (0.07 percentage points per year) help account for some of the 1.11 percent annual growth in median income over this period. Likewise, the declines in the early 2000s in both the labor earnings of others and private nonlabor earnings further explain why the 2000–2007 business cycle was the first full business cycle since at least the 1970s when median income fell (−0.02 percent per year) in the United States.

DECOMPOSING MEDIAN INCOME TRENDS IN THE WAKE OF THE GREAT RECESSION

Because the first business cycle of the twenty-first century lasted only from 2000 to 2007, we compared it with the previous two business cycles of the 1980s and 1990s, focusing on peak-to-peak comparisons. Doing so, however, misses the consequences of the Great Recession for median income over the first decade of the twenty-first century. To consider more recent median income trends, we look at the changes in median income from the peak business-cycle year of 2007 to the end of the decade in 2010. Although median income fell even lower in 2011 and 2012, our analysis will allow us to be consistent with the decade-long (2000–2010) focus of this book while still comparing the first three years of the Great Recession with the first three years of earlier business-cycle recessions—particularly the 1979–1983 double-dip recession, which was closest to the Great Recession in severity.

The first-row values in table 4.3 report the declines in the median household, size-adjusted, pretax, post-transfer cash income of persons in the first three years of each economic downturn since 1979. Since these are consistent time periods, the results are for the entire three-year

TABLE 4.3 *Factors Accounting for Changes in Median Size-Adjusted Household Income During the First Three Years of the Last Four Economic Downturns*

	1979–1982	1989–1992	2000–2003	2007–2010
Percentage change in median income	-5.79	-3.96	-2.59	-6.97
Change accounted for by:				
Age	0.14	-0.04	0.40	0.04
Race and ethnicity	-0.34	-0.33	-0.96	-0.94
Marriage	-0.23	-0.43	-0.35	-0.28
Male-head employment	-2.31	-1.40	-1.24	-2.90
Male-head earnings	-3.39	-1.55	0.56	-1.45
Female-head employment	0.57	0.72	-0.77	-1.13
Female-head earnings	0.22	0.57	1.05	0.27
Spouse correlation	-0.03	0.15	0.16	-0.30
Earnings of others	-1.61	-1.45	-0.95	-0.88
Earnings of others correlation	0.02	-0.15	-0.01	-0.05
Private nonlabor income	1.12	-1.15	-0.87	-0.92
Private nonlabor correlation	-0.52	0.14	0.17	0.36
Public transfers	0.44	0.62	0.31	1.25
Public transfers correlation	0.14	0.28	-0.02	0.02

Source: Authors' calculations using CPS data.

period rather than the average annual change. Consistent with the severity of the Great Recession, the median income decline over this period surpasses any of the three previous recessions. Table 4.3 (remaining rows) delineates the separate factors behind this decline, comparing their importance to earlier recessions.

We first look at the relative importance of changes in male earnings and employment. Unlike the findings from our peak-to-peak comparisons across the entire business cycle (table 4.1), the single most important factor accounting for the decline in median income during the Great Recession and all other recessions was the combined change in employment and earnings for men. Comparing the Great Recession to the double-dip recession in the early 1980s reveals that the Great Recession differs in the relative importance of men's employment and earnings declines. Over the first three years of the early 1980s recession, declines in earnings among men accounted for more of the decline in median income than did their declines in employment. In contrast, during the Great Recession declines in male employment were twice as important as declines in labor earnings in accounting for declines in the earnings of those men still working. In short, unemployment increases were more important than reductions in earnings, even for the median of the income distribution.

Consider the changing impact of the earnings and employment of male heads and spouses on median income found in the first four rows of appendix table 4A.3. Over the recession years 2007–2010, the decline in full-time employment (6.9 percentage points) exceeded the decline in full-time employment in the 1979–1982 recession (5.5 percentage points). Consistent with Andrew Sum and Ishwar Khatiwada's (2010) findings of substantial underemployment in the Great Recession, there was also a concurrent increase in part-time work between 2007 and 2010 that exceeded that of other recessions.

In contrast, the real mean earnings of men employed full-time over the recession years 2007–2010 rose by 0.9 percent. This compares to a 3.9 percent drop over the recession of 1979–1982. The small increase in the earnings of those who were working may have resulted

from either fewer wage cuts among those who remained employed or the fact that layoffs in the Great Recession had a disproportionate impact on low-wage workers compared to what was seen in earlier recessions. Increases in part-time employment partially offset the overall decline in employment in each recession, but not enough to fully counteract the declines in median income from the earnings and employment of men working full-time.

One potential explanation for this relative decline in the importance of earnings over the Great Recession is inflation. Over 2007–2010, inflation was at historic lows (1.6 percent annually based on the CPI-U-RS), while over 1979–1982 inflation was very high (9.4 percent annually based on the CPI-U-RS). Since nominal wages rarely fall, in periods of low inflation firms are more likely to lay off workers than to reduce wages. In contrast, during periods of high inflation, when real wages can fall more easily, firms may more easily cut real wages. This is especially true if the inflation is unexpected.

A second important story in the Great Recession is women. Their combined employment and earnings accounted for increases in median income over the first three years of the three previous recessions (table 4.3, rows 7 and 8). This was not the case during the Great Recession. Although the earnings growth of women continued to account for a small increase in median income, the decline in their employment more than offset that increase.

The explanation can be clearly seen in appendix table 4A.3 (columns 5 to 8). During the 1979–1982 and 1989–1992 periods, the full-time employment of women grew despite the recession and offset other factors accounting for declining median income. The long-term movement of women into the workforce during the 1970s and 1980s was strong enough to overcome cyclical employment declines during recession years. By the 2000s, however, the movement of women into the workforce had slowed and no longer offset cyclical declines in female employment during recession years.²⁷ Thus, in 2007–2010 female employment fell and accounted for a 1.13-percentage-point decline in median income (table 4.3, row 7), a reversal from 1979–1982.

Although the vast majority of adult workers are male and female heads or their spouses, a fall in the earnings of other household members accounted for 0.88 percentage points of the fall in median income in the Great Recession, less than in any of the previous recessions (table 4.3, row 10). Nevertheless, even this decline may reflect the severity of the recession: some previous household heads or spouses moved in with relatives to weather the economic storm, thereby increasing the number of employed adults in a household.²⁸

Although labor earnings receive more attention during recessions, nonlabor income (such as interest or dividends) and public transfers (for example, unemployment insurance [UI], social security, or cash welfare) are important components of many households' income. As such, changes to these sources also can account for changes in median income during recessions.

Appendix table 4A.4 (column 1) provides details on the changes in mean size-adjusted nonlabor income during each of the past four recessions. Mean private nonlabor income fell by 9.7 percent over the Great Recession, partially owing to the decline in real (inflation-adjusted) interest rates during this period. In contrast, during the first three years of the 1980s recession (1979–1982), fears of inflation increased real interest rates, pushing up private nonlabor income by 11.8 percent. During the Great Recession, the decline in private nonlabor income helped account for declining median income (table 4.3, row 12), especially compared to the 1979–1982 period. Declines in private nonlabor income during this recession accounted for a 0.92-percentage-point decline in median income. Although reduced pensions, smaller dividends, and low interest on savings accounts undoubtedly hurt those with high incomes, the decline hurt the median American as well.

Public cash transfer income is especially important during recessions. Although public transfers, like unemployment insurance, increase during all recessions, they increased more

during this recent one (appendix table 4A.4, column 2). While mean household size-adjusted public transfers per person increased by 11.5 percent during the recession years 1979–1982, they increased by almost twice as much (22.0 percent) more recently, from \$2,963 in 2007 to \$3,616 in 2010. During this period, Congress extended UI benefits to ninety-nine weeks, an unprecedented extension, at the same time that the program relaxed the criteria for eligibility. Approximately two-thirds of the increase in public transfer income during the Great Recession came from unemployment compensation, workers' compensation, and veterans' benefits (appendix table 4A.4, columns 3 to 6). From 2007 to 2010, income from these sources increased by 121.0 percent, compared to a 29.8 percent increase from 1979 to 1982.²⁹ Clearly these programs bolstered the short-term pretax income of many individuals—even without counting the increases in in-kind benefits such as food stamps.

This increase in public transfers during the Great Recession offset the declines in private-sector income to a much greater extent than had been seen in earlier recessions (table 4.3, row 14). While changes to public transfer programs during the recession years 1979–1982 offset declines in median income by 0.44 percentage points (or 7.6 percent of the total change), public transfers mitigated median income declines by 1.25 percentage points (or 17.9 percent of the total change) in the 2007–2010 period. Thus, at least over the first three years of the Great Recession, the increase in public transfers—especially the growth and extension of UI benefits beyond that seen in previous recessions and the automatically triggered eligibility for means-tested transfer programs—mitigated the recessionary fall in median income.³⁰

Overall, in this recession median income fell more as a result of declining employment (of both men and women) than seen in earlier recessions, and less as a result of the falling earnings of those who remained employed. Additionally, falling nonlabor income from declines in interest rates contributed to median income declines in a way that was not present in the early 1980s. Indeed, had it not been for growth in public transfers that exceeded that seen in earlier recessions, median income might have fallen even further.

DECOMPOSING INEQUALITY TRENDS FROM 2000 TO 2007

Median income growth is the key to understanding the plight of “average Americans”—those at the middle of the income distribution. However, the evenness (or unevenness) of the distribution of incomes is also important. We undertake a similar analysis, decomposing the factors accounting for trends in income inequality in the United States. Here we measure average changes in income inequality over the last three business cycles using the Gini coefficient. The values reported in table 4.4 (row 1) come from this income inequality series (first reported in figure 4.2, top graph). Inequality grew in all three business cycles, but substantially faster during the 1980s business cycle than thereafter.

Demographic trends also account for trends in income inequality. Upward shifts in the share of blacks and Hispanics accounted for a 0.07-percentage-point-per-year increase in the Gini coefficient from 2000 to 2007 and slightly smaller 0.06- and 0.05-percentage-point-per-year increases in the previous two periods (table 4.4, row 3). As discussed previously, this finding assumes no change in the income distributions within these demographic groups over the course of each business cycle, but reflects their growth as a share of the population.

Although the small contribution to inequality growth accounted for by demographic trends is relatively constant across the three business cycles, the remaining factors reported in table 4.4 are much less so. In particular, in the 1980s business cycle, growth in the earnings inequality of male heads and spouses was by far the most important factor accounting for the rapid growth in income inequality—0.65 percentage points per year (row 6). In the 1990s, while the inequality

TABLE 4.4 *Factors Accounting for Changes in the Gini Coefficient of Size-Adjusted Household Income During Each Business Cycle Since 1979 (Average Change per Year)*

	1979–1989	1989–2000	2000–2007
Percentage change in the Gini coefficient	0.97	0.08	0.10
Change accounted for by:			
Age	-0.01	0.03	0.02
Race and ethnicity	0.06	0.05	0.07
Marriage	0.08	0.02	0.05
Male-head employment	0.03	-0.04	0.03
Male-head earnings	0.65	0.27	-0.26
Female-head employment	-0.15	-0.17	0.03
Female-head earnings	0.09	0.02	0.09
Spouse correlation	0.14	0.00	-0.02
Earnings of others	-0.01	-0.08	0.05
Earnings of others correlation	0.03	-0.02	-0.02
Private nonlabor income	-0.09	0.06	0.05
Private nonlabor correlation	0.08	-0.02	-0.00
Public transfers	0.01	-0.04	-0.01
Public transfers correlation	0.06	0.00	0.01

Source: Authors' calculations using CPS data.

growth accounted for by the labor earnings inequality of male heads and spouses slowed to 0.27 percentage points per year, it was once again the single most important factor accounting for the growth in income inequality. If not for other factors accounting for inequality declines in the 1990s, inequality growth would have been much faster. In contrast, while the earnings inequality of men was again the most important factor (0.26 percentage points per year) in the 2000s, it was declining during this period, not increasing, as it had done in the earlier periods. Hence, the contribution of the earnings inequality of male heads and spouses was offsetting the increase in income inequality in the early 2000s.³¹ To the extent that household income inequality grew in the beginning of the twenty-first century, it did not come from a rise in the earnings inequality of men.

The opposite is the case with respect to the employment of women. Their employment declined slightly in the early 2000s after at least two decades of substantial increases (table 4.2). In the 2000s, their employment accounts for a slight increase in income inequality (0.03 percentage points per year) (table 4.4, row 7). This is a reversal from the previous two business cycles, when increases in women's employment accounted for substantial reductions in household income inequality—a 0.15-percentage-point-per-year decline in the 1980s and a 0.17-percentage-point-per-year decline in the 1990s. In addition, in all three business cycles increases in women's earnings accounted for increases in income inequality. But in the 2000s, the earnings of women accounted for a further increase in income inequality rather than an offset of their employment on income inequality. Thus, in the 2000s working women accounted for a net increase in income inequality, rather than the net decrease they accounted for in the 1980s and 1990s.

As was the case with median income trends, the discussion thus far has assumed that the rank-correlation across income sources remains unchanged: in short, high-earning men continue to marry low-earning women (and vice versa) at the same rate at the end of each business cycle as at the beginning. However, spouses' earnings have increased in correlation since the

1970s, which in turn increases the concentration of income in fewer households, since high-earning men and women are now more likely to marry each other. Just as the inequality trends accounted for by the earnings of men and the employment of women have changed dramatically since 1979, the trends accounted for by the correlation of the earnings of heads and spouses have changed as well. In the 1980s, male and female earnings became more correlated and accounted for a 0.14-percentage-point-per-year growth in income inequality (table 4.4, row 9).

In the 1990s, this increase in the correlation between spouses' earnings slowed and accounted for no further inequality growth. And in the 2000s business cycle, the effect reversed directions and spouses' earnings became less correlated. This, in turn, accounted for declines in inequality. Thus, just as the earnings inequality growth of male heads and spouses accounted for rising inequality in the 1980s but now account for falling inequality, the same is true for changes in the earnings correlations among household heads.

Larrimore (forthcoming) has a partial explanation for why earnings correlations are no longer increasing as they were in the 1980s. Shifts in the correlation of earnings among dual-earner couples can have an impact on earnings correlations, but so can changes in their places in the income distribution. In the 1980s, most rapid rise in female employment occurred among women married to high-earning men. This increased the concentration of income in a smaller number of households. But in the next two business cycles, women married to nonworking men entered employment at relatively faster rates. As a result, the number of no-wage-earner couples declined, which reduced earnings correlations and income inequality in the 1990s and 2000s.

Of course, other income sources have also influenced income inequality, although not to the same extent as the labor earnings of male and female heads and spouses and their correlations (table 4.4, remaining rows). For example, public transfers are likely to be more consequential over business-cycle downturn years. But we do not explore this possibility here. However, we still observe that in the 2000s business cycle, the increases in the inequality of nonlabor income, which includes interest and dividend income, did account for small further increases in inequality.³²

In many respects, the volatility of the factors accounting for inequality growth over the past thirty years is remarkable. In the 1980s, a perfect storm of increases in the labor earnings inequality of men and women and their correlations accounted for 0.88 percentage points of the total inequality growth of 0.97 percentage points per year. By the 2000s, income inequality growth was a relatively slow 0.10 percentage points per year, in large part because of the decrease in the labor earnings inequality of men and women and the reversal in spousal earnings correlations.

THE IMPACT OF DEMOGRAPHIC CHANGES ON FUTURE INCOME DISTRIBUTION TRENDS

We have focused on changes in median income and income inequality over the 2000s, the drivers of these changes, and the divergence from earlier decades. We showed that demographic trends produced a small headwind against median income growth. That mild headwind may soon become a gale. Over the next two decades, the Baby Boom generation will age into retirement (appendix table 4A.5); by 2030, almost 20 percent of the entire U.S. population will be over the age of sixty-five, an increase from 13 percent in 2010. Additionally, the Hispanic population is projected to increase from 16 to almost 22 percent of the U.S. population by 2030, and to almost 28 percent by 2050 (U.S. Census Bureau 2008).

We use our same shift-share analysis to develop baseline median income and income inequality trends for the coming decades based on these demographic projections, again assuming

TABLE 4.5 *Projection from Demographic Trends in Age and Race of Median Income and Income Inequality—Average Annual Changes from 2007 Through 2050*

	Average Annual Median Income Change Accounted for by:		Average Annual Gini Coefficient Change Accounted for by:	
	Age	Racial Composition	Age	Racial Composition
1979–1989	0.00	−0.14	−0.01	0.06
1989–2000	0.05	−0.15	0.03	0.05
2000–2007	0.13	−0.29	0.02	0.07
2007–2020	−0.09	−0.34	0.02	0.06
2020–2030	−0.17	−0.35	0.02	0.05
2020–2040	−0.02	−0.18	0.00	0.03
2040–2050	0.00	−0.24	0.00	0.03

Source: Authors' calculations using CPS data.

that the income distributions within each group remain unchanged (table 4.5). The statistics foretell our society's Sisyphean challenge: if we are unable to close the income gaps between retired and working-age Americans and between blacks/Hispanics and whites, how will we increase median income and reduce inequality in the coming decades?

Consider the average percentage-point changes in median income and income inequality associated with a change in the age and racial composition of the United States across the last three business cycles (table 4.5, rows 1 to 3, values taken from tables 4.1 and 4.4, rows 2 and 3; the remaining rows use our same shift-share analysis for 2007 to 2020 and for each succeeding decade). Between now and 2030, the retirement of Baby Boomers will provide substantial headwinds against increasing median incomes. Changes in the age distribution accounted for no increase, or even for a positive increase, in median income over the past three decades, but over the next two decades these changes will account for first a 0.09- and then a 0.17-percentage-point-per-year reduction in median income. The result is not surprising: retirees generally earn less. Unless boomers delay retirement or there is an increase in transfer income to retirees, this is not likely to change.

The increase in the share of the black and especially the Hispanic population over this time will further limit median income growth unless we close the income gap between these groups and white Americans. Since minority mean incomes are approximately 60 percent of the mean income of whites, this upward shift in the share of the black and Hispanic population is projected to reduce median income growth by an additional 0.34 percentage points per year through 2020, and by 0.35 percentage points per year between 2020 and 2030. Thus, the combined upward shift of these two populations will account for a 0.43-percentage-point-per-year reduction in median income through 2020 and a 0.52-percentage-point-per-year reduction between 2020 and 2030 if the income gaps between these groups and their working-age white counterparts are not reduced. This gale force is more than three times the power of the mild demographic headwinds of the 2000–2007 business cycle.

These demographic trends also will exacerbate income inequality, but to a lesser extent (table 4.5, remaining columns). The increasing shares of retirees, blacks, and Hispanics are projected to moderately increase income inequality over the coming decades. Unlike our projections for median income, however, there is no marked difference in their impacts relative to the previous decades. This is partially because retirement-age persons, while having a low median

income, are unlikely to be destitute, given Social Security and Supplemental Security Income (SSI). Thus, the increase in the retirement-age population does not have the same adverse effect on inequality as it does on median income, since few retirement-age persons are at the extreme lower tail of the distribution.

CONCLUSION

The first decade of the twenty-first century was a turbulent economic time for the average American. For the first full business cycle since at least the 1970s, median income fell slightly between 2000 and 2007, and fell even more during the Great Recession. At the same time, the growth of income inequality, though it has slowed, remains at record-high levels.

Using a shift-share analysis, we have shown that the increased employment and earnings of women was the single most important factor accounting for rising median income over the business cycles of the 1980s and 1990s. Although their earnings accounted for some increase in median income over the 2000s, for the first time their employment accounted for a small decline in median income. This, together with a much larger decline in the employment of men, primarily accounted for the stagnation in median income over the 2000s business cycle relative to its more robust growth over the 1980s and 1990s cycles.

The Great Recession spurred a larger decline in median income than any of the previous three recessions, including the double-dip recession of the early 1980s. When we focused only on the changes in our factors during economic downturns, the fall in the employment and earnings of men is the most important factor behind the downturn in median income in all our periods of analysis. But the relative importance of men's employment and earnings differed in the 2000s. Unlike the last major recession (the double-dip recession of the early 1980s), the drop in employment, not the drop in earnings, was more important. In addition, women, instead of increasing their employment, as they did during the double-dip recession, retreated, accounting for a further decline in median income. The dramatic increase in public transfers, however, partially offset declines in median income during the Great Recession.

Similarly, looking at income inequality trends, the 2000s business cycle is the first since the 1970s when increases in the employment of women did not mitigate increases in income inequality. Over the 1980s and 1990s, the earnings of men accounted for rapid income inequality growth, but the earnings of women partially counterbalanced these increases. In the 2000s business cycle, this did not happen. Instead, the employment of women (along with the earnings of other household members) actually accounted for an increase in income inequality. This effect of women's employment, combined with increased inequality from demographic changes, has more than offset the major decline in inequality accounted for by changing male earnings patterns.

Looking forward, since retirees as well as blacks and Hispanics have consistently had lower incomes than working-age adults and whites, projected increases in their population shares will increase inequality and reduce median income unless these income gaps close. Over the next two decades, median incomes within each of these groups will have to increase by over half a percent per year just to keep up with the demographic changes. Alternatively, policies that reduce the income gap between minorities and whites and encourage older workers to delay retirement could overcome these demographic headwinds.

TECHNICAL APPENDIX

As described in the main text, our shift-share approach allows the demographic composition (age, race, ethnicity, and marital status) and the sources of income of our total population to

change, one factor at a time, thus separately accounting for the relationship of each of these factors with changes in income and income inequality. Embedded within this approach are three distinct techniques for decomposing income distribution changes. The first considers changes in the size of subpopulation within the total population based on demographic factors of age, race, ethnicity, and marital status as well as the employment status of the household heads. The second considers changes to the source-level income distributions within these subpopulation groups, holding the rank-correlation of the income sources unchanged. The third considers changes in the correlation of income sources over time. We describe our technique in this appendix.

Changes in the Prevalence of Subpopulations

Our first decomposition technique is based on Atkinson (1998) and Burtless (1999). It accounts for changes in the frequencies of categorical characteristics in the population, including demographic trends. For example, it considers how an increase in the share of Hispanics in the total population will change the overall income distribution, holding the income distribution of whites, blacks, and Hispanics unchanged.

This technique reweights observations from the base year, t , such that the weighted fraction of the population in each demographic group matches that in future years, t' . By increasing the weight of individuals with characteristics (such as being Hispanic) that are more prevalent in year t' than in year t in this way, we are able to estimate the impact of changing the prevalence of those in the total population with this characteristic without altering the underlying income distributions within each group. In all cases in this chapter, the base year, t , is the starting year of the business cycle. The comparison year, t' , is either the following business-cycle peak for the long-run trends or the comparison year during the trough of the business cycle in the case of the short-run economic downturn discussion.

Changes in Source-Level Income Distributions Within Population Groups

The second decomposition technique is based on Burtless (1999) and Daly and Vallenetta (2006). It incorporates the fact that the income distribution within each subpopulation group is changing as well. These changes can result from any income source, including male head labor earnings, female head labor earnings, nonhead earnings, nonlabor income, and public transfer income.

Note that each individual's income, Y_{ik}^t , can be represented as the sum of their incomes from each income source, f_{1ik}^t through f_{Nik}^t .

$$Y_{ik}^t = f_{1ik}^t + f_{2ik}^t + \dots + f_{Nik}^t \quad (4.1)$$

We assign individuals a percentile rank, p_{fik} , for each income source based on the rank of their source-level income within their subpopulation group k . For now, the correlations of individuals' positions in the distribution of source-level incomes (rank-correlations) within each subpopulation group are assumed to be constant. This allows us to separate the importance of changes to the level and dispersion of income from a given income source from the change in the relationship between separate income sources.

To estimate the impact of changes to the distribution of source f_1 on income inequality, each individual's income from the source f_1 in year t is replaced with the income of the individual at the same percentile rank of the source f_1 income distribution in year t' :

$$\hat{Y}_{ik}'(p_{1ik}) = f_{1ik}'(p_{1ik}) + f_{2ik}^t + \dots + f_{Nik}^t \quad (4.2)$$

This preserves the conditional earnings rank of each individual from source f_1 and the rank-correlation of earnings from source f_1 with other income sources, while capturing changes in the source-level income distribution of source f_1 within each population group. Since this procedure combines income across years, prior to the analysis we adjust all income for inflation using the CPI-U-RS.

Changes in Income-Source Rank Correlations Within Subpopulation Groups

The third decomposition technique is based on Burtless's (1999) concept of measuring rank-correlations and uses a method from Larrimore (forthcoming) to operationalize the approach. The previous techniques hold the rank-correlation of income sources constant. That is, if the male and female heads at percentile-ranks p_{1ik} and p_{2ik} in their conditional earnings distributions are married to each other in one year, we assume the same rank-pairing will continue in all future years. By performing these rank-preserving income exchanges for sources f_1 and f_2 separately, we are able to analyze the impacts of the separate earnings distributions without affecting the correlation between the two:

$$\hat{Y}_{ik}'(p_{1ik}, p_{2ik}) = f_{1ik}'(p_{1ik}) + f_{2ik}'(p_{2ik}) + f_{3ik}' + \dots + f_{Nik}' \quad (4.3)$$

To update the correlation between sources f_1 and f_2 , rather than dividing income into N separate sources, we divide income into $(N - 1)$ sources such that $g_1 = f_1 + f_2$ while f_3 through f_N are unchanged. We capture the rank-correlation change of sources f_1 and f_2 by combining these sources with the rank-preserving income exchange before rather than after. Thus, calling each individual's percentile-rank in the g_1 distribution q_{jik} , we calculate estimated incomes as:

$$\hat{Y}_{ik}'(q_{1ik}) = g_{1ik}'(q_{1ik}) + f_{3ik}' + \dots + f_{Nik}' \quad (4.4)$$

This updates the correlation between sources f_1 and f_2 along with their income distributions. We capture the impact of the changing correlation between sources f_1 and f_2 by comparing the results in the case where only their separate income distributions change (equation 4.3) with the case where their joint distribution changes (equation 4.4). Using these three techniques, we fully account for changes in median income and income inequality via changes in the demographic, employment, and source-level income distributions of individuals in each year.

APPENDIX

TABLE 4A.1 *Racial and Ethnic Characteristics of the U.S. Population and Size-Adjusted Household Income (in 2010 Dollars) During Each Business Cycle Since 1979, by Race*

	White		Black		Income Ratio Black/ White	Hispanic		Income Ratio Hispanic/ White
	Percentage White	Mean Income	Percentage Black	Mean Income		Percentage Hispanic	Mean Income	
1979	82.45%	\$36,388	11.48%	\$21,534	59.18	6.08%	\$24,598	67.6
1989	79.48	42,577	12.09	24,745	58.12	8.43	25,873	60.77
Change	-2.97	6,189	0.61	3,211	-1.06	2.35	1,275	-6.83
Percentage change		17.01		14.91			5.18	
1989	79.48	42,577	12.09	24,745	58.12	8.43	25,873	60.77
2000	75.17	51,379	12.55	31,556	61.42	12.28	29,111	56.66
Change	-4.31	8,802	0.46	6,811	3.30	3.85	3,238	-4.11
Percentage change		20.67		27.52			12.51	
2000	75.17	51,379	12.55	31,556	61.42	12.28	29,111	56.66
2007	71.9	51,561	12.68	31,775	61.63	15.42	30,185	58.54
Change	-3.27	182	0.13	219	0.21	3.14	1,074	1.88
Percentage change		0.35		0.69			3.69	

Source: Authors' calculations using CPS data.

TABLE 4A.2 *Mean Size-Adjusted Sources of Income During Each Business Cycle Since 1979
(in 2010 Dollars)*

	Mean Private Nonlabor Income by Source				Mean Public Transfer Income by Source				UC,WC, and Veterans Benefits
	Public Transfers	Total Private Nonlabor Income	Private Investment Income	Other Private Income	Public Assistance or Welfare	SSI Income	Social Security Income		
1979	\$2,410	\$3,043	\$1,741	\$1,301	\$239	\$95	\$1,650	\$426	
1989	2,542	4,457	2,445	2,012	195	119	1,892	336	
Change	133	1,415	704	711	-44	24	242	-90	
Percentage change	5.5	46.5	40.4	54.6	-18.4	25.3	14.7	-21.1	
1989	2,542	4,457	2,445	2,012	195	119	1,892	336	
2000	2,798	4,523	2,347	2,175	63	158	2,241	337	
Change	256	65	-98	163	-132	39	349	1	
Percentage change	10.1	1.5	-4.0	8.1	-67.7	32.8	18.4	0.3	
2000	2,798	4,523	2,347	2,175	63	158	2,241	337	
2007	2,963	4,474	2,246	2,228	35	176	2,412	341	
Change	165	-48	-101	53	-28	18	171	4	
Percentage change	5.9	-1.1	-4.3	2.4	-44.4	11.4	7.6	1.2	

Source: Authors' calculations using CPS data.

Note: SSI = supplemental security income; UC = unemployment compensation; WC = worker's compensation.

TABLE 4A.3 *Employment and Earnings of Household Heads and Their Spouses During the First Three Years of the Last Four Economic Downturns, by Gender (in 2010 Dollars)*

	Male Household Heads				Female Household Heads			
	Percentage Employed Full-Time	Mean Full-Time Earnings	Percentage Employed Part-Time	Mean Part-Time Earnings	Percentage Employed Full-Time	Mean Full-Time Earnings	Percentage Employed Part-Time	Mean Part-Time Earnings
1979	63.4%	\$55,459	19.4%	\$26,687	27.0%	\$30,374	29.6%	\$11,429
1982	57.9	53,299	22.4	24,191	28.0	31,209	27.7	11,395
Change	-5.5	-2,161	3.0	-2,496	1.1	834	-1.9	-33
Percentage change		-3.9		-9.4		2.7		-0.3
1989	62.4	59,487	17.8	26,811	33.9	36,196	27.0	14,246
1992	59.4	57,788	19.2	24,360	35.3	37,142	25.8	14,579
Change	-3.0	-1,699	1.4	-2,450	1.3	946	-1.2	333
Percentage change		-2.9		-9.1		2.6		2.3
2000	64.6	68,345	14.2	31,132	40.4	42,352	23.8	18,778
2003	61.6	67,428	15.4	31,798	39.1	44,968	23.4	19,895
Change	-3.0	-916	1.2	666	-1.3	2,616	-0.4	1,117
Percentage change		-1.3		2.1		6.2		5.9
2007	62.8	66,485	14.6	33,290	41.0	45,690	21.8	20,196
2010	55.9	67,103	17.9	28,164	38.2	46,686	22.3	19,601
Change	-6.9	618	3.3	-5,126	-2.7	995	0.5	-595
Percentage change		0.9		-15.4		2.2		-2.9

Source: Authors' calculations using CPS data.

TABLE 4A.4 *Mean Size-Adjusted Sources of Income During the First Three Years of the Last Four Economic Downturns (in 2010 Dollars)*

		Mean Public Transfer Income by Source				
	Mean Private Nonlabor Income	Mean Public Transfer Income	Public Assistance or Welfare	SSI Income	Social Security Income	UC, WC, and Veterans Benefits
1979	\$3,043	\$2,410	\$239	\$95	\$1,650	\$426
1982	3,403	2,686	221	97	1,814	554
Change	360	276	-18	2	164	127
Percentage Change	11.8	11.5	-7.3	2.1	10.0	29.8
1989	4,457	2,542	195	119	1,892	336
1992	4,078	2,807	206	145	1,974	483
Change	-380	265	10	26	82	147
Percentage Change	-8.5	10.4	5.3	21.5	4.3	43.8
2000	4,523	2,798	63	158	2,241	337
2003	4,146	3,009	55	175	2,310	468
Change	-376	211	-\$8	18	69	132
Percentage Change	-8.3	7.5	-12.3	11.1	3.1	39.1
2007	4,474	2,963	35	176	2,412	341
2010	4,040	3,616	43	201	2,617	756
Change	-435	653	8	25	206	414
Percentage Change	-9.7	22.0	23.3	14.2	8.5	121.4

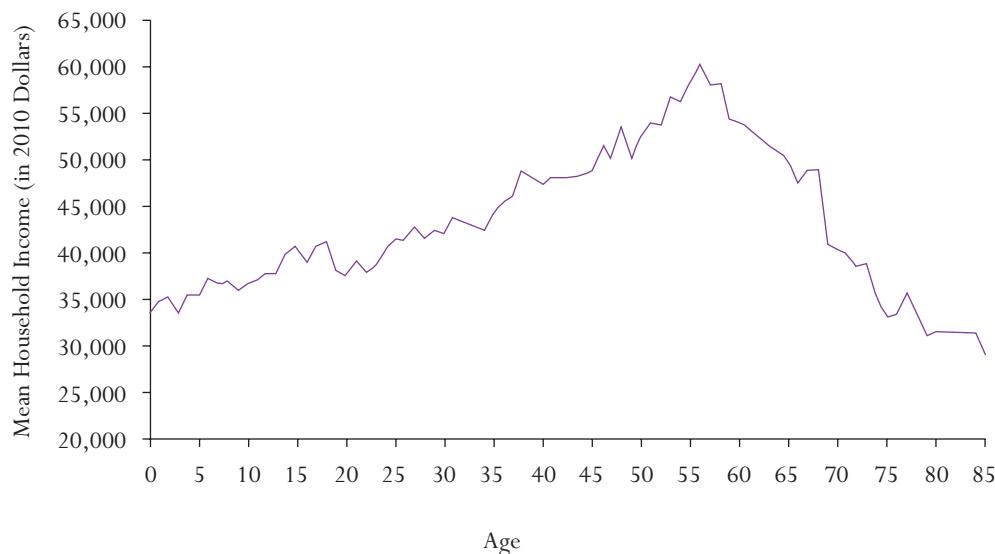
Source: Authors' calculations using CPS data.

Note: See table 4A.2 note.

TABLE 4A.5 *U.S. Census Bureau Demographic Projections, by Age and Race, 2007–2050*

	White	Black	Hispanic	Children (Zero to Eighteen)	Young Adult (Nineteen to Forty-Four)	Middle Age (Forty-Five to Sixty-Four)	Elderly (Sixty-Five and Older)
1979	82.4%	11.5%	6.1%	30.3%	38.6%	20.2%	11.0%
1989	79.5	12.1	8.4	27.4	41.3	19.1	12.2
2000	75.2	12.5	12.3	27.6	37.9	22.5	12.0
2007	71.9	12.7	15.4	26.2	35.4	26.0	12.4
2010	71.3	12.9	15.8	25.5	35.2	26.2	13.0
2020	68.0	13.2	18.8	25.0	33.9	24.9	16.3
2030	64.7	13.5	21.8	24.4	33.0	22.8	19.8
2040	61.4	13.7	24.8	23.9	32.4	23.0	20.8
2050	58.2	14.0	27.8	23.7	32.4	22.8	21.1

Source: Authors' calculations using U.S. Census Bureau (2008).

FIGURE 4A.1 *Mean Size-Adjusted Household Income, by Age, 2010*

Source: Authors' calculations using CPS data.

Note: Individuals age eighty to eighty-four are aggregated together in census data, as are individuals over age eighty-five. Therefore, the mean income for individuals between eighty and eighty-four is the mean of incomes across that entire range, and the mean income for individuals age eighty-five is the mean for all individuals age eighty-five or older.

NOTES

1. All opinions are those of the authors and should not be attributed to the Russell Sage Foundation, the Joint Committee on Taxation, or any member of Congress.
2. Piketty and Saez (2003) was one of the first papers in a rapidly expanding literature using tax return data to examine income inequality trends around the world. For France, see Piketty (2003); for the United Kingdom, see Atkinson (2005); for Canada, see Saez and Veall (2005); for Germany, see Bach, Corneo, and Steiner (2009); for Germany and Switzerland, see Dell (2005); and for Australia, see Atkinson and Leigh (2007). In addition, Atkinson and Piketty (2007) and Leigh (2009) provide comprehensive literature reviews. The most recent review of this literature is Atkinson, Piketty, and Saez (2011).
3. Throughout this chapter, when we discuss the earnings and employment of men and women, we are referring to the head of the household and his or her spouse. The household head is the person (or people) who officially owns or rents the dwelling. When there is no such person, "head of household" may refer to any adult member of the household excluding boarders. We treat married individuals equally as joint heads of the household. The focus on household heads is typical in the types of shift-share analyses we employ here. When we discuss the earnings of other household members, we explicitly say so.
4. Size-adjusted household income accounts for economies of scale in household consumption by dividing income by the square root of household size. This income measure is commonly used in U.S. and cross-national studies of inequality (see, for example, Atkinson and Brandolini [2001]; Burkhauser et al. [2011]; Gottschalk and Smeeding [1997]), as well as by the Organization for Economic Cooperation and Development (OECD) in its official measures of income inequality and poverty (Förster and d'Ercole 2012). This income measure also closely matches the adjustments for household size implied by the Census Bureau poverty thresholds (Ruggles 1990).

It assumes that income is shared equally among all household members, so each member receives the same amount for personal consumption.

5. The CPI-U series reported by the Bureau of Labor Statistics (BLS) has undergone methodological improvements that have not been incorporated retroactively. The CPI-U-RS accounts for these changes to provide a more accurate historical series of inflation, which is typically below that found using the CPI-U (Stewart and Reed 1999).
6. Prior to 1987, the Census Bureau reported eleven (rather than twenty-four) income sources, and each of these eleven income sources was top-coded.
7. This cell-mean series replaces top-coded values with the mean of all top-coded incomes from the specified income source in each year, thus maintaining the total level of top incomes and only losing their dispersion. This series has previously been shown to closely match both the levels and trends of Gini coefficients in the internal restricted-access CPS data used by the Census Bureau to produce its official income statistics (Larrimore et al. 2008). See Blank (2011) for a recent use of this series to measure changes in income inequality. The Census Bureau has offered a similar cell-mean series for the public use data since 1996, although this series was not made available for the years prior to its introduction in 1996. The cell means from Larrimore et al. (2008) are available from 1967 to 2004 and can be used in conjunction with the census-provided cell means since 2004 to obtain a consistent series back to 1967. Readers should also be aware that the internal data have some limited censoring of extremely high incomes. This exists to minimize recording errors and prevent volatility in annual statistics due to the random sampling of outliers. See Semega and Welniak (2007) for details on internal censoring and Burkhauser, Feng, et al. (2012) for an attempt to overcome it.
8. Burkhauser, Feng, et al. (2012) provide further evidence that this one-year increase is artificial. They show that trends in top income shares of tax-units in the March CPS closely match Piketty and Saez's (2003) results using IRS tax records in most years. But this is not the case for 1992–1993, when the top 1 percent income share increased substantially in the March CPS but was relatively constant in the IRS tax records.
9. To remove this artificial inequality spike, we use a procedure similar to that used by Atkinson, Piketty, and Saez (2011), Burkhauser, Feng, et al. (2012), and Larrimore (forthcoming): we adjust all of our income series upward for the years prior to 1993 as if the post-1993 data collection methods had already been in place and there was no change in income statistics between 1992 and 1993.
10. Updated data are provided via Saez's website, <http://elsa.berkeley.edu/~saez/> (last accessed March 2014).
11. For an earlier discussion of this problem and other concerns regarding measuring top income with tax return data, see Feenberg and Poterba (1993). Richard Burkhauser, Markus Hahn, and Roger Wilkins (2013) find that a similar problem occurs for researchers who do not control for the 1980s tax reforms in Australia, which broadened the tax base by, for the first time, taxing realized capital gains held more than one year.
12. Researchers using March CPS data typically focus on household income, assuming that income is shared across all individuals in the household, not just people who together file a tax return. In many traditional families, the tax unit is identical to the household. However, in nonstandard families (including cohabiting couples and boomerang children), income may be shared across tax units.
13. There are numerous ways to measure income, and the choice will yield different measurements of distribution. For example, Burkhauser, Larrimore, and Simon (2012) observe that the choice of what income to include and how broadly it is shared across family or household members can result in median income growth between 1979 and 2007 of 3 to 36 percent. Although CPS-based research (including this chapter) generally focuses on pretax post-transfer cash income, by necessity IRS-based research often restricts income to taxable income sources only, which excludes many sources of transfer income. Consequently, the IRS-based income measure is generally narrower than that based on the CPS. Nevertheless, while the CPS money income definition is broader than the income definition used in the tax return–based literature, some researchers have recently suggested that the CPS income definition is itself too narrowly defined. For example, the Bureau of Economic Analysis (BEA) estimates over \$2 trillion more personal income in the United States in 2001 than that observed in the CPS (\$8.7 trillion versus \$6.4 trillion), with most of the difference coming from the BEA's broader income definition (Ruser, Pilot, and Nelson 2004). Notably, the BEA personal income definition includes noncash compensation and in-kind transfer payments, including employer-provided health insurance, Medicaid, and food stamps, as well as interest and dividends received by individuals from pension plans and fiduciaries on the individuals' behalf. Discussions of such broader income measures are beyond the scope of this chapter, but given the findings of Armour, Burkhauser, and Larrimore (2013) and Burkhauser, Larrimore, and Simon (2012)—that broadening the income

definition through the inclusion of in-kind benefits substantially increases income growth for middle- and low-income individuals—recent increases in in-kind benefits would likely be important for mitigating inequality growth since 1979. However, other differences in the BEA data, such as assigning pension income to individuals at accrual rather than at receipt, would dramatically increase inequality, as it moves income of the elderly, who have relatively little other income, to their working years.

A commonly discussed income difference between the data sets is that some, but not all, IRS-based research includes income from taxable realized capital gains. Although tax return data includes taxable realized capital gains, it excludes untaxed capital gains, including gains that occur in tax-sheltered accounts and most capital gains on owner-occupied housing. Focusing on realized taxable capital gains also distorts the timing of capital gains receipts when compared to a Haig-Simon income measure, which would use yearly accrued gains, since individuals can delay the realization of gains for tax purposes. Given these limitations, even tax return data are likely to present an incomplete picture of the impact of including capital gains on the trends in income distributions. For a further discussion of the sensitivity of measures of top incomes to the measure of capital gains used, see Armour, Burkhauser, and Larrimore (2013).

14. Since CPS-based researchers recognize their limited ability to capture the very top of the income distribution, they generally focus on the Gini coefficient or 90/10 ratios for measuring inequality; each is relatively insensitive to changes at the tails of the income distribution. In contrast, IRS-based researchers generally focus on top income shares that are relatively insensitive to changes in the lower tail and middle of the distribution.
15. To better capture the very top of the income distribution despite the limited censoring that occurs even in the internal CPS data, they use a generalized beta of the second kind (GB2) distribution to estimate top incomes.
16. A common refinement on the size-adjusted household income of persons is to calculate it for a four-person household. Since the size adjustment is the square root of the household size, these values can be obtained by doubling the size-adjusted household income for a single person presented here.
17. Peak and trough years are defined based on peaks and troughs in size-adjusted median income rather than strict NBER macroeconomic business cycles, which are denoted by gray vertical bars in figures 4.1 and 4.2. Because median income declined continuously from 1979 to 1983, we treat this double-dip recession as a single continuous recession. Also, owing to the break in the CPS data between 1992 and 1993 around the trough of that recession, the trough was assumed to occur in 1992, before the break in the data series. For discussions of issues related to this break in the data, see Ryscavage (1995) and Weinberg (2006).
18. Burkhauser, Larrimore, and Simon (2012) demonstrate that this observation is sensitive to the measurement of income. If income is measured as post-tax income, including the value of employer-provided health insurance and the ex ante value of Medicare and Medicaid, rather than as pretax income excluding these in-kind benefits, then there was small income growth from 2000 to 2007. Nevertheless, income growth was slower over this business cycle's peak years than in the previous two business cycles.
19. The most recent March CPS available to us shows that median household income continued to fall at least through 2011.
20. The Gini coefficient is our preferred series since it is a commonly used measure of inequality that, unlike 90/10 ratios or top income shares, satisfies the desirable properties of an inequality index described by Stephen Jenkins and Philippe Van Kerm (2009). A Gini coefficient of 0 indicates that all individuals have identical incomes and a value of 1 indicates that a single individual controls all income in the society.
21. The growth in the Supplemental Nutrition Assistance Program (SNAP, or food stamps) and other in-kind transfers, as well as the use of tax credits in the Bush and Obama stimulus packages, disproportionately helped the bottom part of the income distribution during the Great Recession. Because these in-kind transfers and tax credits are not captured in the standard household, size-adjusted, pretax, post-in-cash-transfer income of a person's measure of income used here, we disproportionately underestimate the income available to low-income persons. Armour, Burkhauser, and Larrimore (2013) show that differences between their results using this broader measure of income and those of the Congressional Budget Office (2011, 2012) are primarily due to the inclusion of realized capital gains in their analysis, not to differences in their measures of in-kind transfers.
22. For a further discussion of the decomposition approach, including discussions of robustness to order of analysis and variants to the sharing unit definition, see Larrimore (forthcoming). With all shift-share analyses, a potential concern is that the order of analysis may influence the results, owing to the interaction between the considered factors. A common approach to test for order-of-analysis effects is to reverse the order of analysis and reexamine

- each factor's contribution (see, for example, Daly and Valletta 2006; Larrimore, forthcoming). When we do so here, the results are largely consistent.
23. We consider aging patterns using four categorical age groups: children (age zero to eighteen), young adults (nineteen to forty-four), older adults (forty-five to sixty-four) and the aged (age sixty-five and older). We consider race-ethnicities as white non-Hispanic, black, and Hispanic. We include other race-ethnicities besides blacks and Hispanics with white non-Hispanics because the small size of these groups prevents a separate analysis. Marital status is the marital status of the household head, who can either be married, a single male, or a single female.
 24. For example, in the March 2007 CPS data, the mean size-adjusted household income of those living in married households was \$53,314, while the mean household size-adjusted income of those living in a household with just a male head was \$42,545. For those living in a household with just a female head, it was \$29,521.
 25. Changes in the racial or ethnic composition come both from differences in the birth and death rates of individuals of different races or ethnicities and differences in immigration rates. However, distinguishing between racial and ethnic trends from immigration and those from birth and death patterns is beyond the scope of this chapter.
 26. Although earnings correlations are included here for completeness of the decomposition and to be symmetric with the decomposition for income inequality, there is no simple exposition of their impact on median income since increases in the correlation can either increase or decrease median income. They are primarily included for the discussion of income inequality that follows, where they make intuitive sense: increases in correlations increase income inequality and decreases in correlations reduce income inequality.
 27. Francine Blau and Lawrence Kahn (2007) document the slowdown in the growth of the female labor supply in the 1990s. More recent statistics from Diane Macunovich (2010) indicate that female labor force participation for adults (age sixteen and older) peaked in 2000 and has fallen over the past decade. Blau and Kahn also find that the cross-price elasticity of female employment to their husbands' wages has declined since the 1980s, which suggests that women are now less likely to increase their employment to compensate for a decline in their husbands' wages.
 28. For example, during the recession years 1979–1982 the mean household size for the middle quintile of the income distribution fell from 3.78 to 3.68 people. In contrast, during the recession years 2007–2009 the mean household size of the middle quintile of the income distribution grew from 3.41 to 3.46 people.
 29. Gary Burtless (2010) contends that American Recovery and Reinvestment Act stimulus spending represented about 2.5 percent of the national economy in 2010.
 30. Admittedly, the results of shift-share analysis do not demonstrate causality. It is possible that the layoff of one spouse affects the work effort of the other, indirectly altering the magnitude of each factor's causal relationship with median income. Similarly, it is possible that the substantial increase in unemployment compensation and other public transfers delayed a return to work and hence partially contributed to the drop in employment. Stepan Jurajda and Frederick Tannery (2003) and Lawrence Katz and Bruce Meyer (1990) suggest that this is the case; for an early review of the literature on the relationship between increasing unemployment compensation and the duration of unemployment, see Danziger, Haveman, and Plotnick (1981). This unintended consequence of the dramatic increases in government transfers during the Great Recession, especially UI and food stamps, is a major theme of Mulligan (2012). Nevertheless, these results demonstrate that these transfer payments had a substantial and direct mitigating effect on median income declines over this period.
 31. The Gini coefficient for the labor earnings of all male heads working full-time fell from 0.409 in 2000 to 0.355 in 2007. Although we focus here on male household heads, the same pattern holds when we look at all male full-time workers. The labor earnings Gini coefficient for all male full-time workers, including nonheads, was 0.418 in 2000, and it declined to 0.404 in 2007. This is consistent with the findings of Armour, Burkhauser, and Larrimore (2014), who use internal CPS data and observe that earnings inequality in 2007 was slightly lower than that observed in 2000. It is also broadly consistent with the work of Wojciech Kopczuk, Emmanuel Saez, and Jae Song (2010), who use Social Security records data and find that earnings inequality in 2004, the last year of their sample, was virtually the same as it was in 2000.
 32. We note that since the CPS data do not include capital gains income, this private nonlabor income does not include the effect of capital gains. Some have suggested that including taxable realized capital gains would further increase recent income inequality growth (Piketty and Saez 2003). See our discussion of this issue in Armour, Burkhauser, and Larrimore (2013).

REFERENCES

- Armour, Philip, Richard V. Burkhauser, and Jeff Larrimore. 2013. "Deconstructing Income and Income Inequality Measures: A Crosswalk from Market Income to Comprehensive Income." *American Economic Review* 103(3): 173–77.
- . 2014. "Using the Pareto Distribution to Improve Estimates of Top-coded Earnings." Working Paper 19846. Cambridge, Mass.: National Bureau of Economic Research (January).
- Atkinson, Anthony B. 1998. *Poverty in Europe*. Oxford: Blackwell.
- . 2005. "Top Incomes in the U.K. over the Twentieth Century." *Journal of the Royal Statistical Society: Series A* 168: 325–43.
- Atkinson, Anthony B., and Andrea Brandolini. 2001. "Promises and Pitfalls in the Use of Secondary Data Sets: Income Inequality in OECD Countries as a Case Study." *Journal of Economic Literature* 39(3): 771–99.
- Atkinson, Anthony B., and Andrew Leigh. 2007. "The Distribution of Top Incomes in Australia." *Economic Record* 83(262): 247–61.
- Atkinson, Anthony B., and Thomas Piketty. 2007. *Top Incomes over the Twentieth Century: A Contrast Between Continental European and English-Speaking Countries*. Oxford: Oxford University Press.
- Atkinson, Anthony B., Thomas Piketty, and Emmanuel Saez. 2011. "Top Incomes in the Long Run of History." *Journal of Economic Literature* 49(1): 3–71.
- Bach, Stefan, Giacomo Corneo, and Viktor Steiner. 2009. "From Bottom to Top: The Entire Income Distribution in Germany, 1992–2003." *Review of Income and Wealth* 55(2): 303–30.
- Blank, Rebecca M. 2011. *Changing Inequality*. Berkeley: University of California Press.
- Blau, Francine, and Lawrence Kahn. 2007. "Changes in the Labor Supply Behavior of Married Women: 1980–2000." *Journal of Labor Economics* 25: 393–438.
- Burkhauser, Richard V., Kenneth A. Couch, Andrew J. Houtenville, and Ludmila Rovba. 2003–2004. "Income Inequality in the 1990s: Reforging a Lost Relationship?" *Journal of Income Distribution* 12(3/4) 8–35.
- Burkhauser, Richard V., Shuaizhang Feng, and Stephen P. Jenkins. 2009. "Using the P90/P10 Ratio to Measure U.S. Inequality Trends with Current Population Survey Data: A View from Inside the Census Bureau Vaults." *Review of Income and Wealth* 55(1): 166–85.
- Burkhauser, Richard V., Shuaizhang Feng, Stephen P. Jenkins, and Jeff Larrimore. 2011. "Estimating Trends in United States Income Inequality Using the March Current Population Survey: The Importance of Controlling for Censoring." *Journal of Economic Inequality* 9(3): 393–415.
- . 2012. "Recent Trends in Top Income Shares in the USA: Reconciling Estimates from March CPS and IRSTax Return Data." *Review of Economics and Statistics* 94(2): 371–88.
- Burkhauser, Richard V., Markus H. Hahn, and Roger Wilkins. 2013. "Measuring Top Incomes Using Tax Record Data: A Cautionary Tale from Australia." Working Paper 19121. Cambridge, Mass.: National Bureau of Economic Research.
- Burkhauser, Richard V., Jeff Larrimore, and Kosali I. Simon. 2012. "A 'Second Opinion' on the Economic Health of the Middle Class." *National Tax Journal* 65(1): 7–32.
- Burtless, Gary. 1999. "Effects of Growing Wage Disparities and Changing Family Composition on the U.S. Income Distribution." *European Economic Review* 43(4–6): 853–65.
- . 2010. "Crisis No More: The Success of Obama's Stimulus Program." *Pathways* (Brookings Institution), August 17. Available at: <http://www.brookings.edu/research/articles/2010/08/17-stimulus-success-burtless> (accessed August 29, 2014).
- Congressional Budget Office (CBO). 2011. *Trends in the Distribution of Household Income Between 1979 and 2007*. Washington: U.S. Government Printing Office.
- . 2012. *The Distribution of Household Income and Federal Taxes, 2008 and 2009*. Washington: U.S. Government Printing Office.
- Daly, Mary C., and Robert G. Valletta. 2006. "Inequality and Poverty in the United States: The Effects of Rising Dispersion of Men's Earnings and Changing Family Behavior." *Economica* 73(289): 75–98.
- Danziger, Sheldon, Robert Haveman, and Robert Plotnick. 1981. "How Income Transfer Programs Affect Work, Savings, and the Income Distribution: A Critical Review." *Journal of Economic Literature* 19(3): 975–1028.

- Dell, Fabien. 2005. "Top Incomes in Germany and Switzerland over the Twentieth Century." *Journal of the European Economic Association* 3(2-3): 412–21.
- DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith. 2011. "Income, Poverty, and Health Insurance Coverage in the United States: 2010." *Current Population Reports* P60-233. Washington: U.S. Government Printing Office (September).
- Feenbergs, Daniel R., and James M. Poterba. 1993. "Income Inequality and the Incomes of Very High-Income Taxpayers: Evidence from Tax Returns." In *Tax Policy and the Economy*, ed. James M. Poterba. Cambridge, Mass.: National Bureau of Economic Research/MIT Press.
- Förster, Michael F., and Marco Mira d'Ercole. 2012. "The OECD Approach to Measuring Income Distribution and Poverty: Strengths, Limits, and Statistical Issues." In *European Measures of Income and Poverty: Lessons for the U.S.*, ed. Douglas J. Besharov and Kenneth A. Couch. New York: Oxford University Press.
- Fournier, Martin. 2001. "Inequality Decomposition by Factor Component: A 'Rank-Correlation' Approach Illustrated on the Taiwanese Case." *Louvian Economic Review* 67(4): 381–403.
- Gottschalk, Peter, and Sheldon Danziger. 2005. "Inequality of Wage Rates, Earnings, and Family Income in the United States, 1975–2002." *Review of Income and Wealth* 51(2): 231–54.
- Gottschalk, Peter, and Timothy M. Smeeding. 1997. "Cross-National Comparisons of Earnings and Income Inequality." *Journal of Economic Literature* 35(2): 633–87.
- Iceland, John. 2003. "Why Poverty Remains High: The Role of Income Growth, Economic Inequality, and Changes in Family Structure, 1949–1999." *Demography* 40(33): 499–519.
- Jenkins, Stephen P. 1995. "Accounting for Inequality Trends: Decomposition Analyses for the U.K., 1971–1986." *Economica* 62(245) 29–63.
- Jenkins, Stephen P., and Philippe Van Kerm. 2009. "The Measurement of Income Inequality." In *The Oxford Handbook of Economic Inequality*, ed. Wiemer Salverda, Brian Nolan, and Timothy M. Smeeding. New York: Oxford University Press.
- Jones, Arthur F., Jr., and Daniel H. Weinberg. 2000. "The Changing Shape of the Nation's Income Distribution." *Current Population Reports*. Washington: U.S. Census Bureau (June). Available at: <http://www.census.gov/prod/2000pubs/p60-204.pdf> (accessed August 29, 2014).
- Jurajda, Stepan, and Frederick J. Tannery. 2003. "Unemployment Duration and Extended Unemployment Benefits in Local Labor Markets." *Industrial and Labor Relations Review* 56(2): 324–48.
- Katz, Lawrence F., and Bruce D. Meyer. 1990. "The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment." *Journal of Public Economics* 41(1): 45–72.
- Kopczuk, Wojciech, Emmanuel Saez, and Jae Song. 2010. "Earnings Inequality and Mobility in the United States: Evidence from Social Security Data Since 1937." *Quarterly Journal of Economics* 125(1): 91–128.
- Larrimore, Jeff. Forthcoming. "Accounting for United States Income Inequality Trends (1967–2007): The Changing Importance of Household Characteristics and Male and Female Labor Earnings Inequality." *Review of Income and Wealth*.
- Larrimore, Jeff, Richard V. Burkhauser, Shuaizhang Feng, and Laura Zayatz. 2008. "Consistent Cell Means for Top-coded Incomes in the Public Use March CPS (1976–2007)." *Journal of Economic and Social Measurement* 33(2–3): 89–128.
- Leigh, Andrew. 2009. "Top Incomes." In *The Oxford Handbook of Economic Inequality*, ed. Wiemer Salverda, Brian Nolan, and Timothy M. Smeeding. New York: Oxford University Press.
- Levy, Frank, and Richard J. Murnane. 1992. "U.S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations." *Journal of Economic Literature* 30(3): 1333–81.
- Macunovich, Diane J. 2010. "Reversals in the Patterns of Women's Labor Supply in the United States, 1977–2009." *Monthly Labor Review* 33(11): 16–36.
- Mulligan, Casey B. 2012. *The Redistribution Recession: How Labor Market Distortions Contracted the Economy*. New York: Oxford University Press.
- Piketty, Thomas. 2003. "Income Inequality in France, 1901–1998." *Journal of Political Economy* 111(5): 1004–42.
- Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States, 1913–1998." *Quarterly Journal of Economics* 118(1): 1–39.
- . 2006. "Response by Thomas Piketty and Emmanuel Saez to: 'The top 1% ... of What?' by Alan Reynolds." December 20. Available at: <http://www.econ.berkeley.edu/~saez/answer-WSJreynolds.pdf> (accessed August 29, 2014).

- Ruggles, Patricia. 1990. *Drawing the Line: Alternative Poverty Measures and Their Implication for Public Policy*. Washington, D.C.: Urban Institute Press.
- Ruser, John, Adrienne Pilot, and Charles Nelson. 2004. "Alternative Measures of Household Income: BEA Personal Income, CPS Money Income, and Beyond." Report to the Federal Economic Statistics Advisory Committee.
- Ryscavage, Paul. 1995. "A Surge in Growing Income Inequality?" *Monthly Labor Review* 118(8): 51–61.
- Saez, Emmanuel, and Michael R. Veall. 2005. "The Evolution of High Incomes in Northern America: Lessons from Canadian Evidence." *American Economic Review* 95(3): 831–49.
- Semega, Jessica, and Ed Welniak. 2007. "Evaluating the Impact of Unrestricted Income Values on Income Distribution Measures Using the Current Population Survey's Annual Social and Economic Supplement (ASEC)." Research Report, Washington: U.S. Census Bureau (April). Available at: <http://www.census.gov/hhes/www/income/publications/unrestrict-tables/Unrestricted-Income-Reporting.doc> (accessed August 29, 2014).
- Sivadasan, Jagadeesh, and Joel Slemrod. 2008. "Tax Law Changes, Income Shifting, and Measured Wage Inequality: Evidence from India." *Journal of Public Economics* 92(11–12): 2199–2224.
- Slemrod, Joel. 1995. "Income Creation or Income Shifting? Behavioral Responses to the Tax Reform Act of 1986." *American Economic Review: Papers and Proceedings* 85(2): 175–80.
- . 1996. "High-Income Families and the Tax Changes of the 1980s: The Anatomy of Behavioral Response." In *Empirical Foundations of Household Taxation*, ed. Martin Feldstein and James M. Poterba. Chicago: University of Chicago Press for the National Bureau of Economic Research.
- Stewart, Kenneth J., and Stephen B. Reed. 1999. "CPI Research Series Using Current Methods, 1978–1998." *Monthly Labor Review* 122(6): 29–38.
- Sum, Andrew, and Ishwar Khatiwada. 2010. "The Nation's Underemployed in the 'Great Recession' of 2007–2009." *Monthly Labor Review* 133(11): 3–15.
- U.S. Census Bureau. 2008. *2008 National Population Projections*. Available at: <http://www.census.gov/population/projections/data/national/2008/downloadablefiles.html> (accessed August 29, 2014).
- Weinberg, Daniel H. 2006. "Income Data Quality Issues in the CPS." *Monthly Labor Review* 129(6): 38–45.

Chapter 5

Residential Mobility in the United States and the Great Recession: A Shift to Local Moves

Michael A. Stoll

Americans are very mobile. Over the last three decades, the share of Americans who moved in a given year was always more than 10 percent. Despite this, mobility has been declining over this period. More telling, in the last decade, especially in the years just before and during the Great Recession, there was a consistent decline in long-range migrations and a rise in local moves. Interstate residential mobility, already in decline for the past thirty years, had slowed to a near-standstill by the end of the 2000s (Frey 2008a, 2009a). This study shows several ways in which the Great Recession was implicated in these trends. The Great Recession had an impact on many persons: job losses and pay cuts limited their financial resources, and many either lost their home or saw its value decline. Falling home prices made staying (especially in formerly high-cost areas) more plausible for more people. Moreover, the Great Recession probably increased people's fear about their future economic security. Because it was a national phenomenon, it shut off the lure of "better job pastures" elsewhere. People seeking better jobs (or any job) could not simply move west, south, east, or north. All these factors may have prompted many people who otherwise would have moved to stay put, thus reinforcing already low U.S. interstate residential mobility by the end of the decade (Frey 2009b).

Local moves in recent years have increased, but they have been especially high in metropolitan areas with the highest unemployment and the highest number of foreclosures—particularly the West and South, areas hard hit by the Great Recession. Unlike past decades, when local movers were trading up economically—from an apartment to a house, from one house to a better one—these movers were moving down, seeking a cheaper home. African Americans were particularly vulnerable. Not only did more black residents, proportionally, lose jobs or have their homes foreclosed, but those losses were more likely to force them to move.

In this study, I examine residential moves, focusing on the local level. I look at how they have changed over the past thirty years, and particularly over the recent decade, and at the characteristics of those who moved before and during the Great Recession. I also explore self-reported answers to questions about residential moves and whether these answers are consistent with factors associated with the recession as the reason for the move. Finally, I explore whether, to what extent, and how factors at the local level, such as unemployment and foreclosure rates, influence local move rates.

I use data from the Current Population Survey (CPS) and the American Community Survey (ACS) to examine whether those who moved during the Great Recession were more likely than people in other periods to be unemployed, to be poor, or to not own a home. The CPS also provides respondents' answers to questions about the reasons for their move. The expectation is

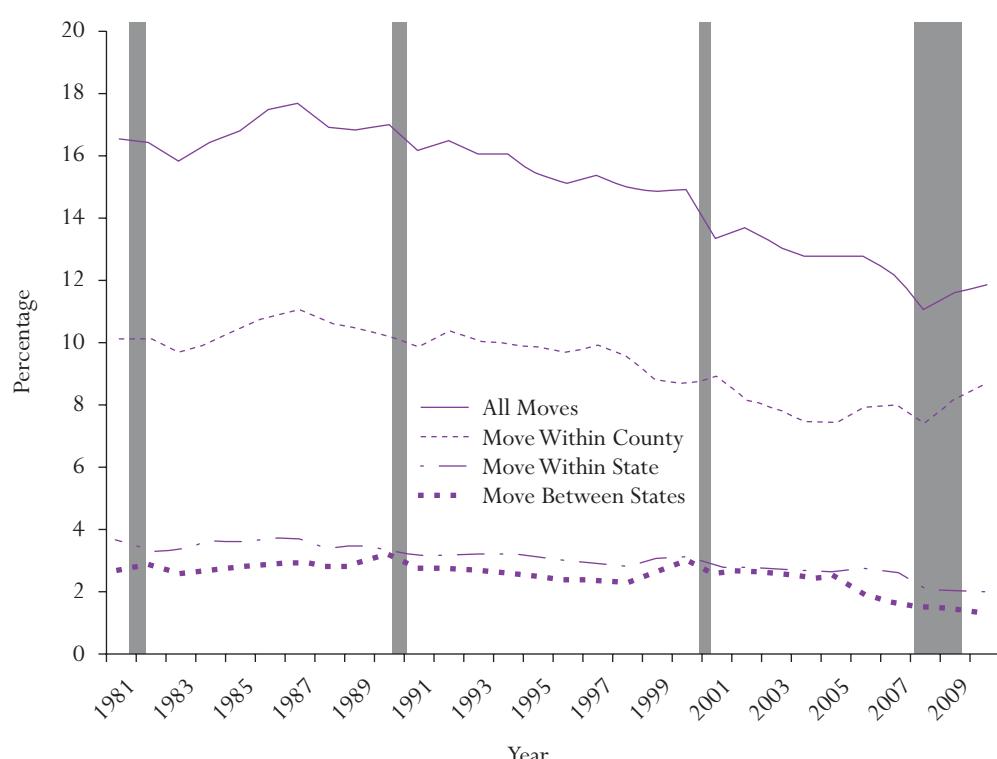
that their answers to these questions will be more directly related to factors associated with the recession. Finally, I determine which parts of the country have experienced more local moves and ask how these areas have been affected by unemployment and foreclosure.

RESIDENTIAL MOVEMENT OVER THE PAST THIRTY YEARS

Figure 5.1 uses data from the CPS to show how population migration has changed over the past thirty years in the United States and the different types of moves people made over this period.¹ Movers are defined as adults (ages eighteen and older) who responded affirmatively to the question of whether they moved in the year prior to the survey.² The one-year migration question is asked fairly consistently in the CPS from 1964 to the present, thus making it possible for mobility to be observed over long time periods at the national level.³ Local movers are identified as those who moved within county, and the move rate is determined by taking the fraction of the total relevant population (ages eighteen and older) who moved over the past year.

There are a number of important highlights in figure 5.1. First, the percentage of people who move has dropped significantly over the past two decades. Indeed, the 12 percent who moved in 2010 is almost the lowest level recorded over this period, although an uptick in mov-

FIGURE 5.1 *U.S. Adults Who Moved over the Past Year in the United States, by Type of Move, 1980–2010*



Source: Author's calculations using Current Population Survey (CPS).

Note: Recessions are shaded.

ing is observed toward the end of the most recent decade. Various reasons have been suggested for this slowdown in American domestic mobility. Traditional demographic causes, such as the aging of the population, the rise of two-earner households and household income levels, and regional or other types of compositional changes, have all been ruled out. Some scholars argue that technological and other transportation and communication advances have led to a decline in the geographic requirements of place, thus decreasing job-related moves (Kaplan and Schulhofer-Wohl 2012). Others cite greater affluence and security in American society over time as well as non-economic and historical factors, such as the end of great migrations (which in turn spurred local moves), as reasons for long-run declines in residential mobility (Fischer 2002).

More recently, some researchers have speculated that economic and housing crises played a major role in reinforcing the low level of interstate migration, which has been in decline for quite some time (Frey 2008a, 2008b, 2009a, 2009b). Many states that saw large in-migration during the boom period, such as California and Florida, saw a reversal to out-migration during the Great Recession. Moreover, those metro areas in the West and South that experienced the biggest increases in migration during the earlier housing boom period in the middle of the decade, such as Phoenix, Riverside, Las Vegas, Tampa, Orlando, and Atlanta, demonstrated the greatest recent migration declines during the Great Recession (Frey 2009c).

Second, the recent uptick in all moves in the United States was driven entirely by those moving locally. The local move rate increased from 2008 to 2010, while the interstate migration rate remained low and flat over this period. Thus, especially at the end of the decade, there was a shift from long-distance to local moves. Counter to overall migration trends, the percentage of local movers increased over the decade; at just below 9 percent, it was at its highest level in ten years.

Historically, local movers have represented the majority of moves made in the United States.⁴ However, the percentage of people who moved farther away, especially to another state, declined over this period to less than 2 percent, the lowest level observed over the past two decades.⁵

Although the changes in the percentages of movers over the latter part of the decade may seem small, they translate into larger changes in the absolute number and percentages of people who moved locally or between states since the initial impact of the Great Recession. According to estimates from the CPS (as shown in table 5.1), in 2010 about 24.2 million people moved locally, representing an 18 percent increase in local movers from 2008. On the other hand, in 2010 about 3.8 million people moved across state lines, representing a decline of about 400,000 movers from 2008, or a 10 percent decrease.

Two other important trends are observed in table 5.1. More people moved locally in 2010 than at any other point in the 2000s, and fewer people moved across states lines than in any other time period over the past thirty years. Moreover, in 2010 there were more people (in absolute numbers) moving locally than in 1980, even though the percentage of those who moved in 1980 was higher than the percentage in 2010 (as shown in figure 5.1). This is the case because, since 1980, the U.S. population has increased by nearly 80 million persons.

These trends indicate a greater shift to local moves at the end of the 2000 decade. Figure 5.2 highlights this shift by showing the composition of all moves—within county, within state, or across states—over the past thirty years. The figure shows that the percentage of all moves that are local increased rather dramatically at the end of the 2000s decade, while these percentages declined or remained flat for interstate and within-state movers. Over the past twenty-five years or so, the share of local moves hovered between 59 and 65 percent, but by the end of the 2000s decade it had increased to nearly 73 percent. However, the increase in this ratio from 2005 to 2007 was driven almost entirely by the decline in interstate and within-state moves,

TABLE 5.1 *The Number of People Who Moved over the Past Year, by Type of Move, 1981–2010*

	All Moves	Move Within County	Move Within State	Move Between States
1981	32,415,032	20,242,406	6,770,298	5,402,305
1982	32,515,202	20,253,637	6,508,180	5,753,382
1983	31,982,542	20,071,426	6,605,478	5,305,639
1984	33,805,965	20,885,632	7,293,276	5,627,064
1985	35,409,633	22,060,436	7,510,110	5,839,097
1986	37,013,302	23,235,240	7,726,944	6,051,130
1987	37,761,205	24,022,103	7,890,782	5,848,301
1988	36,317,365	23,258,926	6,916,175	6,142,251
1989	36,543,618	23,067,532	7,131,080	6,344,994
1990	37,208,348	22,823,927	7,319,094	7,065,337
1991	35,655,982	22,302,526	7,100,280	6,253,180
1992	36,954,969	23,575,343	7,144,477	6,235,142
1993	36,082,654	23,158,635	6,910,556	6,013,458
1994	36,808,124	23,485,761	7,438,240	5,884,124
1995	36,552,839	23,436,426	7,333,466	5,782,957
1996	36,297,554	23,387,091	7,228,692	5,681,789
1997	37,512,746	24,695,645	7,135,545	5,681,576
1998	36,667,332	24,007,369	7,048,764	5,611,202
1999	36,562,012	22,317,799	7,627,440	6,616,781
2000	36,898,050	21,632,660	7,834,857	7,430,520
2001	33,525,351	20,068,293	6,875,890	6,581,175
2002	34,733,541	20,852,517	7,059,595	6,821,403
2003	34,471,983	20,752,026	6,887,654	6,832,322
2004	33,729,608	20,082,729	7,088,275	6,558,628
2005	33,912,034	20,185,104	7,067,557	6,659,378
2006	34,434,942	22,150,353	7,234,662	5,049,939
2007	33,572,024	22,506,227	6,705,079	4,360,723
2008	30,459,688	20,548,935	5,698,997	4,211,776
2009	32,181,618	22,780,172	5,720,583	4,082,893
2010	33,038,676	24,227,589	5,649,010	3,804,706

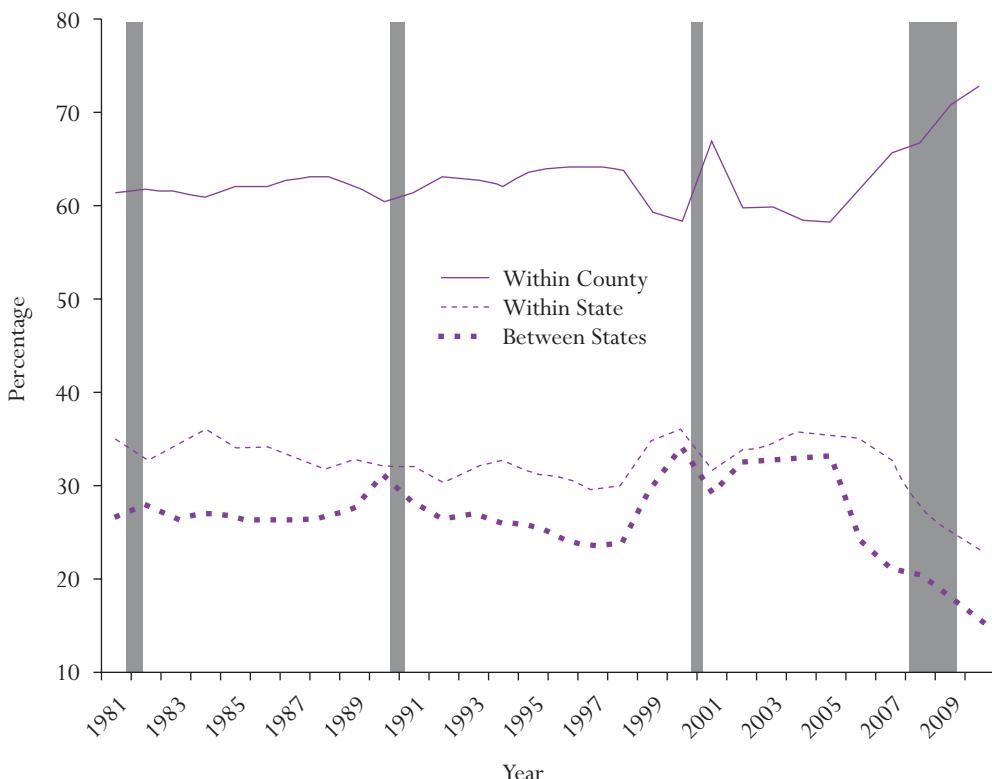
Source: Data from the 1981 to 2010 March CPS.

while its increase from 2008 to 2010 was driven more by the increase in the local move rate. That is, from 2005 to 2007 the local move rates remained basically the same, while the combined interstate and within-state move rate decreased by one and a half percentage points.⁶

On the other hand, from 2008 to 2010, the height of the Great Recession, the local move rate increased by almost one and a half percentage points while the combined interstate and within-state move rate remained virtually flat. By the end of this decade, the shares of within-state and across-state moves, at nearly 20 and 17 percent, respectively, had dropped to their lowest level in thirty years.

RESIDENTIAL MOVES AND RECESSIONS

The secular and cyclical trends of migration come into fuller view when American residential movement is viewed in the context of major economic recessions. As noted, over the last two

FIGURE 5.2 *Moves Within County, Within State, or Between States, 1981–2000*

Source: Author's calculations using CPS.

decades, for all types of moves, migration's secular trend has been downward. But during periods of economic recession, such migration appears to have a cyclical nature too, although such trends differ by whether the residential move is more distant or local.

Figure 5.1 also indicates periods of economic recession as defined by the National Bureau of Economic Research (NBER).⁷ The figure illustrates that the number of interstate moves tends to fall at the start of a recession, to rise years later after the recession ends, only to fall again during the next recession (and with the caveat of a secular downward trend in these moves over the past twenty-five years). Interstate migration slowed even further during the Great Recession, probably for all the reasons mentioned earlier. That is, more limited financial means, fewer attractive alternative places to live, and declines in home values in many places (thus making these same places more affordable) may have prompted many who otherwise would have moved to stay put. In contrast, the number of local moves tends to fall at the start of a recession but ticks upward immediately after; this pattern was especially true during the Great Recession. Local moves may increase after a recession because of growing pent-up demand to move or because, in the case of the Great Recession, persistent job or housing affordability problems made staying put financially impossible.

Regional Variation in Residential Movement

Did these trends vary at the regional level, especially recently? This is an important question, since the recession may have had uneven impacts at the regional level. Figures 5.3 to 5.8 present graphs similar to figure 5.1, but at the regional level. Figure 5.3 displays the overall move rate over the same time period, while figures 5.4 and 5.5 show the move rate within counties and the between-state move rate, respectively.⁸

A couple of important trends appear in figure 5.3 for the total move rate at the regional level. First, in general, the patterns at the regional level reflect those at the national level. The move rate over the past thirty years has followed a downward secular trend; however, as in the nation as a whole, the regional move rate showed a slight upward tick during the Great Recession, though this was more true in the West, the Midwest, and to a lesser extent the Northeast. Second, the move rates were consistently higher in the West and South, even during the Great Recession. It is not entirely clear why move rates were higher in these regions than elsewhere.⁹ But demographic composition differences across regions were not a factor.¹⁰

Figure 5.4 shows move rates within county by region. Again, these patterns are similar to those for the nation as a whole. However, local move rates jumped slightly more noticeably in the West and Midwest than in the South and Northeast during the Great Recession, possibly

FIGURE 5.3 *All Moves During the Past Year, by Region, 1981–2010*

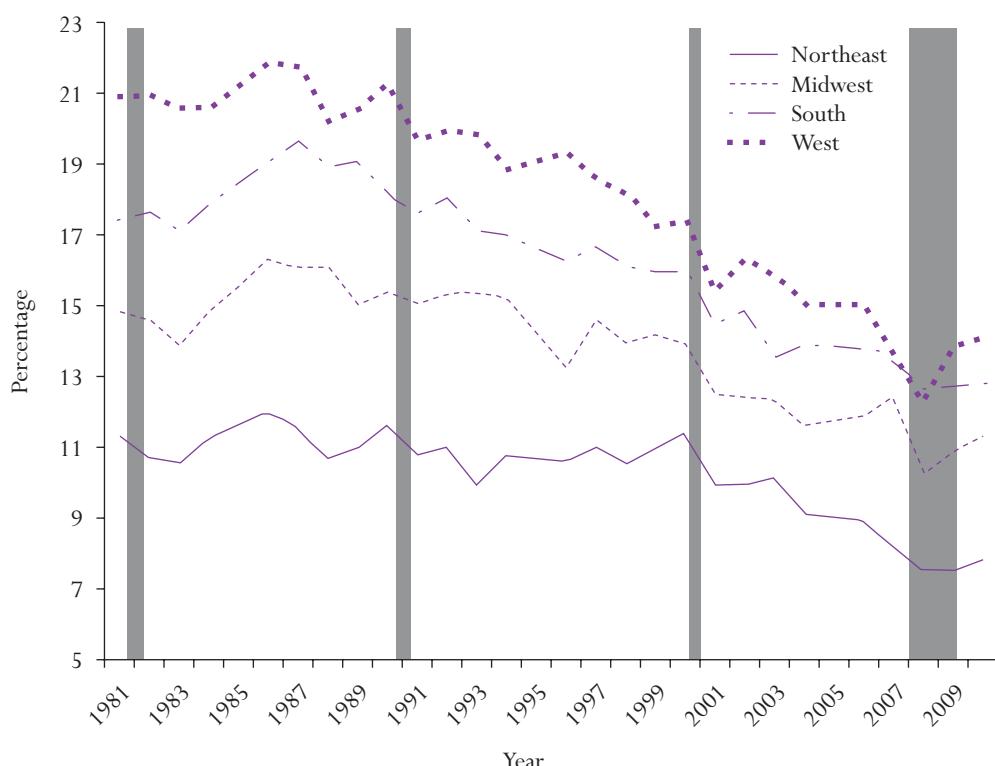
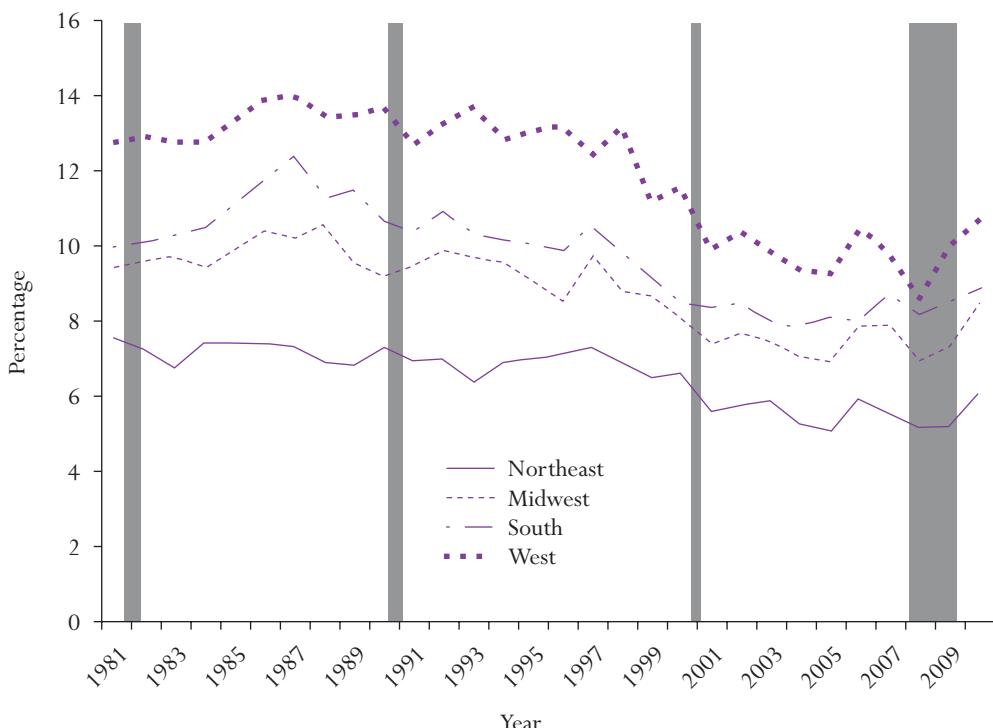


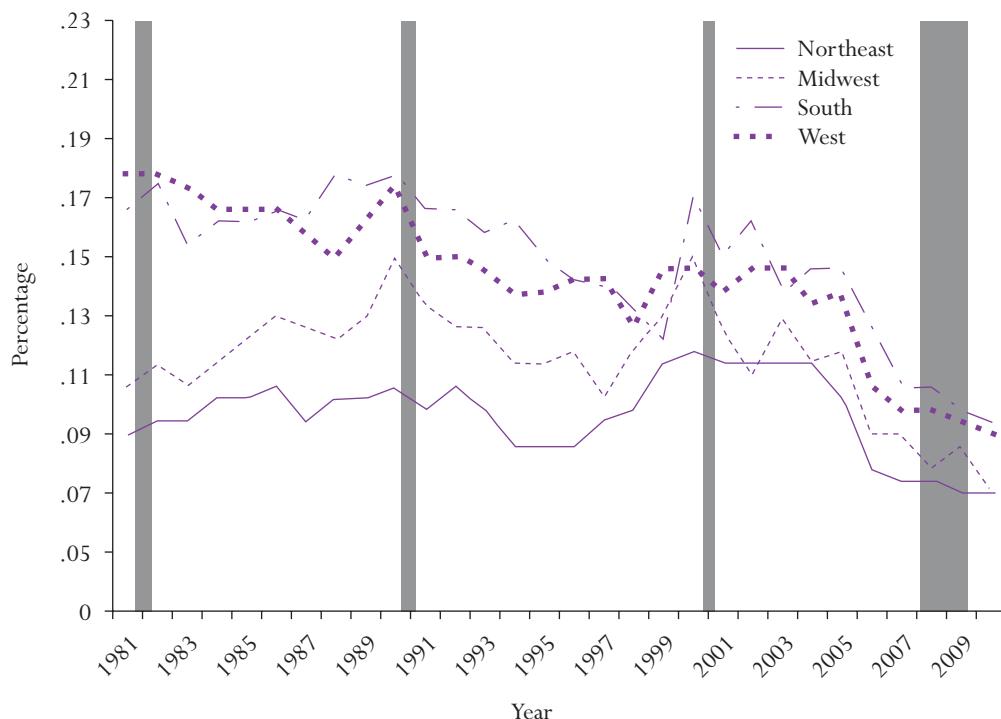
FIGURE 5.4 *Moves Within the County over the Past Year, by Region, 1981–2010*

Source: Author's calculations using CPS.

because the factors that were likely to influence these rates, such as unemployment and foreclosures, hit fairly hard in Western and some Midwestern areas. Note also, again, that local move rates were consistently higher in the West and South over this thirty-year period, and that demographic factors played little role in determining these differences across regions.¹¹

Finally, figure 5.5 shows between-state moves at the regional level over the past thirty years. The regional trends for these data also reflect trends in the nation as a whole. There was a clear secular decline in interstate migration in each region, and these declines continued through the Great Recession. As before, the interstate move rates were higher in the South and West. However, the greatest decline in interstate moving was also in the South and West. One reason for this pattern may be that many of the states that boomed economically during the 1980s and 1990s are in these regions, and interstate moves were high because so many people were migrating there from the Midwest and Northeast. The sharp declines in the South and West could have occurred because the recessions of the 2000s, in cutting back on migration, hit the South and West hardest.

The following analysis demonstrates that regional moving patterns largely followed national trends, suggesting that the patterns of shifts to local moves observed for the nation as a whole should have also occurred in each region. Figures 5.6 and 5.7 explore this question by showing the composition of all moves over the past thirty years at the regional level. Figure 5.6 shows at

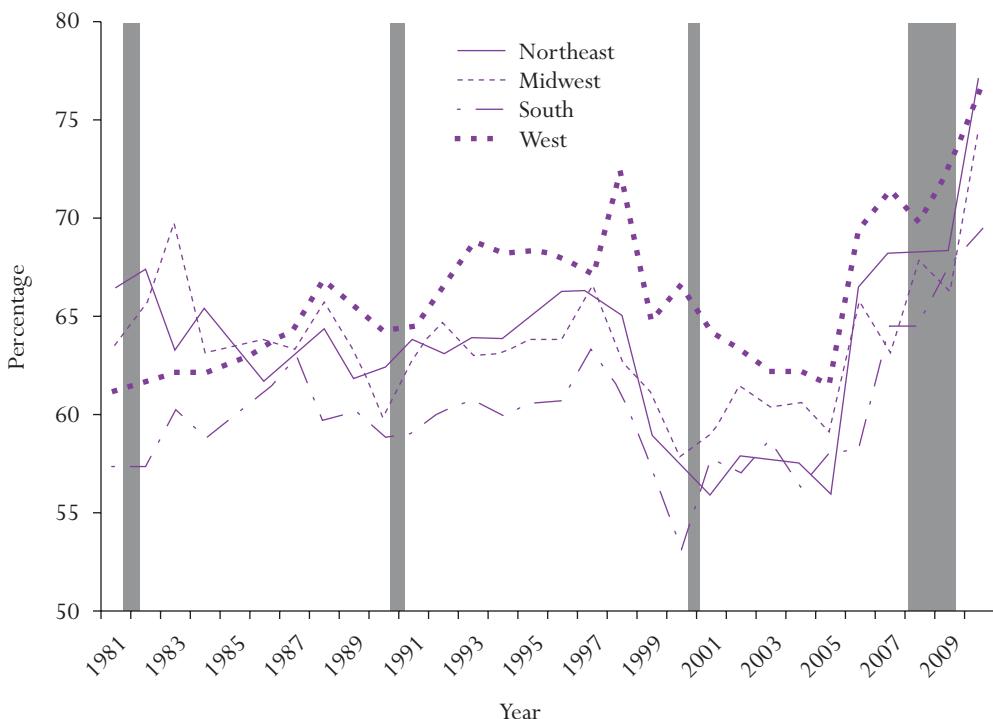
FIGURE 5.5 *Moves Between States over the Past Year, by Region, 1981–2010*

Source: Author's calculations using CPS.

the regional level the percentage of all moves that were within-county, while figure 5.7 shows this percentage for across-state moves. The within-state portion of this calculation mirrors that of the between-state data and so is not shown here.

Viewed together, the data in these figures demonstrate that the shift to local moves observed at the national level during the Great Recession occurred in each region of the United States. Although the regional differences in move rates by the end of the decade were not that large, the percentage of all moves that were local increased fairly strongly in the West, Midwest, and Northeast.¹² Figures 5.6 and 5.7 show that, for all regions, the high point for the local move share was at the end of the decade, in 2010, and that it jumped from 2005 to 2010. As in the national data, however, for all regions the increase in this ratio from 2005 to 2008 was driven almost entirely by the decline in interstate and within-state moves, while its increase from 2008 to 2010 was driven more by increases in local move rates.

These combined results suggest that the Great Recession influenced moving decisions. The remainder of this analysis focuses on the 2000s decade to examine to what extent and how it did so. I examine the characteristics of movers over different time periods associated with the Great Recession and analyze the subjective reasons provided by individuals for moving. I then turn to local move rates at the metropolitan level, examining the factors associated with the Great Recession, such as unemployment and foreclosure, that may have influenced local move rates.

FIGURE 5.6 *Moves Within the County, by Region, 1981–2000*

Source: Author's calculations using CPS.

The Characteristics of Local Movers

Before directly addressing the question of whether the Great Recession had an impact on moving patterns, it is useful to examine more generally the characteristics of those who move (and by type of move) and those who do not, because the literature on migration points to the importance of mover selectivity. That is, movers' characteristics are not typical of the overall characteristics of the area population from which they have moved. Rather, they are highly selective (on certain characteristics such as age), for a number of well-documented reasons (Long 1988). In this section, I examine whether this selectivity is different for those who move locally as opposed to those who move farther, such as between states.

The General Selectivity of Movers

Table 5.2 uses CPS data and shows means for a host of demographic characteristics for those who moved (and by type) or did not move over the entire 2000s decade. Here the entire decade is examined to capture the general characteristics of movers. Note that those who moved within state are included with those who moved between states because their characteristics are not statistically different.¹³

FIGURE 5.7 *Moves Between States, by Region, 1981–2000*

Source: Author's calculations using CPS.

The data in table 5.2 reveal that movers are quite different from those who do not move. Moreover, these differences depend on the type of move. Compared to those who do not move, local movers share some characteristics with those who move farther, but also differ from them. Local movers and those who move farther are both younger and, perhaps as a consequence, less likely to be married, retired, or homeowners than those who do not move. They are also more likely to be recent immigrants, to have younger children, to live in poverty, and to live in a metropolitan area or in the South or West (as opposed to the Northeast or Midwest). Finally, they are also more likely to be in the labor force (either employed or unemployed).

Major theories of why people move, including push-pull factors, life-cycle events, and benefit-cost decisions, would all predict that these factors are important in the decision to move (Long 1988; Mincer 1978; Quigley and Weinberg 1977). For example, life-cycle and cost-benefit frameworks would predict that younger, single people who do not have homes are more likely to move because they are more likely to search for new schooling or employment opportunities and because for them there are fewer social and economic transaction costs to moving (that is, they have no children and no need to sell a home).

In addition, those who move farther are different from those who move locally in that they are more likely, relative to those who do not move, to be college-educated. Such individuals arguably face a broader geographic labor market and are prompted to make more distant moves

TABLE 5.2 *Mean Characteristics of Movers (by Type of Move) and Nonmovers During 2000–2010*

	No Move	Move Within County	Move Longer Distance
Age			
Eighteen to twenty-five	0.109	0.257**	0.246**
Twenty-six to thirty-five	0.178	0.350	0.340
Thirty-six to forty-five	0.401	0.301	0.292
Forty-six to sixty-five	0.143	0.051	0.070
Older than sixty-five	0.169	0.041	0.053
Education			
Less than high school	0.153	0.182***	0.131**
High school degree	0.318	0.320	0.286
Some college	0.272	0.286	0.288
College graduate or more	0.257	0.212	0.295
Race			
White	0.720	0.612**	0.711***
Black	0.113	0.154	0.119
Latino	0.122	0.184	0.119
Asian	0.046	0.049	0.051
Other	0.050	0.007	0.080
Married	0.583	0.388*	0.431*
Homeowner	0.771	0.344*	0.395*
Male	0.479	0.487	0.491
Foreign-born	0.157	0.192*	0.153***
Recent immigrant	0.023	0.058*	0.046*
Children under age five	0.109	0.184*	0.156*
Retired	0.082	0.020*	0.035*
Disability	0.008	0.006	0.004
Enrolled in school	0.055	0.083*	0.078*
Poverty	0.094	0.198*	0.163*
Income (in 2009 dollars)	\$37,071	\$30,210*	\$32,899*
Labor market status			
Employed	0.626	0.705**	0.669**
Unemployed	0.036	0.068	0.071
Not in labor force	0.338	0.227	0.260
Nonmetropolitan area	0.173	0.134*	0.162
Region			
Northeast	0.199	0.135**	0.140**
Midwest	0.227	0.214	0.212
South	0.355	0.369	0.412
West	0.219	0.282	0.235

Source: Based on annual data from the 2000 to 2010 CPS.

*Difference from nonmovers is significant at <0.05.

**Chi-square distribution statistically different at <0.05 from that for nonmovers.

***Difference between local and farther movers significant at <0.05.

Age, education, race, labor market status, and region categories sum to 1.

in search of opportunity. Local movers are more likely to be black and Latino (a factor explored in more detail later) and to be foreign-born.

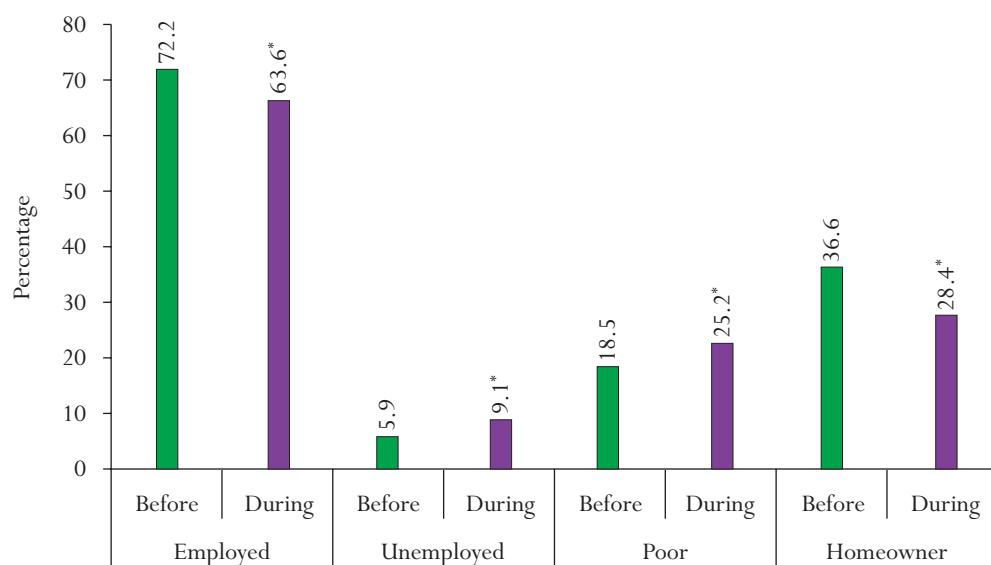
Key Characteristics of Movers Before and During the Great Recession

Having established that movers are selected on certain characteristics, the key question is whether the Great Recession influenced moving. If it did, the expectation is that the observable characteristics of movers who were most likely to be influenced by the Great Recession, such as their unemployment and homeownership rates and their poverty status, would have been different (and normatively worse) during the Great Recession than before it. These are characteristics that are observable with the CPS at the individual level.

Figure 5.8 first focuses on the largest share of movers: those who moved locally and whose move rate rose quickly at the height of the Great Recession toward the end of the 2000s decade. It also focuses on the characteristics associated with the Great Recession (employment, homeowner, and poverty status) that are observable by the CPS. The figure highlights these selected characteristics of individuals who moved locally before and during the Great Recession.

The 2000s decade is split between the periods termed “before the Great Recession” and “during the Great Recession.” These periods coincide with the years 2000–2007 and 2008–2010, the latter a period when the local move rate jumped.¹⁴ The data are disaggregated in this way to coincide with the height of and therefore the full impact of the Great Recession. The National Bureau of Economic Research’s (NBER) Business Cycle Dating Committee, the most respected authority to date recessions, identifies December 2007 as the start of the Great Recession.

FIGURE 5.8 *Selected Characteristics of Movers Within Metropolitan Areas Before and During the Great Recession*



Source: Author's calculations using CPS; before the Great Recession is 2000–2007 and during is 2008–2010.

*Difference before/after statistically significant at $p < 0.05$.

sion (with an end date in June 2009). Moreover, the Case-Schiller housing price index, a leading indicator of housing prices in large U.S. metropolitan areas, shows that in most metropolitan areas, housing prices began to fall dramatically during late 2007 (after the credit squeeze entered full effect) and continued to fall through the end of the decade. The period 2008 to 2010 should thus be treated as the height of the impact of the Great Recession.¹⁵

The results in figure 5.8 are consistent with expectations of the consequences of the Great Recession on local moves. They demonstrate that those moving locally during the recession were statistically less likely to be homeowners than local movers in previous periods. They were also more likely to be without work and to be poor.¹⁶ These data are consistent with the expected impacts of the Great Recession, which prompted local moves when it resulted in more people losing their jobs, living in poverty, and losing their homes or being unable to afford rent.

However, the biggest differences over the period were with homeownership, which experienced greater impacts than unemployment or poverty status. For example, homeownership among local movers before the recession was about nine percentage points higher than it was during the recession, whereas unemployment status was only three percentage points lower at that point, and poverty status was six percentage points lower. Thus, the housing-related factors associated with the Great Recession may have been more important than job- or poverty-related factors as motivations for moving locally.

A reasonable conclusion is that the Great Recession caused the uptick in local moves—that is, that it pushed more people who were without work, who were in poverty, or who were renters to move locally, possibly because they either lost their homes or could no longer afford rent. Clouding this interpretation, however, is the possibility that these changes in individuals' characteristics could have been caused by changes in the composition of people regardless of whether they moved during the Great Recession. That is, more people would have experienced more unemployment and poverty as a result of the recession, whether they moved or stayed put.

Another way to answer this question is to take a difference-in-difference approach. Table 5.3 presents difference-in-difference estimates of the effects on moving of employment status, homeownership, and poverty. The approach first calculates the difference in each of the selected characteristics for movers and nonmovers before the recession. For example, before the Great Recession, about 2.7 percent of nonmovers were unemployed, while 6 percent of movers were unemployed, a difference of about three percentage points. This same calculation for nonmovers and movers during the Great Recession results in a difference of about four percentage points. Then we calculate the “differences in these differences” between movers and nonmovers over the period before and during the Great Recession. A statistically significant difference in this difference would indicate that the change in characteristics for movers before and during the recession was systematically distinct from the change for nonmovers.

Table 5.3 indicates that all differences-in-differences for these selected characteristics were statistically significant and in the expected direction. These results strongly suggest that the Great Recession influenced the increase in local moves over the decade.¹⁷ For example, the difference in homeownership between nonmovers and movers was about thirty-eight percentage points before the Great Recession and climbed to forty-six points during this period. This results in a statistically significant difference-in-difference estimate of eight percentage points, which strongly suggests that, because there were fewer of them, homeowners were less likely to move as a result of the Great Recession. With higher rates of foreclosure during this period and more people unable to afford their homes, there would have been fewer people selling their homes and thus fewer people buying them.

This same pattern was observed for the variable measuring unemployment status. The difference-in-difference estimate for the unemployed is 0.015 percentage points, which indicates

TABLE 5.3 *Difference-in-Difference Estimates of Key Great Recession Variables: Within-County Movers Versus Nonmovers and Before Versus During the Great Recession*

	Before			During			Difference-in-Difference	
	Nonmovers	Local Movers	Difference	Nonmovers	Local Movers	Difference		
Unemployed	0.030	0.059	0.029*	0.048	0.091	0.043*	0.014*	
Homeowners	0.775	0.366	-0.409*	0.764	0.286	-0.478*	-0.069*	
Poverty	0.091	0.185	0.094*	0.099	0.229	0.130*	0.036*	

Source: Data from the 2000 to 2010 CPS.

Note: Before the recession is 2000–2007; during the recession is 2008–2010.

*Difference statistically significant at at least the 5% level

TABLE 5.4 *Characteristics of Those Who Moved Within Counties Before and During the Great Recession*

	Before	During
Age		
Eighteen to twenty-five	0.258	0.254
Twenty-six to thirty-five	0.351	0.348
Thirty-six to forty-five	0.301	0.300
Forty-six to sixty-five	0.049	0.057
Older than sixty-five	0.041	0.042
Education		
Less than high school	0.185	0.176
High school degree	0.320	0.319
Some college	0.283	0.290
College graduate or more	0.211	0.215
Married	0.402*	0.351
Male	0.487	0.491
Foreign-born	0.191	0.194
Recent immigrant	0.055	0.051
Median income (in 2009 dollars)	\$30,775	\$31,338
Children under age five	0.184	0.173
Retired	0.021	0.018
Disability	0.020	0.020
Enrolled in school	0.082	0.088
Nonmetropolitan area	0.134	0.113*

Source: 2000 to 2010 CPS.

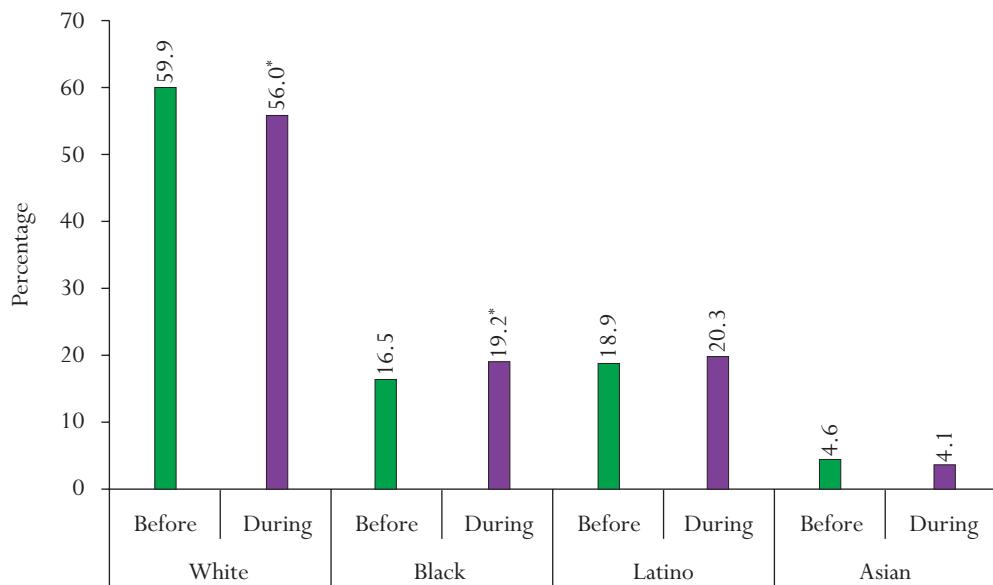
* $p < 0.05$

that, relative to nonmovers, local movers were more likely to be unemployed during the Great Recession than before it. However, consistent with the results in figure 5.13, the difference-in-difference estimates are larger in magnitude for homeownership than for unemployment or poverty status, suggesting again that the housing-related factors associated with the Great Recession were more important than job- or poverty-related ones as motivations for moving locally.

Interestingly, these recession-related variables appear to be the only ones systematically different for local movers during the Great Recession compared to before that period. Table 5.4 presents several demographic variables available from the CPS.¹⁸ Those with these characteristics were mostly not affected by the Great Recession. For example, the fraction of those with a college degree or higher was similar for local movers before and during the Great Recession. There is one exception, however: local movers were more likely to live in metropolitan areas than in nonmetropolitan areas during the Great Recession compared with before it. This would make sense to the extent that local move rates were influenced by factors related to the recession, factors that would have been more influential in metropolitan than nonmetropolitan areas.

Another notable exception to this pattern is race and ethnicity—figure 5.9 shows that a smaller share of whites and a larger share of blacks were movers during the Great Recession than before it. For example, about 19.0 percent of movers after the recession were black, whereas about 16.5 percent were black before the recession. Hence, racial differences in move rates increased during the Great Recession, and by implication the increase in local moves at the end of

FIGURE 5.9 *Racial-Ethnic Characteristics of Movers Within Counties Before and During the Great Recession*



Source: Author's calculations using CPS; before the Great Recession is 2000–2007 and during is 2008–2010.

*Difference before/after statistically significant at $p < 0.05$.

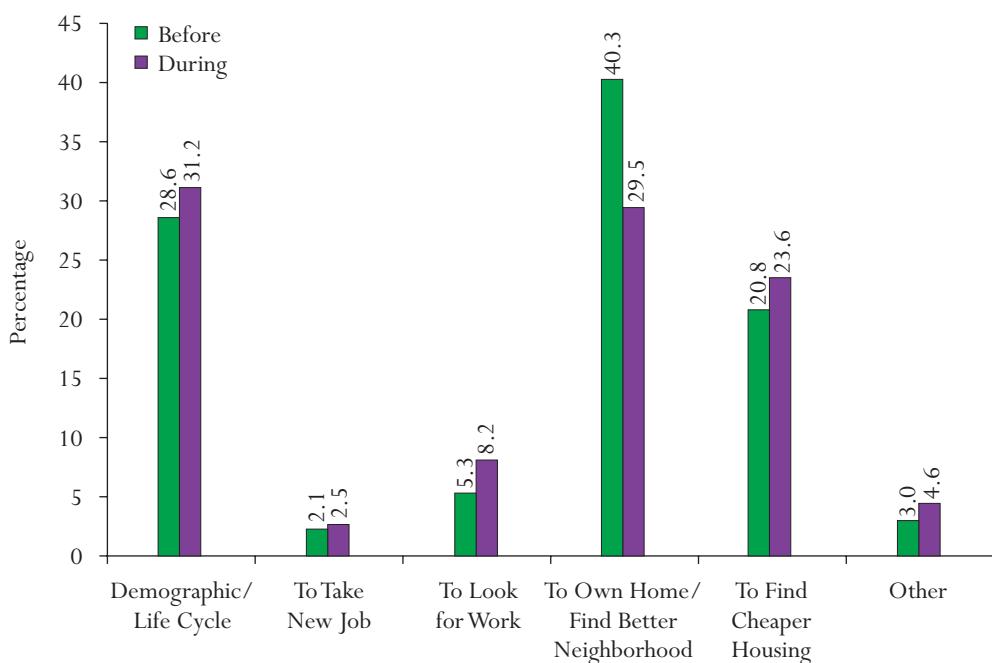
the decade was partly fueled by black and, to a lesser extent, Latino movers.¹⁹ This trend suggests that the recession itself had stronger impacts on minorities, an issue explored in more detail later.²⁰

Similar comparisons were conducted for those who moved farther before and during the Great Recession. Recall, however, that move rates for this group declined and then stagnated over the period before and during the Great Recession. Though not shown here, those moving farther were more likely to be unemployed and impoverished and less likely to be homeowners before the recession than during it. But only the difference in unemployment status remained significant after the more strict difference-in-difference test was conducted, and the effect was quite small. Therefore, the remainder of this study focuses on local moves.

CHANGING REASONS FOR LOCAL MOVES

Self-report data on moving can also provide clues about whether the Great Recession prompted local moves. The CPS is unique in that in the recent decade it asked those who moved the reason for their move. It provided respondents with a number of predetermined answers to the question, and this information provides an opportunity to unearth more direct evidence on what drove recent increases in local move rates.²¹ Figure 5.10 provides data on local movers' responses to questions regarding the reasons for their move. These data are summarized and presented for periods before and during the Great Recession. If the Great Recession events prompted local moves, it is expected that responses related to it—such as finding cheaper hous-

FIGURE 5.10 Major Reasons for Moves Within Counties Before and During the Great Recession



Source: Author's calculations using CPS; before the Great Recession is 2000–2007 and during is 2008–2010.

ing, owning a home, or looking for work—would be more affected over this period than would other answers, and in the expected direction.²²

First, at the general level, figure 5.10 indicates that in either period (both before and during the Great Recession), housing-related and other demographic and life-cycle changes were primary drivers of local moves. For example, about 41 percent of movers (a plurality of responses) before the Great Recession indicated that they moved to purchase a home or to live in a better neighborhood. Moreover, when combined with the response of finding cheaper housing as a reason for moving, housing-related reasons represent the majority of responses in either period. To the extent that demographic and life-cycle events, such as getting married, also prompted the search for new living arrangements, housing-related issues became even more important reasons for moving locally.

Second, figure 5.10 indicates that the percentage of residents who moved locally to find cheaper housing or look for work increased during the Great Recession.²³ The biggest change in responses during the Great Recession compared with before it was the ten-percentage-point decline in those who indicated that they moved to own a home or to live in a better neighborhood.²⁴

Although more people were moving locally during the Great Recession than before it, fewer were doing so to purchase homes or find better neighborhoods, perhaps because they had lost their homes or could not afford to live in better places. Further, the differences in these responses across the two time periods are statistically significant.²⁵ This evidence is consistent with the idea that more people moved locally partly as a consequence of housing- and job-related

problems brought on by the Great Recession.²⁶ These findings are also consistent with those in figure 5.8 and table 5.3 and suggest that housing issues related to the Great Recession appear to have been more important than job-related reasons for local moves.

RACIAL DIFFERENCES IN LOCAL MOVES

I turn now to racial differences in local move rates and the effect of the Great Recession on them. This is an important topic in light of earlier findings that the local move rate increased during the recession, and that the share of those moving locally who were black or Latino increased as well, implying that racial gaps in local move rates increased during the recession. I use individual-level CPS data to explore whether racial differences in local moves changed over the period of the Great Recession, and whether unemployment, homeownership, and poverty status help explain these changing racial gaps in local moves.

Table 5.5 examines racial and ethnic differences in local move rates in selected years over the 2000s decade. This table also presents differences in levels of unemployment, homeownership, and poverty status. (Appendix table 5A.5 presents more detailed racial differences in these variables over the same years.) Table 5.5 provides the means of these key variables by race-ethnicity over the 2000s decade in key years—2000, 2008, and 2010. The low point of local move rates over the decade occurred in 2008, which also marked the onset of the Great Recession, while 2010 represents the peak period for the increase in local move rates over the decade, as well as the midpoint of the Great Recession. The year 2000 is provided as the starting point.²⁷

The table reveals a few noteworthy patterns. First, it documents that for each period blacks' and to a lesser extent Latinos' and Asians' local move rates were higher than they were for whites, a pattern that, interestingly, is not found for farther moves.²⁸ The magnitudes of these differences are shown in appendix table 5A.5. Second, the data show that local moves increased significantly for blacks and Latinos only over the period of the Great Recession (between 2008

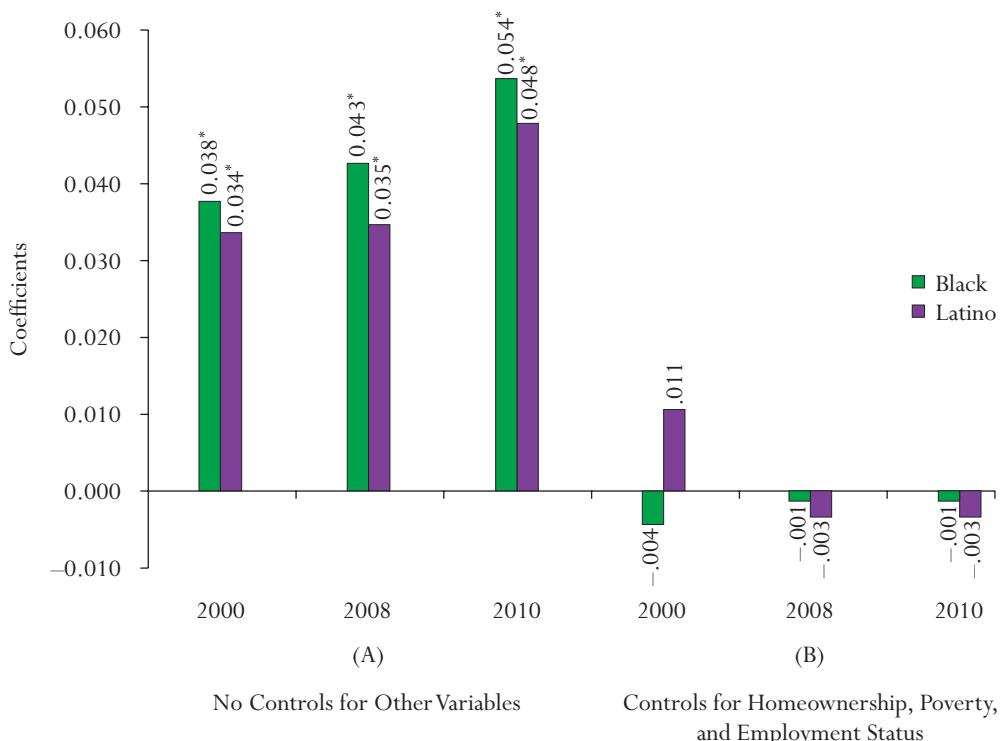
TABLE 5.5 *Means of Key Great Recession Ethnic-Racial Variables over the 2000s Decade*

	Local Mover	Unemployed	Homeowner	Poverty
White				
2000	0.071	0.022*	0.778	0.071*
2008	0.068	0.027*	0.789	0.075*
2010	0.070	0.056	0.777	0.088
Black				
2000	0.109*	0.050*	0.548*	0.192*
2008	0.111*	0.060*	0.568*	0.195*
2010	0.124	0.106	0.521	0.215
Latino				
2000	0.105*	0.046*	0.494*	0.187*
2008	0.103*	0.048*	0.527*	0.179*
2010	0.118	0.090	0.512	0.212
Asian				
2000	0.101*	0.026*	0.594*	0.101*
2008	0.079	0.025*	0.644	0.095*
2010	0.086	0.051	0.645	0.119

Source: 2000 to 2010 CPS.

* $p < 0.05$

FIGURE 5.11 Black and Hispanic Coefficients for Models Predicting Moves Within County, 2000, 2008, and 2010



Source: Author's calculations using CPS.

*Difference from whites statistically significant at $p < 0.05$.

and 2010), such that the racial gaps in local moves (relative to that of whites) increased from 2008 to 2010. For example, the black-white gap in local move rates was 0.038 in 2000, grew slightly to 0.043 in 2008, a period at the start of the Great Recession, and grew a little over a percentage point, to 0.054, by 2010, a time near the end of the Great Recession. Thus, racial gaps exist in local move rates, and they grew during the Great Recession.²⁹

Table 5.5 also demonstrates that in each period for most racial and ethnic groups, the normative outcomes for variables related to the Great Recession (unemployment, homeownership, and poverty) worsened, as expected. Moreover, in each period the normative outcomes for these variables were worse for blacks and, to a lesser extent, Latinos compared to outcomes for whites, as should also be expected. Racial inequality in these outcomes is well documented. What is also noteworthy is that racial inequality in these gaps grew from 2008 to 2010, as appendix table 5A.5 shows. For example, blacks' homeownership rate dropped by nearly five percentage points from 2008 to 2010, while the rate for whites (and others) dropped by a little over one percentage point, thus increasing the black-white homeownership gap during the Great Recession.

What accounts for these racial gaps in local moving rates? To what extent were they fueled by the Great Recession? Simple regression analysis can help answer these questions. Figure 5.11 presents coefficients from race-ethnicity indicator variables from a series of (linear probability

OLS) regressions that are intended to address these questions.³⁰ All the regressions (with non-movers as the reference group) predict local moves, and do so for the years 2000, 2008, and 2010. Each year represents a separate regression. Panel A includes only baseline independent variables for race and ethnicity (with whites as the reference category); panel B includes controls for the Great Recession-related variables (unemployment, homeownership, and poverty).

The empirical strategy to assess whether and the degree to which the racial gaps in local move rates (as indicated by the coefficients on the race and ethnicity variables) are accounted for by the Great Recession-related variables is to first enter the racial and ethnic variables into the model to assess baseline racial gaps in move rates as shown in panel A. Then, the Great Recession-related variables are entered into the model in panel B. Changes in the racial and ethnic variable coefficients after these variables are entered indicate whether and to what extent Great Recession-related variables can account for the racial gaps in local moves and how this may change over time.³¹

This strategy is based on the expectation that the decision to move locally was influenced by factors (among many others) related to the Great Recession, in this case unemployment, homeownership, and poverty status. That is, it is expected that higher unemployment and poverty rates and lower homeownership rates are associated with a higher likelihood of moving locally. Unemployment and poverty status may prompt local moves either because limited income or financial assets make current living arrangements unaffordable or because of the need to find work. On the other hand, lower homeownership rates imply lower transaction costs of moving, which would make relocating administratively easier. To the extent that lower homeownership is influenced by foreclosure, the act of moving would be required.

Panel B in appendix table 5A.6 provides evidence that this is the case. For each year, the coefficients for unemployment, homeownership, and poverty status predict moving locally in these expected ways. Thus, given that these Great Recession-related variables influence local moves, and that blacks and Latinos suffered disproportionately from the Great Recession (that is, they displayed worse outcomes among these variables, as demonstrated in table 5.5), it should be expected that these variables will account for some of the racial gaps in moving locally, especially during the Great Recession.

Figure 5.11 (first panel) presents the baseline models that include only dummy variables for race-ethnicity (with non-Hispanic whites as the reference category). The coefficient results for Asians are not reported because few were statistically significant. In the figure, the coefficient for blacks in 2000 indicates a gap in local moves between blacks and whites of about 3.8 percentage points. This gap increased in 2010, at the height of the Great Recession, to 5.4 percentage points. The magnitudes of these gaps are identical to those shown in table 5.5. A similar pattern of increasing disparities is observed between Latinos and whites over this period.

The second set of coefficients in figure 5.11 reflects the inclusion of controls for homeownership, poverty, and employment status.³² The inclusion of these controls eliminates racial gaps in local moves between blacks and whites, and between Latino and whites, over the period of the Great Recession.³³ There are two possible explanations. The first is that the influence of these factors related to the Great Recession on local moves could have increased in importance during the recession (relative to the preceding period). That is, these variables are likely to influence local moves more generally, but their coefficients could have increased in importance during the Great Recession, even if these groups experienced (hypothetically) only slight changes in unemployment, poverty, or loss of homeownership over this period.

The second explanation is that unemployment, homeownership, and poverty could have always influenced local moves in a consistent way over time, but that these groups experienced increases in unemployment, poverty, or loss of homeownership over this period (as demon-

stated in table 5.5) as a result of the recession. This would result in greater racial gaps in moving locally. That is, the effect (the coefficients) of these variables could be constant over time, while the means of these variables increased over time, such that exposure to the risk of moving increased over this period.

The evidence in figure 5.11 (see also appendix table 5A.6) is consistent with both explanations. I believe that the former is a more plausible explanation of the role of homeownership. The latter more plausibly explains the influence of unemployment and poverty, however, because, as table 5A.6 indicates, the influence of unemployment and poverty on local moves remained consistent over the three periods in the 2000s decade. For example, the data show that those who were unemployed (relative to those who were employed) were more likely to move locally by about 1.3 percentage points. The magnitude of this coefficient is similar in 2000, 2008, and 2010. On the other hand, the influence of homeownership on local moves strengthened during the Great Recession. In 2000 and 2008, periods before the Great Recession, the coefficient for homeownership is about 0.13, indicating that homeowners were thirteen percentage points less likely to move than their non-homeowning counterparts. The negative influence of homeownership on moving strengthened, however, in 2010, during the Great Recession. Note that homeownership rates declined over this period, especially for blacks.

Hence, variables such as unemployment, poverty, and homeownership status appear to have always influenced local moves and account for much of the racial and ethnic gap in local moves during this period, though in differing ways. Housing-related factors led to the increase in racial gaps in local moves by the height of the Great Recession in 2010 as a result of both the increased likelihood of moving locally for those who did not own homes as well as the increased loss in homeownership status by blacks and Latinos (especially relative to whites) over this period.

On the other hand, unemployment- and poverty-related factors led to the increase in racial gaps in local moves by the height of the Great Recession because, over time, and irrespective of recessions, the unemployed or impoverished have a fairly constant risk of moving locally. During the recession, more blacks and Latinos became unemployed and impoverished. Moreover, though not shown here, there is evidence that housing-related factors are more important than unemployment or poverty status in accounting for these racial gaps in moving locally, a finding consistent with results reported earlier.³⁴

SOURCES OF VARIATION ACROSS REGIONS

So far, local moves have been examined mostly at the national level. Such moves, however, occur in specific places, and these places are likely to vary in the extent to which people move locally more generally and the extent to which they did so during the Great Recession. Moreover, the previous analysis used individual-level data to assess whether and to what extent the Great Recession influenced local moves by examining individual characteristics, such as homeownership status, that were likely to be directly affected by the forces of the Great Recession. This is a reasonable approach, but it cannot assess directly how the changes in the larger economic environment influenced local moves. The Great Recession led to a number of specific concerns, including high unemployment, record foreclosures, and other measures of economic pain such as loss in income and wealth and disruptions in the stock market. The impacts of the Great Recession on local economic environments are likely to have varied as well, with some places hit harder than others and local moves correspondingly affected. This section examines the variation in local move rates across places, as well as whether some measures of the local economic environment that were significantly affected by the Great Recession, such as unemployment and foreclosure rates, influenced local moves in expected directions.

Ranking Metropolitan Areas by Local Move Rates

First, local areas are ranked by their local move rates during the Great Recession to assess those areas with high and low local move rates. I use the American Community Survey to do this because the CPS is not designed to sample smaller geographic areas. The much larger sample size of the ACS allows for analysis of local movers in areas with populations above 50,000, and like the CPS, it uses a relatively full set of demographic variables. Moreover, with its one-year migration question, the ACS measures movers in the same way as in the CPS—that is, it measures the number of respondents age eighteen or older who responded affirmatively to the question of whether they had moved in the year prior to the survey. Again, the move rate is determined by taking the fraction of the total relevant population who moved over the past year.

Another issue in using the ACS is that it provides reliable data for local movers only at the metropolitan level; the CPS asks about within-county moves.³⁵ While some metro areas overlap perfectly with county lines, this is not always the case, so local movers are not perfectly comparable across the two surveys. Still, these local areas share much common geographic turf, since some metro areas are counties or comprise contiguous counties; thus, comparison of move rate estimates using these two data sets did not provide cause for concern.³⁶

Tables 5.6 and 5.7 use data from the ACS and look behind the aggregate national values to rank the top and bottom twenty-five of the one hundred largest U.S. metropolitan areas, respectively, in the percentage of residents who moved in the local metro area in 2010, as well as the change in this percentage from 2008.³⁷ These years were selected because 2008 represents the onset of the Great Recession, and 2010 was the height of it. Also, this period represented the biggest percentage change in local move rates (and movers) over the 2005–2010 period.³⁸ Data limitations also played a role: the ACS series begins in 2005, and foreclosure data at the metro level are not readily available until 2007. In addition, unemployment and foreclosure data for each metro area in the list are presented for the relevant years to provide an initial assessment of whether such factors are correlated with local move rates in the expected direction.³⁹

Table 5.6 shows that the top metro areas with respect to local move rates are mostly located in the West and South. Las Vegas, Phoenix, and many metropolitan areas in California and Texas are some of the metro areas with the highest movement of residents. Many states in the West and South suffered disproportionate job losses and foreclosures during the Great Recession, in particular Nevada, Arizona, Florida, and California. At the end of the 2000s decade, nearly 20 percent of Las Vegas residents, or one in five, had moved over the previous year.

On the other hand, an overwhelming majority of the metro areas with the lowest local move rates were in the Northeast, including Bridgeport, Connecticut; Pittsburgh, Philadelphia, and New York, among others, followed by Southern metro areas. Still, these local move rate differences correlate with the long-standing regional differences in move rates noted earlier in the chapter, so care must be taken in attributing the observed metropolitan differences in move rates to factors related to the Great Recession.

Unemployment and foreclosure rates indicate an initial positive correlation with these local move rates. The highest absolute unemployment and foreclosure rates are found among the twenty-five metro areas with the highest local move rates. Also, average unemployment and foreclosure rates are higher in those top twenty-five areas than in the twenty-five metro areas with the lowest local move rates. For example, the average unemployment rate among the top twenty-five metro areas for local move rates is 11.5 percent, while the average rate among the bottom twenty-five areas is 9.6 percent.

Table 5.7 ranks the top and bottom twenty-five of the one hundred largest U.S. metropolitan areas in terms of the change in the percentage of people who moved within those metro

TABLE 5.6 Top and Bottom Twenty-Five Metropolitan Areas Ranked by Within-Metropolitan Area Move Rate, 2010

Top Twenty-Five	Move	Unemployed	Foreclosed	Bottom Twenty-Five	Move	Unemployed	Foreclosed
Las Vegas–Paradise, Nev.	19.3%	15.1%	13.1%	San Francisco–Oakland–Fremont, Calif.	9.9%	10.5%	3.6%
Austin–Round Rock, Tex.	16.0	6.5	1.8	Greenville–Mauldin–Easley, S.C.	9.9	13.9	3.8
Phoenix–Mesa–Scottsdale, Ariz.	15.7	9.3	6.5	Boston–Cambridge–Quincy, Mass./N.H.	9.9	8.4	3.5
Stockton, Calif.	15.3	16.3	6.5	Buffalo–Niagara Falls, N.Y.	9.8	8.4	4.7
Bakersfield, Calif.	15.3	22.1	6.8	Greensboro–High Point, N.C.	9.5	12.1	3.9
Modesto, Calif.	15.0	21.7	6.4	New Orleans–Metairie–Kenner, La.	9.4	3.7	6.1
Sacramento, Calif.	14.5	12.2	5.2	Augusta–Richmond County, Ga./S.C.	9.4	10.7	4.4
Provo–Orem, Utah	14.2	5.6	3.9	Baltimore–Towson, Md.	9.3	8.4	3.9
Tucson, Ariz.	14.0	12.7	4.4	Hartford–West Hartford–East Hartford, Conn.	9.1	8.6	3.9
San Antonio, Tex.	13.6	5.7	2.8	Washington, D.C./Va./Md./W.Va.	9.0	7.9	3.3
Columbus, Ohio	13.5	10.1	6.4	Worcester, Mass.	9.0	10.1	5.4
Milwaukee–Waukesha, Wisc.	13.5	11.7	5.7	Allentown–Bethlehem–Easton, Penn./N.J.	8.9	7.9	5.5
Atlanta–Sandy Springs–Marietta, Ga.	13.4	11.3	5.4	Knoxville, Tenn.	8.7	8.9	3.4
Cape Coral–Fort Myers, Fla.	13.4	14.9	15.1	Honolulu, Hawaii	8.5	5.9	3.9
Seattle–Tacoma–Bellevue, Wash.	13.3	8.9	4.1	Providence–New Bedford, R.I./Mass.	8.5	12.9	5.9
Ogden–Clearfield, Utah	13.2	8.7	3.8	New Haven–Milford, Conn.	8.3	8.2	5.6
Salt Lake City, Utah	13.2	10.5	4.5	Scranton–Wilkes-Barre, Penn.	8.2	7.8	5.8
Memphis, Tenn./Miss./Ark.	13.1	9.0	7.7	Albany–Schenectady–Troy, N.Y.	8.1	9.3	5.7
Dallas–Fort Worth–Arlington, Tex.	13.0	9.3	3.3	New York–Northern New Jersey, N.Y./N.J./Penn.	8.1	10.1	7.1
Grand Rapids–Wyoming, Mich.	12.9	13.5	3.6	Youngstown–Warren–Boardman, Ohio/Penn.	7.9	18.3	9.7
Riverside–San Bernardino, Calif.	12.9	16.4	6.8	Akron, Ohio	7.9	14.1	7.9
Little Rock–North Little Rock, Ark.	12.7	7.7	4.5	Philadelphia–Camden, Penn./N.J./Del./Md.	7.9	9.8	5.3
Nashville, Tenn.	12.6	7.8	4.2	Pittsburgh, Penn.	7.6	11.2	4.5
Houston–Sugar Land–Baytown, Tex.	12.4	9.8	2.9	Bridgeport–Stamford–Norwalk, Conn.	5.5	8.3	5.0
Birmingham–Hoover, Ala.	12.3	10.1	4.4	Chattanooga, Tenn./Ga.	2.8	4.9	5.6

Source: Author's calculations using the 2010 American Community Survey (ACS).

TABLE 5.7 Top and Bottom Twenty-Five Metropolitan Areas Ranked by Change in Within-Metropolitan Area Move Rate, 2008–2010

Top Twenty-Five	Move	Unemployed	Foreclosed	Bottom Twenty-Five	Move	Unemployed	Foreclosed
Cape Coral–Fort Myers, Fla.	4.2%	4.9%	4.2%	Honolulu, Hawaii	-0.7%	3.2%	2.1%
San Jose–Sunnyvale–Santa Clara, Calif.	3.5	7.3	0.3	Toledo, Ohio	-0.8	11.1	-3.4
Las Vega–Paradise, Nev.	3.4	9.6	3.2	Virginia Beach–Norfolk, Va./N.C.	-0.8	5.6	-0.1
Bakersfield, Calif.	2.7	12.6	3.7	Raleigh–Cary, N.C.	-0.9	3.1	0.1
Provo–Orem, Utah	2.6	2.6	1.2	Buffalo–Niagara Falls, N.Y.	-0.9	-2.7	0.2
San Francisco–Oakland–Fremont, Calif.	2.5	5.7	0.1	Youngstown–Warren, Ohio/Penn.	-1.0	10.2	0.0
Phoenix–Mesa–Scottsdale, Ariz.	2.5	5.8	0.0	Jacksonville, Fla.	-1.0	11.2	3.7
Los Angeles–Long Beach–Santa Ana, Calif.	2.4	0.3	5.2	Little Rock–North Little Rock, Ark.	-1.1	3.9	1.1
Omaha–Council Bluffs, Neb./Iowa	2.3	3.9	-1.1	Albuquerque, N.M.	-1.1	4.1	1.6
Salt Lake City, Utah	2.1	4.9	1.9	Albany–Schenectady–Troy, N.Y.	-1.2	4.3	1.9
Ogden–Clearfield, Utah	2.1	3.1	0.1	Des Moines–West Des Moines, Iowa	-1.4	6.1	0.0
Milwaukee–Waukesha–West Allis, Wisc.	2.0	7.6	-1.3	Syracuse, N.Y.	-1.7	1.4	2.1
Miami–Fort Lauderdale–Pompano Beach, Fla.	1.9	4.7	9.5	Augusta–Richmond County, Ga./S.C.	-1.7	5.3	-1.3
Austin–Round Rock, Tex.	1.9	1.8	-0.1	Greenville–Mauldin–Easley, S.C.	-1.8	10.8	-0.2
Grand Rapids–Wyoming, Mich.	1.9	8.8	-2.5	Knoxville, Tenn.	-2.0	2.4	-0.7
Palm Bay–Melbourne–Titusville, Fla.	1.8	7.9	3.9	Memphis, Tenn./Miss./Ark.	-2.0	0.8	1.2
Charleston–North Charleston, S.C.	1.6	4.9	0.0	Lakeland–Winter Haven, Fla.	-2.2	16.0	4.3
Minneapolis–St. Paul, Minn./Wisc.	1.6	4.1	-1.6	Baton Rouge, La.	-2.3	4.0	-0.1
Modesto, Calif.	1.5	12.3	-4.5	Colorado Springs, Colo.	-2.4	5.0	-2.6
Harrisburg–Carlisle, Penn.	1.5	7.2	0.2	El Paso, Tex.	-2.4	7.2	-2.5
Stockton, Calif.	1.4	7.7	-5.1	Dayton, Ohio	-2.7	1.2	-1.3
Seattle–Tacoma–Bellevue, Wash.	1.1	4.9	2.2	Madison, Wis.	-2.8	4.7	2.3
Oxnard–Thousand Oaks–Ventura, Calif.	1.1	4.9	-1.5	Jackson, Miss.	-3.1	2.1	-0.2
Hartford–West Hartford–East Hartford, Conn.	1.0	2.1	0.0	Boise City–Nampa, Idaho	-3.2	7.5	1.4
New York–Northern New Jersey, N.Y./N.J./Penn.	0.8	3.4	5.5	Wichita, Kans.	-4.3	2.4	-0.1

Source: Author's calculations using the 2008 and 2010 ACS.

areas from 2008 to 2010. Like table 5.6, almost all of the metro areas with the greatest change in this percentage were located in the West, and to a lesser extent in the South, including Fort Myers, Florida; Las Vegas, Nevada; and Bakersfield, California—areas known to have been particularly hard hit by the job and housing crises fueled by the Great Recession.

On the other hand, metro areas with the smallest (or negative) changes in these move rates were mostly found in the South, including Jackson, Mississippi; El Paso, Texas; and Baton Rouge, Louisiana, followed by metro areas in the Northeast. Moreover, an initial review indicates that changes in unemployment and foreclosure rates are correlated with changes in local move rates in the expected direction. For example, the average changes in the unemployment and foreclosure rates over the period are higher in the top twenty-five metro areas with the highest local move rates than in the bottom twenty-five.

We turn now to an exploration of the strength of the association between local move rates and indicators of the impact of the Great Recession, such as unemployment and foreclosure rates.

Metropolitan-Area Local Move Rates and the Great Recession

The central question is whether and to what extent the Great Recession influenced local move rates. The recession was characterized by high levels of unemployment and foreclosures, among other factors. To the extent that the recession influenced an uptick in local moves, there are two ways in which it may have done so: first, the influence of factors such as unemployment and foreclosures may have increased in importance during the recession; second, considering that unemployment and foreclosures have always predicted local moves, when more people live in metro areas where the risk of becoming unemployed or losing their home (as occurred during the Great Recession) is higher, more local moves are likely to occur as well.

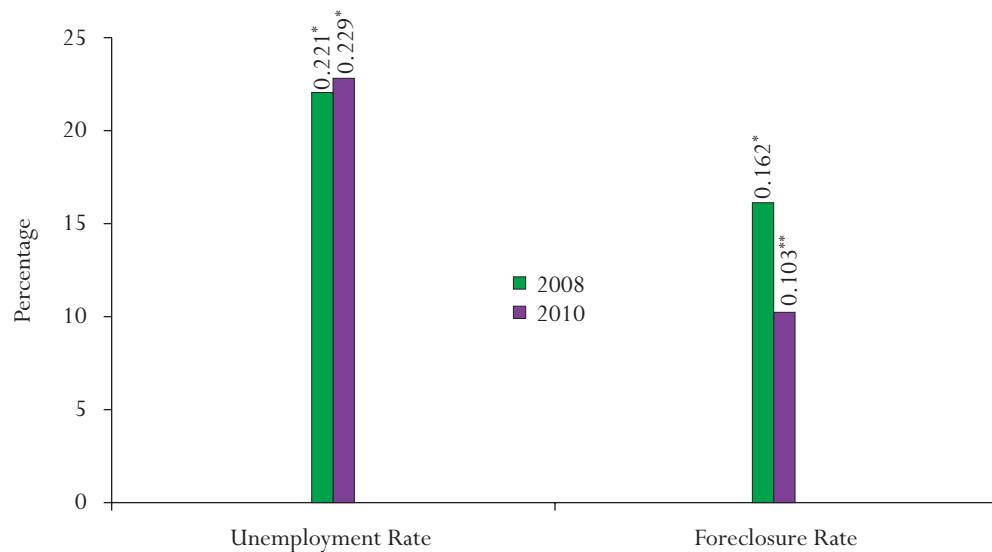
I tested these two possibilities using regression analysis. I estimated regressions of local move rates as a function of local unemployment and foreclosure rates in both 2008 and 2010.⁴⁰ Did economic predictors become more important during the Great Recession than before, or was the increase in local move rates driven simply by the changing economic risks?⁴¹

Figure 5.12 presents OLS regressions of the local move rates in 2008 and 2010 for the total population for the one hundred largest metro areas as a function of unemployment rates in the appropriate periods.⁴² I also estimated separate regressions of the local move rates in 2008 and 2010 as a function of the foreclosure rate.⁴³ Thus, each bar represents a separate regression, and the coefficient estimates for either the unemployment or foreclosure rate for the relevant period are presented.⁴⁴

All regressions include control variables for a set of metropolitan area characteristics: metro area size, region, percentage of the population that is black (Latino), age sixty-five or older, or in possession of four or more years of college, median income, and the industrial composition of the workforce. The inclusion of these control variables, however, does not alter the basic findings presented here.

Figure 5.12 shows a positive and statistically significant relationship between overall local move rates and local unemployment rates in both 2008 and 2010, and it is nearly identical in both periods. The coefficients indicate that a ten-percentage-point increase in the local unemployment rate is predicted to increase the local move rate by about 2.2 points. This prediction is close to the actual changes in the local move rate and unemployment rate from 2008 to 2010 observed in the ACS data. The average metropolitan move rate increased from 2008 to 2010 by a little over one percentage point (from 11.4 to 12.6 percent), while the average unemployment rate for the metropolitan areas in the sample rose by about five percentage points (from 5.3 to 10.3 percent) between 2008 and 2010.

FIGURE 5.12 *Effects of Unemployment and Foreclosure Rates in 2007 and 2009 on Move Rates in 2008 and 2010 (with Controls)*



Source: Author's calculations using the 2008 and 2010 American Community Survey (ACS).

*Statistically significant at $p < 0.05$.

**Statistically significant at $p < 0.01$.

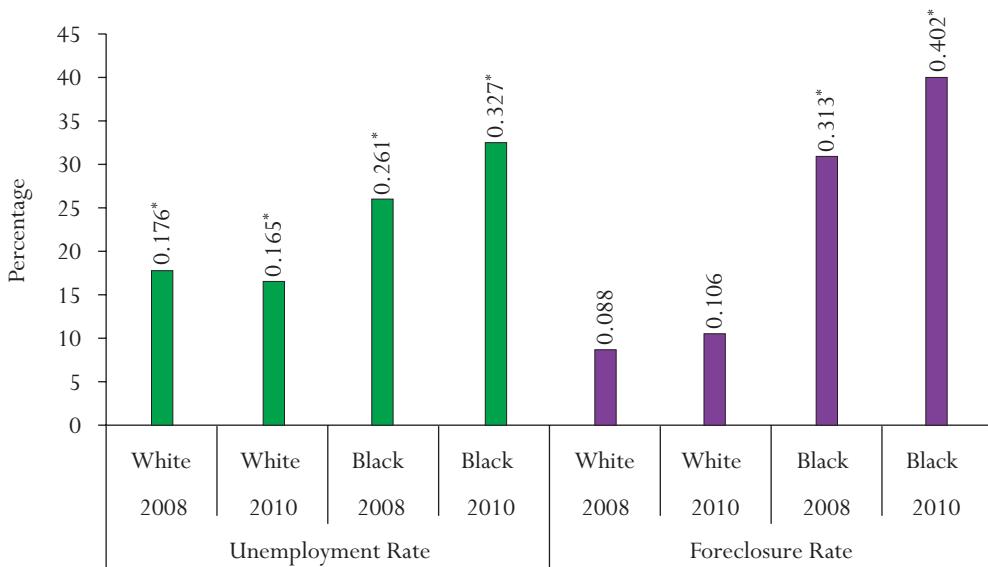
Figure 5.12 also shows a positive and statistically significant relationship between local move rates and local foreclosure rates in both 2008 and 2010. However, the coefficient in 2008 is larger than that in 2010. The 2008 coefficient indicates that a ten-percentage-point increase in the local foreclosure rate is predicted to increase the local move rate by 1.6 points. The average metropolitan foreclosure rate increased from 2008 to 2010 by a little over two percentage points (from 3.6 to 5.8 percent), while, as noted previously, the average metropolitan move rate increased from 2008 to 2010 by a little over one percentage point (from 11.4 to 12.6 percent).

This evidence is consistent with the conclusion that the Great Recession, especially in the case of unemployment, led to increases in local move rates. The influence of unemployment on moving did not change, but moving increased because of the rise in unemployment.⁴⁵ The effect of foreclosures declined somewhat even though the rate at which people lost their homes to foreclosure increased.⁴⁶

I conclude that the unemployment rate is a stronger predictor of local moves than foreclosures. However, a region's foreclosure rate measures only one kind of housing market challenge—the point at which a bank takes ownership of a home. It does not measure other housing challenges, such as the affordability of rent or short sales by homeowners, which are better captured in the individual-level measures used in the previous section.

Given the large racial differences in observed local move rates and the finding that blacks and, to a lesser extent, Latinos helped fuel the increase in local move rates, figure 5.13 presents similar regressions using 2008 and 2010 data for racially specific measures of local move rates. (Only the results for whites' and blacks' metro area move rates are shown since none of these results are significant for Latinos or Asians. There is no evidence that local unemployment or

FIGURE 5.13 Effects of Unemployment and Foreclosure Rates in 2007 and 2009 on Move Rates in 2008 and 2010 (Separate Equations for Whites and Blacks, with Controls)



Source: Author's calculations using the 2008 and 2010 ACS.

*Indicates statistically significant at $p < 0.10$.

foreclosure rates influenced the local move rates of Latinos and Asians in either 2008 or 2010.) Each bar in figure 5.13 represents a separate regression for each year and each racially specific local move rate measure.

There are three key findings. First, there are positive and statistically significant relationships between local move rates and local unemployment rates in both 2008 and 2010 for blacks and whites. Metropolitan areas with higher unemployment rates are predicted to have higher move rates for both races.

Second, the pattern of results across the two time periods is different for these groups. For whites, the magnitude of the unemployment rate coefficient is nearly identical in both periods. This indicates that whites who lived in areas with higher unemployment rates faced the same propulsion to move in 2008 as in 2010. More whites moved in 2010 than in 2008 because the unemployment risk increased in metropolitan areas over this period. For blacks, on the other hand, the magnitude of the unemployment rate coefficient is greater in 2010 than in 2008.⁴⁷ This indicates that the increase in blacks' local move rates was driven both by their exposure to higher unemployment risks and by the greater influence of unemployment on moving during the Great Recession than before it.

Third, in each year the impact of the unemployment rate on moving was greater for blacks than for whites.⁴⁸ Blacks may have had less money in savings or less wealth to shield them during periods of increased risks of joblessness; they may have had fewer family members who could contribute or mitigate the impacts; they may have taken on greater debt from refinancing or subprime mortgages; or they may have had greater expenses. All of these possible reasons would exert more pressure to move as a result of the unemployment shock.

The same pattern is noted for foreclosures. Figure 5.13 shows very little influence of foreclosure rates on whites' local move rates. This effect is statistically significant for blacks, however, and the coefficient estimate is larger in 2010 than in 2008. On the one hand, the foreclosure crisis hit African Americans and Latinos harder than whites. On the other hand, the greater risk of foreclosure (represented by higher foreclosure rates in the metropolitan area) was more likely to force blacks to move. Foreclosure is a process that can last as long as two years. During that time, homeowners may be paying rent, or living in the house without paying rent, or negotiating a reduced payment schedule or short sale. White owners may be better able to extend the foreclosure process and possibly even avoid eviction.⁴⁹

CONCLUSION

By the end of the 2000s decade, there was a shift from long-distance to local moves in the United States. Interstate migration had slowed to a crawl, while local residential movement had increased to its highest level in over a decade. This increase was fueled to some extent by black and, to a lesser extent, Latino movers, and local move rates were fairly high by the end of the decade in metropolitan areas known to have been hit particularly hard by the Great Recession. Indeed, in some metro areas with the highest move rates in 2010, nearly one in five residents moved in one year.

Did the Great Recession contribute to this increase in local moves? The evidence presented here makes a strong case that it did. During the recession, local movers were more likely than before to report recession-related reasons for their move, such as to find affordable housing or to look for work. At the level of individuals, local movers were more likely than nonmovers to be poor, unemployed, and renters over the period of the Great Recession. Moreover, as the recession continued, movers remained more likely to cite these reasons related to housing and job difficulties as their reasons for moving.

At the metropolitan level, further statistical analysis of local movers highlighted the recession's impact as well. In particular, local areas with higher unemployment and foreclosure rates had higher move rates. Unemployment limits income and therefore people's ability to afford current housing, thus prompting moves. Moreover, the evidence strongly indicates that local unemployment rates have a fairly consistent effect on local moves over time, so that the increase in local moves during the Great Recession resulted from more people becoming unemployed and facing a similar risk of moving during this period.

These effects hit African Americans and Latinos particularly hard. Indeed, the increase in local moves over this period was driven almost entirely by these groups, leading to increased racial gaps in local move rates by the end of the decade. Local unemployment and foreclosure rates strongly predict blacks' local move rates, and these effects were stronger during the recession than before it.

The consequences of the increase in local moves are likely to have been both short- and longer-term. At the individual level, to the extent that the Great Recession spurred many to move as a last resort, the short-term costs must have been severe. The immediate disruption to daily (family) life, the psychological pain of losing one's home, and the direct monetary and nonmonetary costs of moving and setting up anew were surely difficult. To the extent that those who moved doubled up with family or friends for either the short or longer term, additional costs in the form of lost privacy and greater sharing of space and resources would have been borne by those who took them in, even while economies from living together would have provided some benefits. These impacts would compound the pressures already faced by the economically marginal, who are more likely to move locally and who did so to a greater degree during the recession.

For homeowners who could no longer afford their homes or who lost them to foreclosure, the short- to medium-term costs would have been no less severe. Credit scores would have taken a negative hit for those who suffered foreclosure and even short sales. Moreover, renting would have become more expensive as more people searched for rentals whose supply could not grow appreciably in the short term. Those with credit problems surely faced even more obstacles to renting. Finally, banks and federal regulators made credit standards and down-payment requirements more rigorous and demanding; thus, for those who hoped to own a home again, it would have become even more difficult to regain that part of the American dream.

Communities are likely to have suffered short-term costs as well, particularly in those areas where move rates increased the most. To the extent that these moves were driven by those losing ownership of their homes, communities surely suffered, at minimum, from vacated properties, neighborhood deterioration, and the loss of municipal income and therefore services.

The longer-term consequences are less clear. For communities, market-based responses over the longer term should mitigate the long-term or permanent economic distress caused by the Great Recession from its impact on local moves. Vacated properties eventually become either realistically available for those who previously could not afford homes or bargains for investors, who may rehabilitate and refurbish them, thus helping to restore market and neighborhood stability and the local tax base. Federal policies such as the Neighborhood Stabilization Program (NSP) have also provided resources to communities hit hard by the Great Recession, with the goal of increasing neighborhood social and economic stability.

Of greater concern is that those who move locally are more likely than nonmovers to have children (though, fortunately, the share of those moving with children did not increase during the recession). There are likely to be negative long-term consequences of such moves for children. Forced moves lead to negative outcomes for children mostly through school performance (as a result of school disruption) and behavioral adjustments.⁵⁰ Yet there is considerable evidence from some studies that the long-term effects of residential disruption on adults are modest.⁵¹ In the same way, the residential mobility of the poor to more prosperous areas has little positive long-term impact on adults.⁵² Having to move could lead to more affordable housing options in the longer run (or housing better matched to income), thus allowing those who have moved to save more money, invest in productive activities, or make other compensatory adjustments.

Historically, many Americans have moved to improve their lives. In the Great Recession, more people moved locally just to cope with their losses.

APPENDIX

TABLE 5A.1 *Interregional Migration Before and During the Great Recession*

Moved To:	Moved From:							
	Northeast		Midwest		South		West	
	Before	During	Before	During	Before	During	Before	During
Northeast	0.594	0.465	0.053	0.075	0.101	0.180	0.057	0.070
Midwest	0.057	0.097	0.570	0.421	0.133	0.151	0.123	0.160
South	0.261	0.315	0.200	0.281	0.603	0.520	0.126	0.230
West	0.087	0.124	0.177	0.223	0.164	0.149	0.694	0.540

Source: Data from the 2000 to 2010 CPS.

Notes: Before the recession is 2000–2007 and during is 2008–2010.

TABLE 5A.2 *Difference-in-Difference Estimates by Race-Ethnicity: Within-County Movers Versus Nonmovers and Before Versus During the Great Recession*

	Before			During			Difference-in-Difference
	Nonmovers	Movers	Difference	Nonmovers	Movers	Difference	
White							
Unemployed	0.024	0.051	0.027*	0.037	0.080	0.043*	0.016*
Homeowners	0.820	0.443	-0.377*	0.808	0.360	-0.448*	-0.071*
Poverty	0.073	0.156	0.083*	0.078	0.192	0.114*	0.031*
Black							
Unemployed	0.046	0.100	0.054*	0.064	0.129	0.065*	0.011*
Homeowners	0.573	0.222	-0.351*	0.555	0.167	-0.388*	-0.037*
Poverty	0.215	0.331	0.116*	0.219	0.360	0.141*	0.025*
Latino							
Unemployed	0.035	0.064	0.029*	0.056	0.095	0.039*	0.010*
Homeowners	0.545	0.268	-0.277*	0.558	0.181	-0.377*	-0.100*
Poverty	0.201	0.278	0.077*	0.209	0.329	0.120*	0.043*
Asian							
Unemployed	0.025	0.040	0.015*	0.033	0.050	0.017*	0.002
Homeowners	0.662	0.389	-0.273*	0.682	0.306	-0.376*	-0.103*
Poverty	0.100	0.165	0.065*	0.109	0.182	0.073*	0.008

Source: Data from the 2000 to 2010 CPS.

Notes: Before the recession is 2000–2007 and during the recession is 2008–2010.

* $p < 0.05$

TABLE 5A.3 *Characteristics of Those Who Moved Within Counties Before and During the Great Recession, by Race-Ethnicity*

	White		Black		Latino		Asian	
	Before		During		Before		During	
	Before	During	Before	During	Before	During	Before	During
Age								
Eighteen to twenty-five	0.258	0.266	0.253	0.235	0.281	0.268	0.199	0.193
Twenty-six to thirty-five	0.335	0.332	0.343	0.337	0.400	0.391	0.398	0.406
Thirty-six to forty-five	0.303	0.285	0.331	0.340	0.267	0.288	0.317	0.309
Forty-six to sixty-five	0.055	0.066	0.044	0.055	0.033	0.033	0.046	0.054
Older than sixty-five	0.050	0.051	0.029	0.032	0.019	0.021	0.041	0.040
Education								
Less than high school	0.117	0.107	0.200	0.183	0.433	0.394	0.104	0.098
High school degree	0.316	0.312	0.401	0.385	0.299	0.315	0.207	0.195
Some college	0.314	0.320	0.285	0.309	0.189	0.197	0.235	0.249
College graduate or more	0.253	0.261	0.114	0.123	0.080	0.094	0.454	0.458
Labor market								
Employed	0.743	0.685**	0.652	0.587**	0.713	0.662**	0.698	0.677
Unemployed	0.048	0.081	0.101	0.133	0.064	0.098	0.040	0.051
Not in labor force	0.209	0.235	0.247	0.280	0.224	0.240	0.262	0.272

(continued on p. 170)

TABLE 5A.3 *Continued*

	White		Black		Latino		Asian	
	Before	During	Before	During	Before	During	Before	During
Poor	0.147	0.186*	0.290	0.321*	0.241	0.291*	0.152	0.180*
Homeowner	0.429	0.352*	0.229	0.177*	0.261	0.178*	0.375	0.292*
Married	0.408	0.394	0.258	0.230	0.468	0.431	0.538	0.521
Male	0.484	0.491	0.432	0.444	0.528	0.534	0.508	0.477
Foreign-born	0.053	0.047	0.079	0.087	0.606	0.583	0.778	0.744
Recent immigrant	0.014	0.012	0.024	0.027	0.202	0.189	0.247	0.242
Median income (in 2009 dollars)	\$32,732	\$34,352	\$23,093	\$25,862	\$22,646	\$23,914	\$35,640	\$37,238
Children under age five	0.165	0.156	0.198	0.186	0.263	0.246	0.189	0.187
Retired	0.028	0.024	0.013	0.013	0.006	0.005	0.010	0.011
Disability	0.020	0.022	0.025	0.030	0.011	0.011	0.010	0.010
Enrolled in school	0.089	0.097	0.076	0.078	0.054	0.061	0.110	0.112
Nonmetropolitan area	0.178	0.163	0.096	0.073*	0.069	0.062	0.035	0.030
Region								
Northeast	0.150	0.139	0.128	0.110	0.108	0.102	0.144	0.149
Midwest	0.259	0.262	0.212	0.200	0.091	0.077	0.124	0.119
South	0.326	0.345	0.552	0.575	0.374	0.381	0.212	0.213
West	0.264	0.255	0.109	0.115	0.426	0.440	0.519	0.520

Source: Author's calculations using the 2000 to 2010 CPS.

*Difference before/during recession significant at $p < 0.05$.**Chi-square distribution of variable before/during recession significant at $p < 0.05$.

TABLE 5A.4 *Major Reasons for Moves Within Counties Before and During the Great Recession, by Race-Ethnicity*

	White		Black		Latino		Asian	
	Before	During	Before	During	Before	During	Before	During
Demographic/life cycle	0.294	0.332	0.290	0.313	0.269	0.285	0.223	0.256
To take new job	0.020	0.025	0.017	0.017	0.025	0.026	0.025	0.052
To look for work	0.049	0.077	0.051	0.080	0.062	0.093	0.069	0.109
To own home/find better neighborhood	0.400	0.291	0.383	0.296	0.411	0.293	0.471	0.345
To find cheaper housing	0.203	0.213	0.227	0.253	0.214	0.268	0.190	0.192
Other	0.034	0.064	0.032	0.041	0.019	0.035	0.023	0.044

Source: Author's calculations using the 2000 to 2010 CPS.

Note: Chi-square test for distribution across categories before/during recession is significant at $p < 0.05$ for all groups.

TABLE 5A.5 *Racial Differences in Means of Recession-Related Variables over 2000s Decade*

	Local Move	Unemployed	Homeowner	Poverty
Black-white				
2000	0.038*	0.028*	-0.230*	0.121*
2008	0.043*	0.033*	-0.221*	0.120*
2010	0.054*	0.050*	-0.256*	0.127*
Latino-white				
2000	0.034*	0.024*	-0.284*	0.116*
2008	0.035*	0.021*	-0.262*	0.104*
2010	0.048*	0.034*	-0.265*	0.124*
Asian-white				
2000	0.030*	0.004*	-0.184*	0.030*
2008	0.011	-0.002	-0.145*	0.020
2010	0.016	-0.005	-0.132*	0.031*

Source: Author's calculations using the 2000 to 2010 CPS.

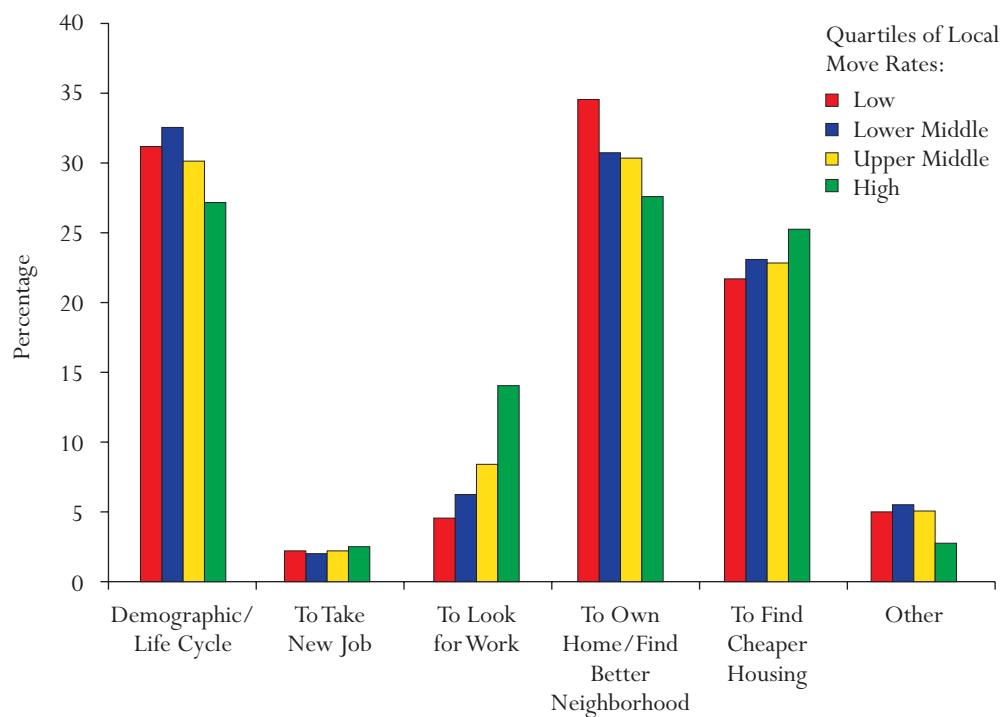
*Racial difference significant at $p < 0.05$.

TABLE 5A.6 *Effects of Recession-Related Variables Predicting Moves Within County, 2000–2010*

	2000–2010	2000	2008	2010
Race (white is reference)				
Black	0.040*	0.038*	0.043*	0.054*
Latino	0.041*	0.034*	0.035*	0.048*
Asian	0.014*	0.030*	0.011	0.016
Homeowner	—	—	—	—
Poverty	—	—	—	—
Unemployed	—	—	—	—
Demographics controlled	No	No	No	No
N	1,412,326	88,658	130,134	131,639
Race (white is reference)				
Black	-0.001	-0.004	-0.001	-0.001
Latino	0.002*	0.011*	-0.003	-0.003
Asian	-0.009*	0.002	-0.013*	-0.007*
Homeowner	-0.138*	-0.131*	-0.135*	-0.158*
Poverty	0.043*	0.045*	0.045*	0.042*
Unemployed	0.013*	0.013*	0.014*	0.013*
Not in labor force—standard reason	-0.043*	-0.047*	-0.043*	-0.042*
Not in labor force—other reasons	-0.051*	-0.053*	-0.051*	-0.050*
N	1,412,326	88,658	130,134	131,639

Source: Author's calculations using the 2000 to 2010 CPS.

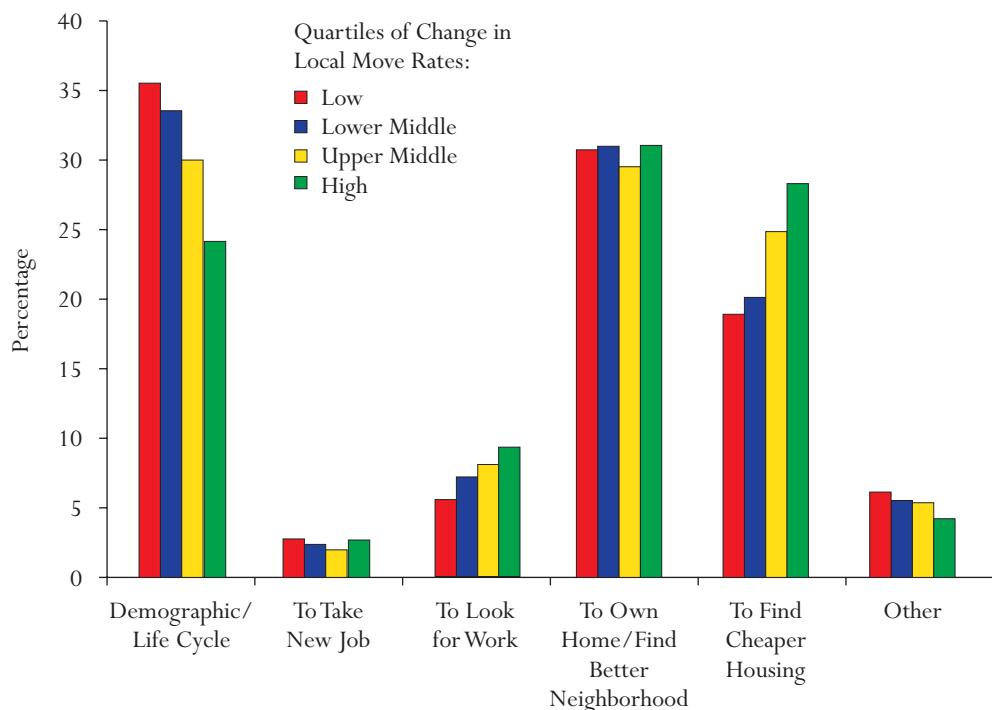
* $p < 0.05$.

FIGURE 5A.1 *Reasons for Local Moves in 2010, by Level of Local Move Rates in 2010*

Source: Author's calculations using the 2010 March CPS.

Note: Chi-square distributions are statistically different at least the 5 percent level across local move rate levels.

FIGURE 5A.2 *Reasons for Local Moves Between 2008 and 2010, by Change in Level of Local Move Rates Between 2008 and 2010*



Source: Author's calculations using the 2008 and 2010 March CPS.

Note: Chi-square distributions are statistically different at at least the 5 percent level across local move rate levels.

NOTES

1. There are two basic migration questions—the one-year and five-year questions. The one-year migration question is best suited for the purposes of this study. The five-year question asks where respondents lived five years prior to the survey. This question has several measurement issues: it misses those who moved before the interceding five-year period, as well as those who may have had multiple migrations during this period, and the long time period examined may be too long to identify the push-pull factors that influenced the move. Thus, this question fails to capture those who moved in shorter time periods, perhaps in response to the major events that influenced the questions of this study.
2. The literature has historically defined the move rate with a population of those ages five and older (see Long 1988). Here I use a population that is age eighteen and older because the factors that are believed to influence moving, such as unemployment, would affect only those who are at least younger adults. However, the basic results (such as move rate estimates and reasons for moving, among others) were not significantly different when those age five to seventeen were included, nor were they significantly different when only heads of households were included in the sample.
3. There are exceptions. One-year migration questions were not asked in 1980, 1985, or 1995. The time series thus begins in 1981, and data for 1985 and 1995 are interpolated using data from the previous and next years.
4. That local movers have long made up the majority of movers in this country should be no surprise and is attributable to a variety of factors, such as moving costs and family ties (Long 1988; Quigley and Weinberg 1977).

5. To be sure, a shift to local moves from more distant ones also speaks to notions about the meaning of migration or mobility. Many have argued that there is a significant difference between migration and strictly local moving. The former is more often viewed as an avenue toward social and economic mobility and as more disruptive, often entailing a multitude of other changes such as job relocations and the need to alter social networks and the like. Shorter-distance or local moves are thought of as entailing some changes in daily habits, such as commuting, but not the more disruptive changes associated with migration (Long 1988).
 6. It is arguable that the housing boom during this period could have led to a slowdown in farther moves. The Case-Schiller home price index shows that housing prices on average reached their peak over the 2000 decade during this 2005–2007 period. The high housing prices, especially in high-flying states characterized by high population growth states whose housing prices grew astronomically over the mid-2000s such as California, could have influenced this slowdown in farther moves because of relatively higher costs of moving. Frey (2008b) shows that migration slowed in hot housing markets toward the end of the 2005–2007 period.
 7. These periods of recession are those defined by the NBER as technical recessions, or periods when there are at least two straight quarters (six months) of economic decline as measured by the gross domestic product (GDP). The period of economic hardship associated with these recessions is likely, however, to last much longer than that shown here.
 8. For those who moved within the last year, the region of residence refers to that region where they lived previous to the move, irrespective of whether the move was within county, between states, or within the state. A figure for those who moved within state is not presented since results are similar to those for between-state moves. Those who moved within state, however, are included in the total move rate calculation.
 9. Some argue that areas with greater in-migration are also likely to have higher levels of within-county migration, because in-migrants, after learning about the local housing market, are more likely to move locally (Long 1988). In-migration has been much higher in the West and South for the past couple of decades.
 10. This conclusion is based on the results of regressions of total move rates over the 2000s decade that first included dummy variables only for the region of residence, and then included demographic characteristics (listed in table 5.1) as controls. The statistically significant differences in move rates still remained across regions after inclusion of these demographic control variables, and the magnitude of the regional coefficients remained nearly identical to those in regressions without these controls. The same pattern was also observed in regressions that were estimated in periods before or during the Great Recession.
 11. Regressions similar to those described in note 10 were run except for local move rates. Once again, the statistically significant differences in local move rates remained after inclusion of these demographic control variables, and the magnitude of the regional coefficient remained nearly identical to those in regressions without these controls. Estimating these regressions for periods before or during the Great Recession did not change these results.
- In a separate analysis using local move rate data for metropolitan areas in 2010, the age of the oldest central city and unemployment rates alone can help account for almost all of the differences in metropolitan move rates across regions. Local (or within) metropolitan move rates are lower in older areas, and older metropolitan areas are found more in the Northeast, the Midwest, and, to a lesser extent, the South than in the West.
12. A related question is whether the Great Recession led to more local interstate moves, which could occur if those who moved out of state were constrained in the distance of their move by moving costs or other related factors. Appendix table 5A.1 shows interregional migration patterns over the 2000s decade before and during the Great Recession. It reports at the regional level where individuals who moved across states moved from and to. The data show the opposite of this prediction. In each region, the percentage of those who moved within region actually decreased during the Great Recession, in most instances by large amounts. For example, about 60 percent of those from the Northeast who moved between states moved to another state in the Northeast before the Great Recession, while about 47 percent did so during the Great Recession. Similar patterns are observed in each region. Thus, while overall interstate migration slowed to a crawl during the Great Recession, those who moved between states were more likely to move out of region over this period than before.
 13. Further analysis also indicates that these factors predict moving similarly for those moving within state and those moving between states; thus, for the rest of the analysis these moving categories are combined.
 14. In reality, the 2000s period could best be disaggregated into three periods: 2000–2003 (the time prior to the housing boom, characterized by a mild recession and weak recovery), 2004–2007 (the height of the housing

- boom), and 2008–2010 (the housing bust and a period of severe economic recession). Analysis demonstrates that grouping the first two periods does not change the study’s results, and thus, for the sake of simplicity and space conservation, only two periods are shown in the analysis.
15. One could argue for alternative periods that characterize “before” and “during” the Great Recession. For example, in figure 5.2 (as well as in figures 5.3 to 5.8), the share of all moves that are local began to increase sometime between 2005 and 2006. To the extent that the impacts of the oncoming recession were felt at that time and influenced local move rates, for instance, then the periods could arguably be disaggregated as 2000–2005 (or 2000–2006) and 2006–2010 (or 2007–2010). When this is done, the differences in characteristics observed in figure 5.8 become less salient, especially when the periods are defined as 2000–2005 and 2006–2010. This should be expected because the unemployment and foreclosure rates did not increase significantly until 2008, at least nationally, and thus are unlikely to show up in individual data measuring unemployment or homeownership. Also, disaggregating in this way smooths out the jump in the local move rate, thus obscuring the extent to which it increased over the period characterized as the height of the Great Recession. A concern in using these alternative timing periods based on the local moving share increasing around 2005–2006 is that the increase in this share from 2005 to 2008 was driven almost entirely by the continuing secular decline in interstate and within-state moves over this period, a decline that appears not to be strongly related to the Great Recession.
 16. Homeownership status is attributed to individuals based on household head status, irrespective of the age of individuals observed in the data.
 17. Appendix table 5A.2 provides difference-in-difference estimates of these same data by race-ethnicity. The results are largely very similar for all racial and ethnic groups, with few exceptions. For example, for Asians, only homeownership status was significant based on the difference-in-difference estimate.
 18. Educational attainment is calculated only for those who completed schooling. Median income is calculated only for those with positive income.
 19. Appendix table 5A.3 provides data on the same characteristics for local movers before and during the Great Recession by race-ethnicity. Differences in characteristics for those who moved locally before or during the recession were similar across racial-ethnic groups, with a few exceptions. There were fewer differences for Asians, while for Latinos, smaller shares of movers were immigrants and recent immigrants after the recession. This same pattern was not observed for Latino nonmovers, raising questions about the impact of the Great Recession on Latino immigrants’ decisions about local moves.
 20. Of course, this result could also occur if the population share of these groups grew over this period. The fact that similar changes were not observed for these nonmovers before and during the recession, however, makes this explanation implausible.
 21. These predetermined answers were grouped into six logical and mutually exclusive categories; thus, the data across this set of answers sum to 1.
 22. Alternatively, I stratified the CPS respondent data according to different local move rates. I calculated move rates at the local level, and then sorted these local move rates into quartiles (four equal parts). I reported individual responses to questions about why respondents moved for each quartile and then compared these responses across the different quartile levels of local move rates. These data are presented in figure 5A.1. They show that in local areas with higher overall move rates, respondents who moved were more likely to cite looking for work or looking for cheaper housing as major reasons for the move. In addition, in areas with higher move rates, they were less likely to cite looking for another home or looking for a better neighborhood as reasons for the move. I performed a similar exercise for the change in local move rates between 2008 and 2010 (figure 5A.2), and the results were very similar to these: respondents in areas where local move rates changed more significantly were much more likely to cite looking for work or looking for cheaper housing as reasons why they moved.
 23. On a year-to-year basis from 2000 to 2010, these responses remained fairly constant from 2000 to 2007, then changed significantly, starting in 2008, in the direction of those reported in the “during recession” category.
 24. A number of interesting differences emerge when these responses are compared to those from movers who went farther (either interstate or within state). First, those who moved farther were much more likely than local movers to indicate that they moved for a job or to find work, both before and during the Great Recession. Interestingly, interstate movers’ reasons for moving were no different before the Great Recession than during it; their responses offered little evidence that the Great Recession influenced farther moves. On the other hand, this

result should be expected given that the move rate for those moving farther did not change appreciably over the two periods.

25. Appendix table 5A.4 displays these same data by race-ethnicity. The data show a strong similarity in responses across racial-ethnic groups both before and during the Great Recession. In addition, the changes in responses before and during the recession are similar across racial and ethnic groups. For all groups, the share looking for cheaper housing (especially in the case of Latinos) and for work increased significantly during the Great Recession.
26. In 2011 the CPS added foreclosure eviction as an additional reason for moving. About 1.2 percent of respondents indicated that they moved locally for this reason. However, when the data are disaggregated by local move rates, as in appendix figure 5A.1, the data conform to expectation. More people responded that they moved in areas with the highest level of local move rates (2.5 percent) than in areas at the lowest level of these move rates (0.5 percent).
27. The means for these variables for racial and ethnic groups remain similar and fairly stable over the 2000–2007 period; thus, to conserve space, only data for the years 2000, 2008, and 2010 are highlighted.
28. The data show that there are no racial-ethnic differences in moving farther (within or between states) and that this did not change during the Great Recession.
29. This pattern is confirmed by more rigorous methods as well. In a regression predicting local moves that pooled the 2000–2010 data and included variables for race, year, and interactions between race and year, the racial gaps in local moves (between blacks and whites and between Latinos and whites) increased from 2008 to 2010.
30. I also used logit models and obtained the exact same results as those shown here. OLS linear probability models are shown because of the ease of coefficient interpretation.
31. Of course, this method relies on the assumption that the Great Recession–related variables influence local moves for each racial and ethnic group similarly. Further empirical probes of the data indicate that this is indeed the case. The coefficients of the Great Recession–related variables are very similar for each racial and ethnic group when separate regressions are estimated for each group.

It should be noted that the static measures of homeownership and unemployment included here are likely to produce fairly conservative estimates of the effects of the recession (and the ability of these factors to explain racial differences in mobility). These measures do not fully capture the changes in housing tenure and employment that are likely to have been generated in the recession and are most likely to have prompted mobility.

32. For the unemployment variable, the reference variable is the employed. Other categories of persons not in the labor force were also included in the regression (such as those in school). The results of these variables are shown in appendix table 5A.6.
33. Further controlling for the demographic characteristics listed in table 5.4 does not change these results. In regressions similar to those shown in table 5A.6, when demographic characteristic variables are added to the equation that includes only race indicator variables, the coefficients drop by about half for blacks and by about 70 percent for Latinos, yet remain statistically significant. After adding the Great Recession–related variables to the equation, the race-ethnicity variables are not significant.
34. The evidence comes from two approaches. First, entering homeownership, unemployment, and poverty status variables into the regression equation separately indicates that homeownership status reduces the racial gaps in moving locally by the greatest amount in each year, and by similar magnitudes. Second, entering homeownership, unemployment, and poverty status variables into the regression equation together and using standardized beta coefficients indicates that homeownership status has the biggest influence in each year.
35. The ACS also asks respondents about local moves in the last year at the level of both the city and the public use microdata area (PUMA). The city-level data, however, are unreliable and are unreported in most instances, and the PUMA-level data are arguably less of a geographic match for counties than the metro data.
36. As one test, I calculated local move rates using the ACS for the ten largest metro areas; then, using the CPS for the same metro areas, I calculated within-county local move rates. (Because of the limited sample size of the CPS, only a limited number of the largest metro areas are likely to have a representative sample.) I did so by selecting the respondent's current metro area of residence and then calculating move rates for those who indicated that they had moved within their county in the past year (in theory capturing those within metro areas made up of multiple counties.) Though the local move rates were not identical for each metro area using both of these methods, the two calculations were highly correlated across the ten metro areas, and their ordering by local move

- rates was the same. Thus, we can be somewhat confident in using these alternative measures of local move rates together: they do not appear to generate completely different results for local move rate estimates.
37. I selected the largest one hundred metro areas because foreclosure data are readily available for large metro areas, and also because larger areas—and therefore samples taken from them—generate more confidence in the local move rate estimates.
 38. The ACS began in 2005 to ask one-year migration questions about local moves, so a longer period of analysis is not possible with the data. However, when I calculated local move rates from 2005 to 2010 (and averaged them to the national level), I replicated the basic patterns shown in figure 5.1, using the CPS data. Local move rates were fairly flat and, if anything, declined somewhat between 2005 and 2007 before jumping slightly from 2008 to 2010. Selecting the years 2008 and 2010 does not bias the results or conclusions.
 39. The unemployment rate data come from my calculations using the CPS for the respective years and metro areas; I calculated these rates in the standard way for those who were between the ages of sixteen and sixty-five and out of school. The metropolitan area foreclosure data come from the Local Support Initiatives Corporation (LISC), which analyzed data from LPS Applied Analytics. The unemployment and foreclosure rate data rose slightly from 2005 to 2007, then jumped from 2008 to 2010, consistent with the impacts of the Great Recession.
 40. Easily available foreclosure data at the metro level were not available before 2007, so it was not possible to include previous years' data in the analysis. Also, the estimates for 2009 move rates using 2008 unemployment and foreclosure data are similar to those shown for 2008. The years 2008 and 2010 are shown because they represent the periods when local move rates were near their lowest and highest levels, respectively, late in the 2000s decade, the period characterized as the height of the Great Recession.
 41. Arguably a better test is to conduct first-difference regression of the change in the local move rate from 2008 to 2010 to demonstrate how the change in the unemployment rate (and the foreclosure rate) influenced the change in the local move rate over the Great Recession. When I conducted this test, the change in the unemployment rate (and the change in the foreclosure rate) predicted the change in the local move rate in the expected direction, but the coefficients were never statistically significant. One explanation is that there was too little variation around the means of the change in the local move rate, unemployment rate, and foreclosure rate variables from 2008 to 2010. The empirical rule indicates that for a normally distributed variable, about 68 percent of the observations should fall within one standard deviation of the mean, 95 percent should fall within two standard deviations of the mean, and 100 percent should fall within three standard deviations. For these variables, at least 78 percent of the observations fell within one standard deviation of the mean, and 100 percent fell within two standard deviations, indicating that the percentage-point changes in these variables across metropolitan areas from 2008 to 2010 were very similar. Moreover, in separate stacked regressions of either the local move rate or the unemployment rate and foreclosure rate (including 2008 and 2010 values) with dummy variables for the metropolitan areas, the R-squared for all regressions was over 0.90, indicating that there was vastly greater variation in these variables across metro areas than within metro areas over time. The R-squared in these types of regressions indicates the percentage of variation in these variables that is explained by across-metro-area variation.
 42. These regressions are weighted by metropolitan area population. Of course, weighting would place more emphasis on more populous metro areas. For example, New York, Los Angeles, and Chicago would all receive relatively large weights. Weighting by population size, however, does not appreciably change the estimated relationship between local move rates and unemployment (foreclosure) rates.
 43. Multicollinearity problems prevented the unemployment and foreclosure rates from being entered into the equation simultaneously. With their inclusion, the standard errors in each variable increased markedly, and coefficient estimates became unstable and unreliable (relative to entering into the model separately). The correlation between the unemployment and foreclosure rates in 2010 was 0.55. This makes sense since unemployment is a leading cause of foreclosures (Ergungor 2007). Unfortunately, there is no easily available instrument to resolve this problem, and so each independent variable is entered separately in separate regressions.
 44. The 2007 and 2009 unemployment (foreclosure) rates are used because respondents moved one year prior to the survey. For example, for those interviewed by the CPS in 2010, respondents who moved did so between 2009 and 2010.
 45. Further analysis of the CPS data indicates that the unemployment rate trends across metropolitan areas are more temporally aligned with the trends in local move rates.

46. The timing of the height of foreclosures might be one reason why the foreclosure rate did not predict local move rates as strongly in 2010 as in 2008. For some metropolitan areas, the foreclosure crisis preceded the 2007–2008 period, the period when average observed metro local move rates were lowest. In San Diego and Boston, for example, the Case-Schiller Home Price Index shows that the housing market bubble burst before this period. On the other hand, the federal housing programs associated with the federal stimulus effort may have altered the extent to which people negotiated foreclosures by the end of 2010 thus weakening the influence of foreclosure on moving over this period.
47. Further statistical probes confirm that the difference in the effects of unemployment (and foreclosures) in 2008 and 2010 on blacks' local move rates are statistically significantly different, at least at the 5 percent level. This was confirmed by pooling the 2008 and 2010 data, including a year dummy variable, and interacting the year dummy with the unemployment rate. The year–unemployment rate interaction was statistically significant, indicating that the effect of unemployment on blacks' move rate was statistically greater in 2010 (at the height of the recession) than in 2008.
48. This was confirmed using an approach that tests the equality of coefficients across different models through seemingly unrelated estimation commands in Stata v11.
49. This finding is consistent with journalistic accounts. A recent Associated Press article notes that older Americans were hit hardest by the foreclosure crises, with African American and Latino older people hit hardest; see Associated Press, "Foreclosures Hit Older Americans Hard," CNBC, July 19, 2012, available at: http://www.cnbc.com/id/48240142/Foreclosure_Crisis_Hits_Older_Americans_Hard (accessed September 17, 2012). This finding is also consistent with recent evidence that among recent borrowers (or those who borrowed shortly before the Great Recession) the foreclosure rate was much higher for African Americans (and Latinos) than for whites. Moreover, from 2007 to 2009, while whites represented the majority of borrowers at risk of foreclosure, African American and Latino borrowers were more likely to be at imminent risk of foreclosure (Bocian, Li, and Ernst 2011).
50. In the same way, the residential mobility of the poor to more prosperous areas has been shown to have more beneficial effects on children than on adults through improved self-esteem and certain schooling outcomes (Ludwig, Duncan, and Ladd 2003).
51. See, for example, the older literature on this question in Newman and Owen (1982).
52. For a summary of the effects of the Moving to Opportunity (MTO) program, see Goering, Feins, and Richardson (2002).

REFERENCES

- Bocian, Debbie Gruenstein, Wei Li, and Keith S. Ernst. 2011. "Foreclosures by Race and Ethnicity: The Demographics of a Crisis." Center for Responsible Lending (May 20). Available at: <http://www.urban.org/events/upload/Panel-1-1-Bocian.pdf> (September 17, 2013).
- Ergungor, O. Emre. 2007. "Foreclosures in Ohio: Does Lender Type Matter?" Working Paper 07-24. Cleveland: Federal Reserve Bank.
- Fischer, Claude S. 2002. "Ever More Rooted Americans." *City and Community* 1(2): 177–98.
- Frey, William H. 2008a. "Economy, Housing Woes Slow Migration, Census Shows." Policy brief. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- . 2008b. "Migration to Hot Housing Markets Cools Off." Policy brief. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- . 2009a. "Housing Bust Shatters State Migration Patterns." Policy brief. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- . 2009b. "Bursting 'Migration Bubble' Favors Coastal Metros, Urban Cores." Policy brief. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- . 2009c. "The Great American Migration Slowdown: Regional and Metropolitan Dimensions." Policy brief. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- Goering, John, Judith D. Feins, and Todd M. Richardson. 2002. "A Cross-Site Analysis of Initial Moving to Opportunity Demonstration Results." *Journal of Housing Research* 13(1): 1–30.

- Kaplan, Greg, and Sam Schulhofer-Wohl. 2012. "Understanding the Long-Run Decline in Interstate Migration." Working Paper 697. Minneapolis: Federal Reserve Bank.
- Long, Larry. 1988. *Migration and Residential Mobility in the United States*. New York: Russell Sage Foundation.
- Ludwig, Jens, Greg Duncan, and Helen Ladd. 2003. "The Effects of MTO on Baltimore Children's Educational Outcomes." In *Choosing a Better Life: Evaluating the Moving to Opportunity Social Experiment*, ed. John Goering and Judith D. Feins. Washington, D.C.: Urban Institute Press.
- Mincer, Jacob. 1978. "Family Migration Decisions." *Journal of Political Economy* 86(5): 749–73.
- Newman, Sandra J., and Michael S. Owen. 1982. "Residential Displacement: Extent, Nature, and Effects." *Journal of Social Issues* 38(3): 135–48.
- Quigley, John M., and Daniel H. Weinberg. 1977. "Intra-Urban Residential Mobility: A Review and Synthesis." *International Regional Science Review* 2(1): 41–66.

Chapter 6

Cohort Trends in Housing and Household Formation Since 1990

Emily Rosenbaum

Many Americans want to own their own home. Indeed, survey data reveal that the vast majority of individuals under age forty-five expect to purchase a home sometime during their lives, despite the drop in household wealth from the recent housing market crash (Belsky 2013). Homeownership confers social and economic benefits, including tax advantages, “forced” savings, and wealth accumulation—assuming that prices rise. The rate of homeownership is often used as a barometer to measure the nation’s overall housing health. When compared over time, homeownership can track the achievements of successive cohorts of adults at the same life stage and indicate the direction of intergenerational mobility.

The conventional homeownership rate can produce misleading conclusions, however, because it is based on households rather than individuals (Yu and Myers 2010). That is, it does not consider those adults who cannot financially establish households on their own and who live with others. Therefore, I analyze “headship” patterns in addition to homeownership to assess cohorts’ progress in housing—who is able to become established as the head of an independent household, at what point in the life cycle this occurs, and who becomes a homeowner. By doing so, the evidence is overwhelming that recent cohorts face great disadvantages and that generational inequalities in homeownership are growing dramatically.

BOOSTING HOMEOWNERSHIP AND ITS SUBSEQUENT COLLAPSE

The federal government first intervened to bolster homeownership largely in response to the Great Depression. Policy initiatives at that time aimed to put people back to work, and innovations in housing finance and mortgage insurance made ownership possible for the middle class. Key pieces of legislation included the Home Owners Loan Act (1933), which established the Home Owners Loan Corporation (HOLC), and the National Housing Act of 1934, which authorized the Federal Housing Administration (FHA) insurance program.

After World War II, the Servicemen’s Readjustment Act of 1944 (the “GI bill”) guaranteed returning veterans low-interest mortgages as well as tuition and employment benefits. Together these benefits helped families enter the ownership market (Carliner 1998). These initiatives, along with a robust postwar economy and other investments that spurred suburban growth (like the interstate highway system), boosted the rate of homeownership to almost 62 percent in 1960, from a twentieth-century low of less than 44 percent in 1940 (Masnick 2001). Even though many of these initiatives excluded nonwhites (Immergluck 2010; Jackson 1985), the nonwhite homeownership rate rose by almost fifteen points between 1940 and 1960, compared

to an increase of almost nineteen points for whites (Masnick 2001). Perhaps in this instance the strong economy truly did “lift all boats.”

After 1960, the growth in homeownership was far slower: the rate for all households reached just over 64 percent in 1980. The rate settled at a slightly lower level in 1990, owing largely to a recession, which kept younger Americans from buying their first houses (Myers and Wolch 1995). This period of stagnation was the first time in fifty years that homeownership levels did not rise. In response, in 1994 the Clinton administration articulated and implemented a policy to explicitly boost the homeownership rate (Masnick 2001)—the first presidential initiative directed at boosting homeownership. The new policy enforced extant laws regarding fair housing and fair banking and strengthened regulations put forth in the 1977 Community Reinvestment Act (CRA) to raise the historically low ownership levels of households long underserved by the conventional mortgage market, namely, low- and moderate-income and minority households. The resulting surge in low-income homeownership, especially among minority households, helped to raise the overall homeownership rate to just over 67 percent in 2000 (see Shlay 2006). Although President George W. Bush subsequently voiced the same rhetorical boosterism in support of homeownership as President Clinton, ironically it was the Bush administration’s deregulationist stance that eventually undermined the potential for sustainable growth in homeownership.

The deregulation of the financial services industry, which began in earnest in the Reagan administration, helped spur the growth of subprime lending and produced two high-risk lending booms: 1995–1999 and 2002–2006. The growth in subprime first-lien loans after 2002 and the weakening of underwriting terms in the conventional mortgage markets encouraged many households to purchase homes, in the hope that escalating housing prices would continue unabated and that when these homes were sold they would realize an impressive gain in wealth. As a result, the homeownership rate rose after 2000. In the second quarter of 2004, it peaked: 69.2 percent of households in the United States owned their homes. Purchasing a home seemed a good bet, as equity in household real estate escalated sharply between 2000 and 2004 (Ellen and Dastrup 2012), which helps to explain how median net wealth in the United States grew by about 19 percent between 2001 and 2007, while median nonhome wealth *fell* by 13.5 percent (Wolff 2010).

The “bubble” in housing prices and the proliferation of risky mortgage products ultimately led to a financial debacle. For the eight quarters after its peak, the homeownership rate fluctuated slightly; through the third quarter of 2006 it remained near its all-time high. Around the same time, in virtually all regions of the country, housing prices began a sustained and sharp drop (though in some places the decline was less precipitous), and conventional-mortgage delinquencies began to rise. Subprime-mortgage delinquencies had begun to rise approximately one year earlier (Fligstein and Goldstein 2011; Immergluck 2010). The collapse of the housing market triggered the Great Recession. For the households and neighborhoods most affected by the housing market’s meltdown, recovery would be long and painful. As fewer households joined the ranks of new homeowners and more households were defaulting, the homeownership rate dropped continuously after the third quarter of 2006. In the first quarter of 2013, the rate bottomed at 65 percent, the lowest since the third quarter of 1995.

GENERATIONS OF HOMEOWNERS: COMPARING BIRTH COHORTS

Not all population groups felt the same economic shocks that drove down the ownership rate after 2006. African Americans and the less-educated fared the worst during the second half of

TABLE 6.1 Birth Cohorts Born Between 1926 and 1995

Year of Birth	Cohort	Age in:			Percentage of Total Population in 2010
		1990	2000	2010	
1986–1995	Echo Boom	4 or under	5–14	15–24	14.1%
1976–1985	Generation Y	5–14	15–24	25–34	13.2
1966–1975	Generation X	15–24	25–34	35–44	13.4
1956–1965	Late Baby Boom	25–34	35–44	45–54	14.5
1946–1955	Early Baby Boom	35–44	45–54	55–64	11.9
1936–1945	War Babies	45–54	55–64	65–74	7.1
1926–1935	Depression Babies	55–64	65–74	75–84	4.2

Source: Authors' calculations based on 2010 ACS file.

the 2000s. The stage in the life cycle also mattered: older adults, some of whom had owned their homes for decades, were shielded from plummeting housing prices, while younger adults, hoping to buy their first homes, faced a dismal market (Myers et al. 2005). Because trends in the overall homeownership rate mask changes across cohorts in the pattern of life-cycle changes (Myers 1999), a cohort-based analysis is needed to fully understand the implications of recent housing market shifts.

Table 6.1 identifies the birth cohorts used in the current analysis, their ages in the census years covered in the analysis, and their relative sizes in 2010 (Farley 1996; Hughes and O'Rand 2005; Myers 2005). Cohort effects arise from differences in relative size and from the unique historical context of a cohort during critical stages of the life course. In addition to early life experiences, the opportunities and circumstances that birth cohorts encounter as they embark on adulthood tend to "imprint" themselves on members and shape their subsequent lives. For example, the Baby Boom, the unusually large cohort born between 1946 and 1964, encountered more intense competition for educational resources and labor market standing in early adulthood than did the smaller cohort of War Babies who preceded them (table 6.1). At the same time, the macroeconomic conditions as the Baby Boomers reached adulthood (stagnating incomes, rising inequality, high interest rates and housing prices) exacerbated Boomers' plight: they experienced higher odds of poverty and underemployment relative to older, smaller cohorts (Browne 1995; Slack and Jensen 2008).

In response, Baby Boomers adjusted their demographic behavior. They delayed or avoided marriage and childbearing, and that helped raise their per capita levels of economic well-being above those enjoyed by earlier cohorts (Easterlin, Macdonald, and Macunovich 1990; Easterlin, Schaeffer, and Macunovich 1993). Nevertheless, because this generation came of age in a period of escalating inequality, they have suffered greater disparity in well-being than earlier cohorts, especially those who came of age during the postwar economic expansion, when everyone shared in the rising prosperity (Easterlin et al. 1990; Hughes and O'Rand 2005). Levels of inequality also differ between cohorts of Boomers: the trailing segment (the Late Boomers) experienced a higher level of inequality than the earlier segment (the Early Boomers) (Hughes and O'Rand 2005). Indeed, the Boomers show a juxtaposition that highlights the inequality: relatively high odds of poverty and underemployment relative to older generations (Browne 1995; Slack and Jensen 2008), but also greater wealth accumulation (Keister and Deeb-Sossa 2001).

The Baby Boom generation did not rapidly buy homes. Decennial census data from 1940 to 1980 show that the homeownership rate for twenty-five- to thirty-four-year-olds rose for each cohort following the 1905–1914 birth cohort, but the rate for the Early Baby Boom was only slightly higher than that for the War Babies at this age (Chevan 1989). The slim advantage in homeownership enjoyed by the Early Boomers hints at the problems that Boomers faced in “launching” (see also Myers 2005) and their fear that they would be the first generation that failed to exceed their parents’ achievements.

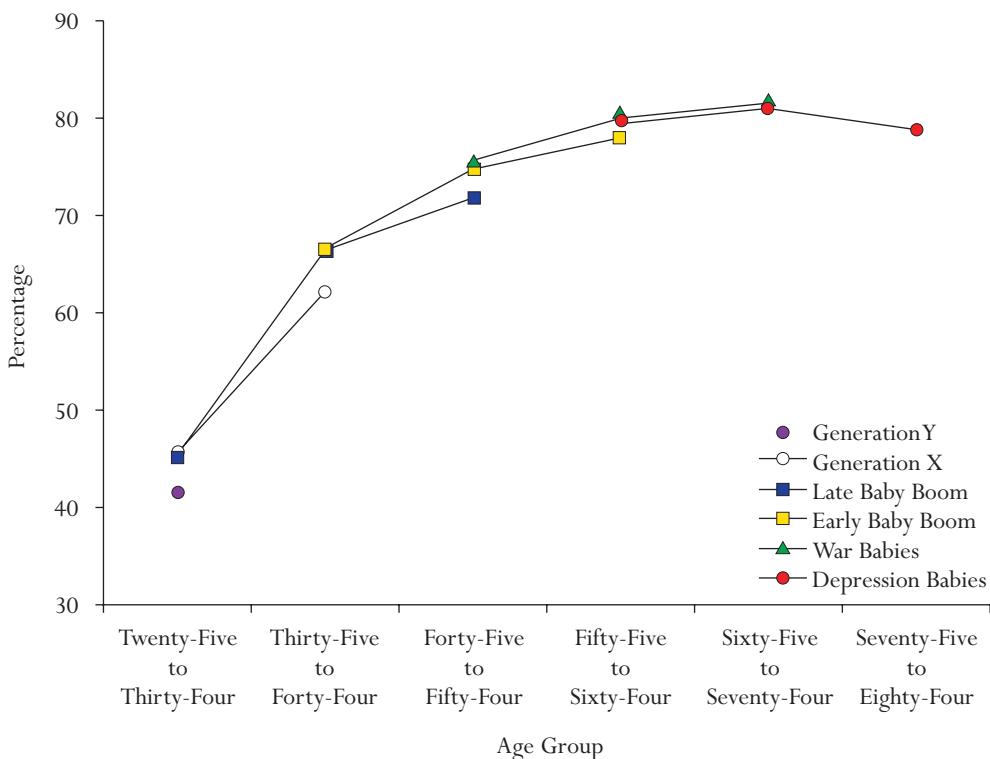
The Late Baby Boom generation lagged further in homeownership. At ages twenty-five to thirty-four (in 1990), their ownership rate was substantially below that of the Early Baby Boom at the same ages ten years earlier (Myers et al. 2005). By ages thirty-five to forty-four, the Early and Late Boomers had fallen behind the War Babies, with age-specific homeownership rates (in 1990 and 2000, respectively) of 66 percent and 68 percent, compared to over 70 percent for the War Babies (who reached these ages in 1980) (Myers and Wolch 1995). For the Early Baby Boom, this gap arose from growth in ownership over the 1980s that was slower than the War Babies had experienced during the 1970s. In contrast, while the Late Baby Boom experienced a more rapid acceleration in ownership during the 1990s than the Early Baby Boom had experienced during the 1980s, this rise could not compensate fully for the cohort’s relatively poor start (Myers 2005; Myers et al. 2005). Because of greater social and economic inequality among the Boomer cohorts relative to earlier cohorts, by 2000 the gap in ownership between the Boomers and the War Babies was more extreme among the less-educated Boomers (Hughes and O’Rand 2005).

Cohorts following the Baby Boom have experienced even higher odds of poverty (Browne 1995) and underemployment, especially among the less-educated (Slack and Jensen 2008), despite their smaller size. Data show a continuing escalation in inequality, as well as the lag effects of other macroeconomic problems: for example, they have been crowded out of entry-level jobs held by Boomers who have yet to progress out of them (Slack and Jensen 2008).

To what degree are these problems reflected in homeownership? In 2000 Generation X (who reached ages twenty-five to thirty-four in that year) exhibited a slightly higher initial ownership rate (47 percent) than the Late Baby Boom did in 1990 (44 percent). Researchers cite two factors: favorable policies and a slowdown in the escalation of housing prices during the 1990s. At last younger households, as well as the Late Baby Boom between ages twenty-five and forty-four, could more readily buy homes (Myers 2005). These findings are replicated in figure 6.1, which extends the description of cohort trajectories since 1990 through 2010, using Integrated Public Use Microdata Series (PUMS) data for 1990 and 2000 and data from the American Community Survey (ACS) for 2010 (Ruggles et al. 2010).

Focusing our attention on the 2000–2010 period, figure 6.1 makes clear that the fallout from the housing market crash and the Great Recession affected all cohorts up to and including the Early Baby Boom, although the younger cohorts suffered the most. Specifically, the trajectories for Generation X and the Late Baby Boom (relative to those exhibited by each cohort’s older neighbor) are flatter, indicating that the increase in ownership, expected at those stages of the life course, was slower for these cohorts. In addition, Generation Y, the unfortunate cohort that entered adulthood during the worst economic crisis since the Depression, is starting its housing career at a level far below that achieved by both Generation X and the Late Baby Boom (see also Rosenbaum 2012). Although the housing market is now recovering from its decimation in the late 2000s, with low interest rates and prices below their mid-2000s peak (Belsky 2013), it remains to be seen whether Generation Y, Generation X, and the Late Baby Boom will see a major recovery in their homeownership rates.¹ Obstacles include credit constraints from more stringent underwriting standards and high levels of student loan debt. Without policy shifts in both housing finance and student loans, these obstacles are also likely to stymie home-buying for the

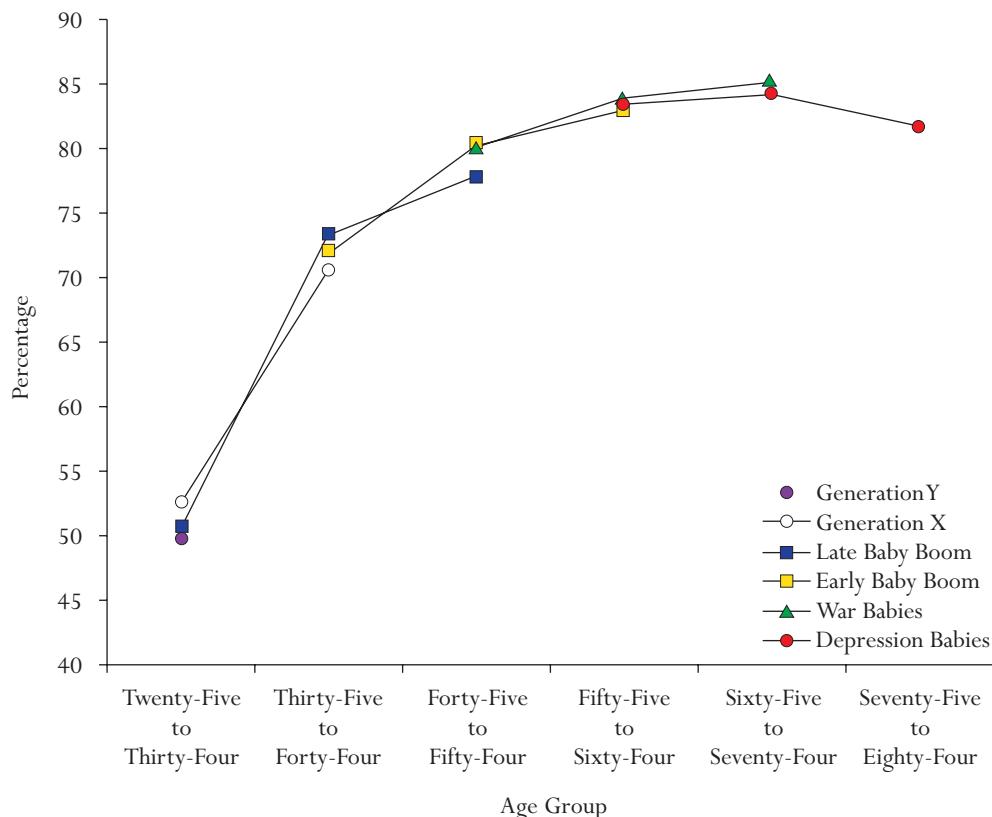
FIGURE 6.1 Cohort Trajectories in Homeownership Rates for Six Birth Cohorts, 1990–2010



Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

Echo Boom, the cohort following Generation Y, which is currently entering adulthood. When combined with this cohort's relatively large size (table 6.1), the dim prospects for a strong initial ownership rate will exert downward pressure on the nation's future overall ownership rate. Additional downward pressure comes from the underperformance in homeownership among recent cohorts, particularly the Late Baby Boom, the largest of all.

Generation Y's low initial ownership rate and the slower growth since 2000 for Generation X and the Late Baby Boom are not surprising given the economic misery of the last decade and the fact that adverse macroeconomic conditions disproportionately affect younger adults. By the same token, the slightly flatter trajectory for the Early Baby Boom is less expected, because adults approaching retirement generally do not begin to buy homes, and because households that have owned homes for a long period—typical for this stage in the life course—are insulated from market fluctuations (Yu and Myers 2010). Yet the growth in inequality across cohorts, which began in earnest with the Baby Boom, has given rise to increasingly affluent, older, often retired home buyers. These new buyers have "traded up" in housing status: we now see more "post-entry" households (those older than forty-five) purchasing newly built homes. Indeed, these buyers have sparked the growth of new cohorts of single-family homes that are larger and more luxurious than those built previously (Dwyer 2008).

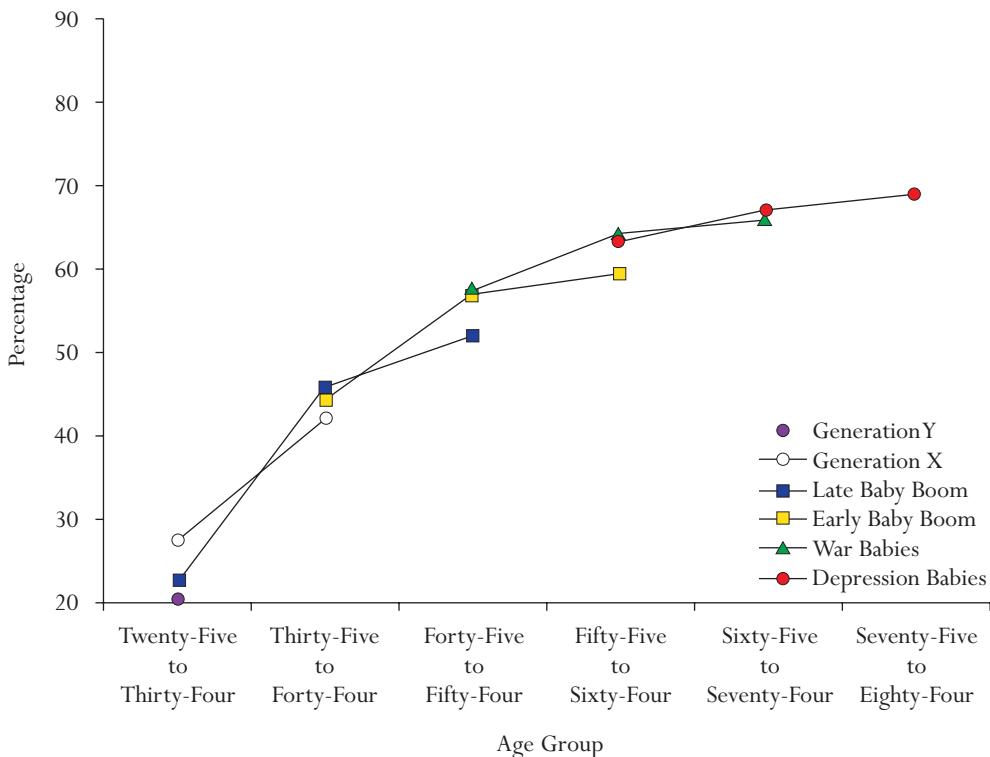
FIGURE 6.2 *Cohort Trajectories in Homeownership Rates for Non-Hispanic Whites, 1990–2010*

Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

The Baby Boom and Generation X households that purchase these new luxurious homes later in their lives incur rising levels of housing debt. Prior cohorts, in contrast, saw their housing debt *diminish* over the life course because they generally remained in the same house (Masnick, Di, and Belsky 2006). They even celebrated with mortgage-burning parties. The Early Boomers (along with Late Boomers and members of Generation X), however, took on more housing-related debt as they aged. Consequently, they were vulnerable to the collapse of housing prices and the risks of foreclosure. Boomers are bringing fewer resources and less wealth to retirement (Rosnick and Baker 2010).

Certain groups, in particular African American households and those headed by persons with the lowest levels of education, suffered more from the housing and economic downturns of the 2000–2010 decade. In contrast, other groups (including Asian households and the most-educated households) emerged relatively unscathed (Rosenbaum 2012; see also Yu and Myers 2010). Given these varying experiences, we might expect to see differences in cohort trajectories across race-ethnicity and educational attainment. Figures 6.2 to 6.5 show cohort trajectories in homeownership separately for non-Hispanic white, non-Hispanic black, Hispanic, and

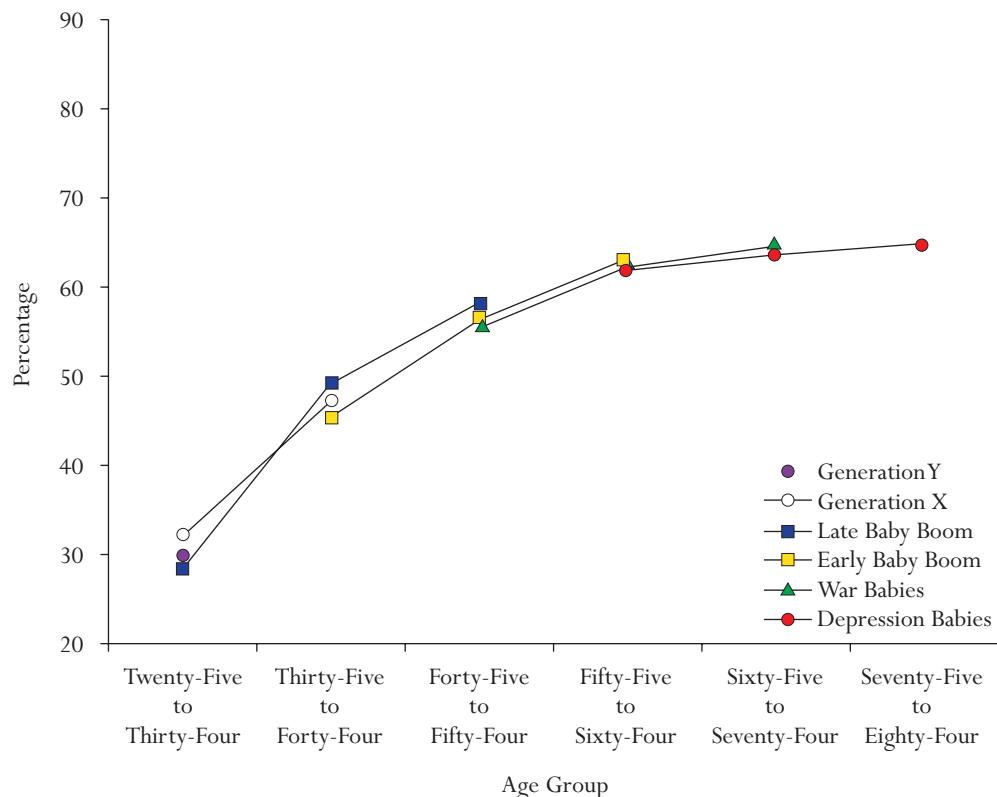
FIGURE 6.3 Cohort Trajectories in Homeownership Rates for Non-Hispanic Blacks, 1990–2010



Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

non-Hispanic Asian households (hereafter white, black, Hispanic, and Asian households), while figures 6.6 and 6.7 shows trajectories for households headed by persons with less than a high school degree and those headed by someone with a college degree or higher.

Looking first at cohort trajectories by race-ethnicity, among whites and blacks (figures 6.2 to 6.5), we see the same basic pattern—slower growth since 2000—evident among all households and, as a result, lower levels in 2010 of homeownership among younger cohorts than among their older peers. Black households felt the adverse effects of the last decade more strongly, however, than white households, and the impact extended even later in the life course—well into retirement ages. In short, a sizable gap emerges between the trajectories of black Early Boomers and War Babies and those of black War Babies and Depression Babies. This unique pattern for blacks probably reflects the higher rates of foreclosure for elderly blacks than whites (Trawinski 2012). However, part of the difference could stem from unusually steep gains in ownership for older cohorts during the previous decade. For example, black Early Boomers and War Babies saw their ownership rates rise by 28 percent and 12 percent, respectively, between 2000 and 2010, while the increases among comparable whites were 11 percent and just under 5 percent. Indeed, the upward trajectories in ownership for these older cohorts during the 1990s suggest that many older blacks took advantage of broadening opportunities to pur-

FIGURE 6.4 *Cohort Trajectories in Homeownership Rates for Hispanics, 1990–2010*

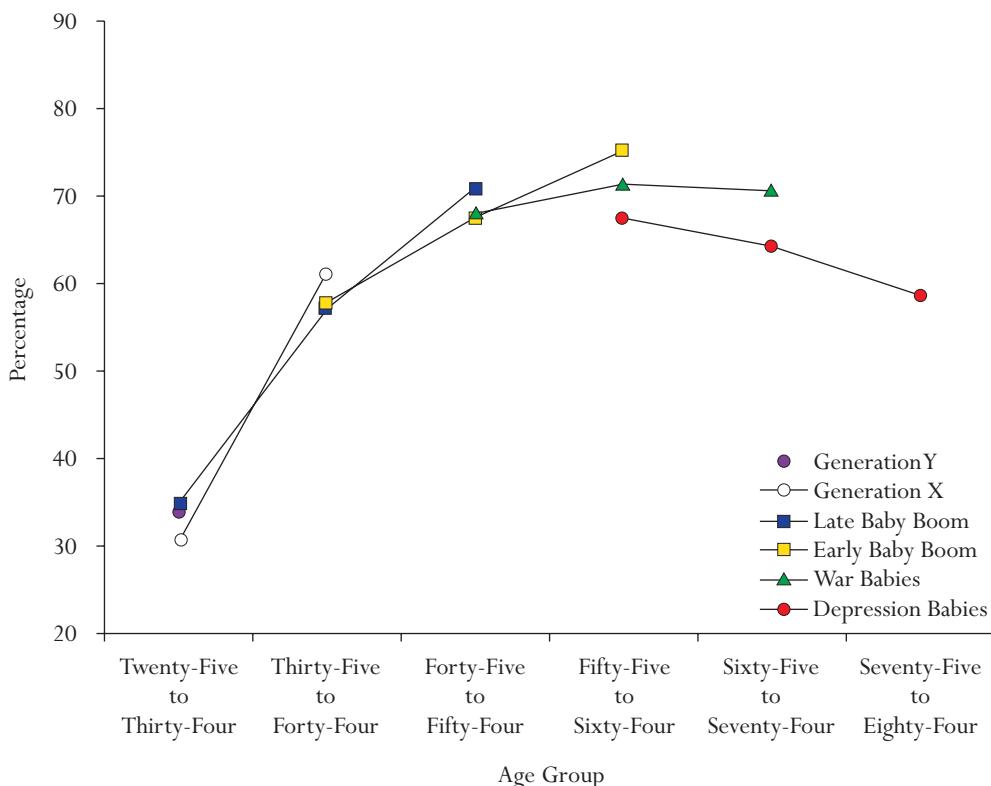
Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

chase homes. Thus, what appears to be relative underperformance among older cohorts during the 2000s reflects the “catchup” behavior during the prior decade.

A completely different pattern emerges for Hispanics and Asians. In 2010 younger cohorts (apart from Generation Y and Generation X among Hispanics) had higher homeownership rates than those achieved at the same ages by their older counterparts. In other words, successive generations are doing *better* than their predecessors. These differences are far larger among Asians, the only racial-ethnic group to emerge from the decade with a higher homeownership rate than when the decade began (Rosenbaum 2012).

Figures 6.6 and 6.7 highlight the devastating effects of the economic turbulence of the 2000–2010 decade on the ownership experiences of those at the bottom of the educational hierarchy while barely touching those at the top. Indeed, the trajectories for each successive cohort among the most highly educated are indistinguishable from one another, while the trajectories for the least-educated members of the Late Baby Boom and Generation X are nearly flat, indicating almost no growth over time, and they are substantially below those of their older counterparts during the more prosperous 1990s. Notably, the least-educated members of Generation Y achieved an initial homeownership level that is a full ten points below that exhibited by comparable Gen-Xers and Late Boomers at the same age. The credit constraints that are ex-

FIGURE 6.5 Cohort Trajectories in Homeownership Rates for Non-Hispanic Asians, 1990–2010



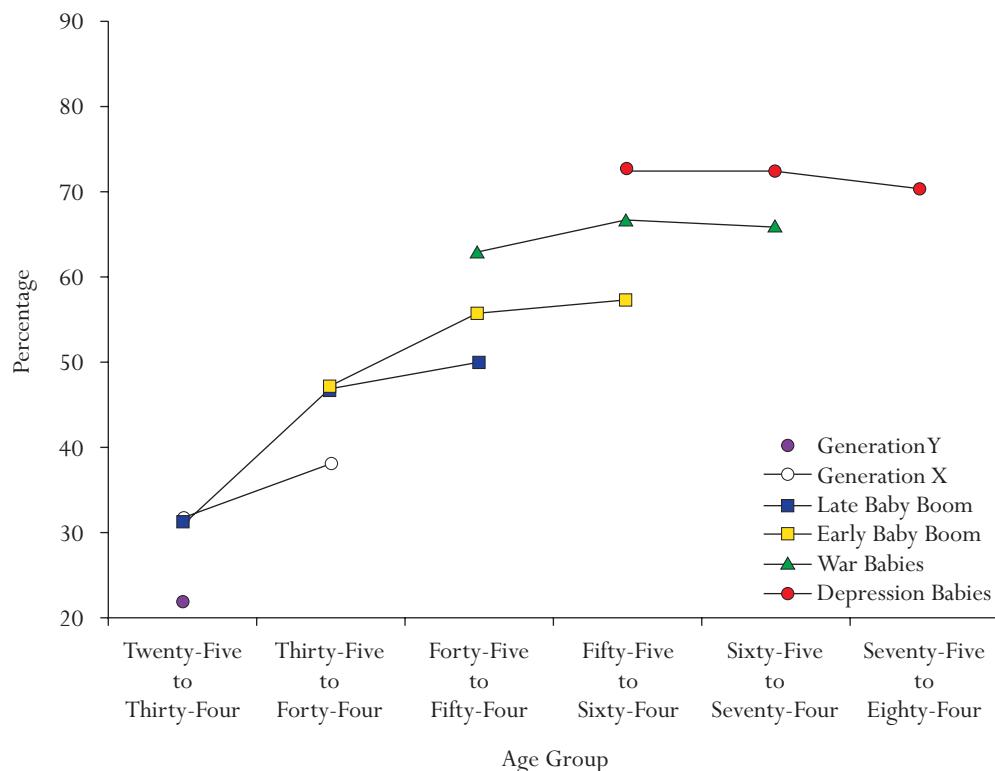
Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

pected to stymie further growth in the overall ownership rate (Belsky 2013) are likely to take a disproportionate toll on the home-buying behavior of the least-educated in general, and the least-educated among younger adults more specifically. As a result, the least-educated members of Generations X and Y are unlikely to see much growth in their ownership rates over the coming decade, and the initial ownership rate for the least-educated members of the Echo Boom will be even lower.

Education emerges as an axis of inequality (Morris and Western 1999) evident in homeownership (figure 6.8). The more-educated have always been more likely than the least-educated to own their homes, yet the magnitude of this advantage has expanded with each succeeding cohort. Although trajectories in inequality are flat for the Early Baby Boomers, the War Babies, and the Depression Babies during 2000–2010, they rise modestly for the Late Baby Boomers and far more precipitously for Generation X. Given the unprecedented low levels of ownership for the least-educated members of Generation Y, the degree of difference between the two educational attainment groups is highest, with a ratio of just over 2.25.

The preceding analysis demonstrates clearly that younger cohorts have disproportionately borne the decline in homeownership since 2000 seen at the aggregate level. The younger cohorts

FIGURE 6.6 *Cohort Trajectories in Homeownership Rates for Householders with Less Than a High School Diploma, 1990–2010*



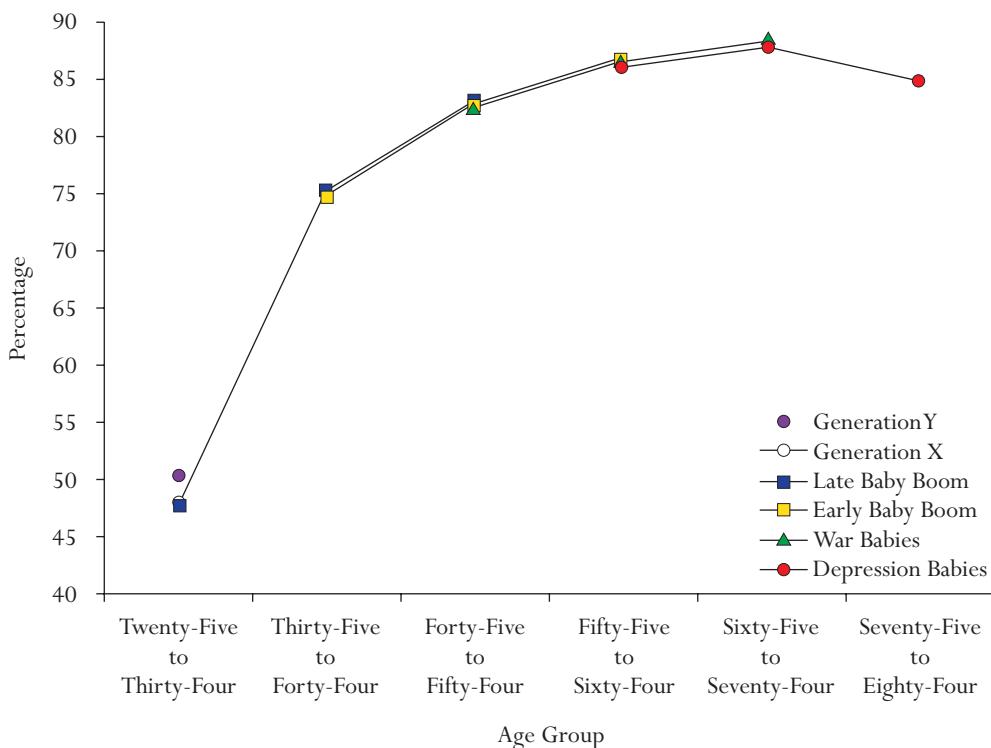
Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

among blacks and less-educated persons suffered even more. However, homeownership rates tell only one part of the story of housing status during the past decade. Because the definition of the homeownership rate—that is, the number of owner-households/(the sum of owner- and renter-households)—counts only *households*, it ignores *persons* who do not form independent households (Yu and Haan 2012; Yu and Myers 2010). Changes in the rate of household formation influence the ownership rate, diminishing its usefulness as an indicator of the changes in housing status (Yu and Myers 2010). To gain a better understanding of the full extent of housing status shifts during the past two decades, we must analyze household formation.

THE INCREASING FAILURE TO LAUNCH

Adults form independent households in response to different prompts: economic status (they can afford to live independently), cultural norms (some cultures encourage multigenerational households, while others encourage independent living), and age. For most young Americans, “leaving home” is an integral part of the transition to adulthood (Hogan and Astone 1986; Qian 2012; White 1994).

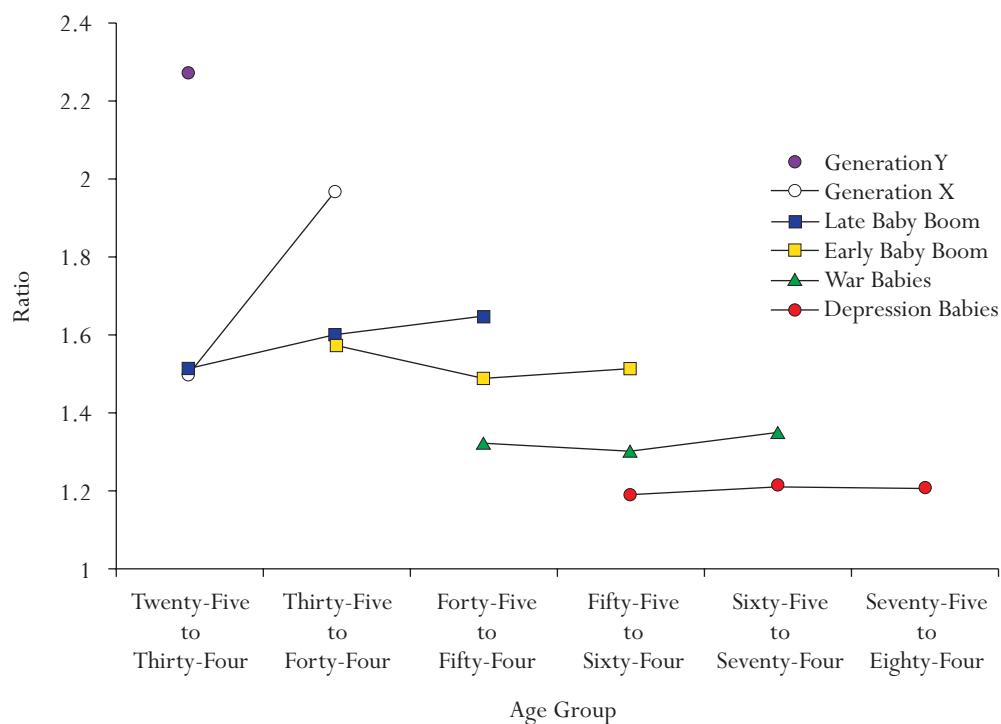
FIGURE 6.7 *Cohort Trajectories in Homeownership Rates for Householders with a College Degree or Higher, 1990–2010*



Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

A key decision in the process of forming a household is the “rent” versus “own” quandary. Adults weigh the relative costs of renting versus owning and the expectations for “forced” savings through rising home values (Belsky 2013; Myers et al. 2005). When the broader conditions lower the relative costs of owning, as prevailed during the postwar period and the 1990s, more people will buy and more owner-households will form. Either renter-households will buy or individuals will establish new, independent owner-households. If the number of owner-households grows without parallel growth in renter-households, then the numerator of the ownership rate (the number of owner-households) will increase more rapidly than the denominator (the sum of owner- and renter-households), giving rise to increases in the overall ownership rate. If the growth in renter-households is also rapid, growth in the overall ownership rate will be slower or even eliminated, depending on the balance between renter- and owner-headship rates. Recent research shows that a contributing factor to the impressive rise in the ownership rate between 1940 and 1960 was a dramatic rise in the headship rate of men age eighteen and older: new households disproportionately flowed into ownership, and the renter-headship rate sharply declined (Fetter 2013). The owner- and renter-headship rates are population-based rates, with the number of renter- (owner-) householders in the numerator and all adults in the denominator. Zhou Yu and Dowell Myers (2010) argue that most adults who opt not to form independent households but to remain with family and friends (foregone house-

FIGURE 6.8 *Ratio of Homeownership Rates Among Householders with a College Degree or Higher Versus Less Than a High School Degree: Cohort Trajectories, 1990–2010*



Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

hold formation) are people who might otherwise have rented. In short, the impact disproportionately affects the renter-headship rate, thus boosting the homeownership rate. As a result, the overall headship rate and the homeownership rate are negatively correlated.

When the homeownership rate is falling, as in the second half of the 2000s, we need to analyze coincident changes in headship to interpret the consequences for overall housing status. For example, the household-based ownership rate could drop if former owners (like those losing their homes through foreclosure) shift into the rental market. The consequent rise in the renter-headship rate would leave the overall headship rate unchanged, yet the continuing independence of households would signal a less serious problem in housing status than that inferred from declining ownership rates. In contrast, if household-based ownership rates fell because fewer adults could establish independent households as either renters or owners, the “nonheadship,” or coresidence rate, would rise. Similarly, if independent households were forced to move in with family or friends, as happens with evictions and foreclosures, the nonheadship rate would again rise. While the latter scenarios might slow decreases in the household-based ownership rate (because of the wholesale loss of households in the denominator), making a negative trend somewhat less negative, they reflect a more serious deterioration in overall housing status and household well-being (see Yu and Myers 2010).

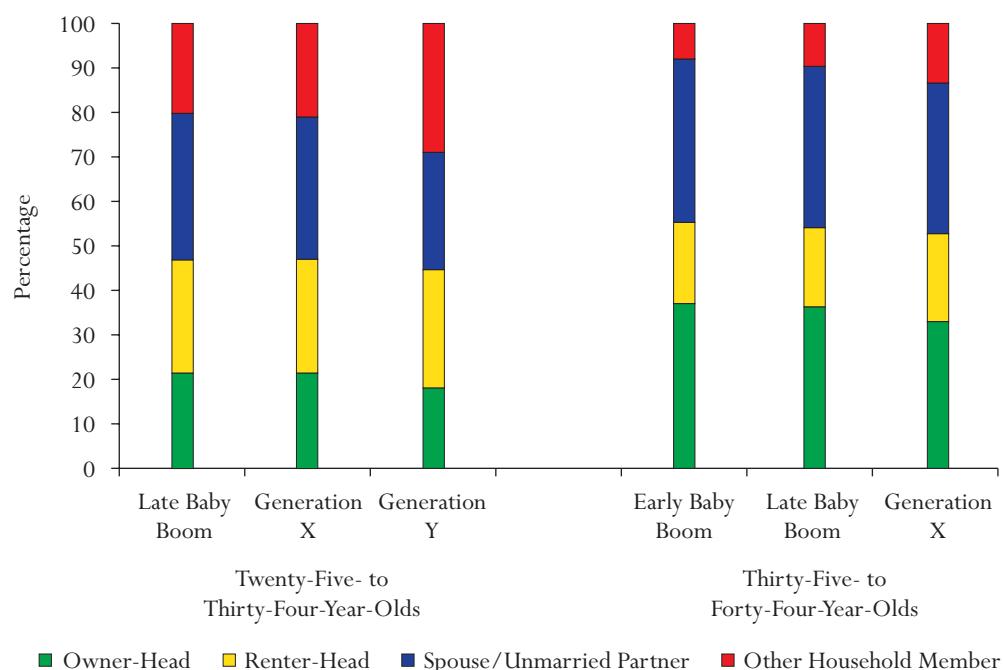
Simply, the household-based ownership rate should not be the sole indicator of housing status in the United States. Yu and Myers (2010) show that while the conventional ownership rate rose between 1990 and 2006 for ages eighteen and older, the headship rate (that is, the formation of both renter- and owner-households) fell. The consequent rise in nonheadship (or coresidence with others) helped to boost the ownership rate, but signaled an increasing polarization in housing status (Yu and Myers 2010). While some individuals formed independent owner-households, others withdrew and merged into the households of friends or family members. The rising ownership rate during the period—interpreted as a positive sign for the population and the economy—actually masked the coincident deterioration in housing status for a less visible population segment. Although some of the people who “doubled up” did so for economic reasons, the variations in headship rates across race-ethnicity have been interpreted as reflecting cultural differences in preferences for multigenerational living. Accounting for varying propensities to live independently also reveals smaller racial-ethnic disparities in access to owned housing than is evident in comparisons of the conventional ownership rate (Yu and Myers 2010).

The downward trend in headship at all ages documented by Yu and Myers (2010) implies that successive cohorts were increasingly less likely to establish independent households, especially at younger ages. This is consistent with the shifts in demographic behavior, such as delayed marriage and childbearing, that distinguish the Baby Boom from earlier cohorts (Hughes and O’Rand 2005) and Generation X from the Baby Boom (Martin 2004; Tamborini and Iams 2011). Cohort changes in headship are also consistent with rising levels of inequality from the Baby Boom cohorts forward. How these changes contribute to differences in the ownership rate between cohorts remains to be seen.

The standard approach to measuring headship rates separates adults into three categories—owner-householder, renter-householder, and nonhouseholder (or household member)—and calculates three rates—the owner-headship rate, the renter-headship rate, and the nonheadship rate—with the sum of the owner- and renter-headship rates providing the overall headship rate (Yu and Myers 2010). This approach, however, intermingles spouses and unmarried partners of householders with other (adult) household members and does not distinguish between individuals who may be *coheads* of independent households from those who are living with others in a potentially more dependent capacity, as when young adults continue to live with their parents. The traditional approach, then, overlooks the decades-long importance of two incomes in the economic stability of many households, especially with respect to homeownership (Myers 1985), and the fact that the decision to form a union is often made jointly with the decision to live independently of others; the latter is reflected in a far lower likelihood that married (versus single) young adults will live with their parents (Qian 2012). Moreover, although the “householder” in a couple-headed household can be either partner, men are disproportionately identified in this role, relegating female spouses and partners to the “nonhead” category in standard analyses.

To take account of the likely coheadship of spouses and partners, I use four categories of headship: owner-householder, renter-householder, spouse or partner of householder, and other household members. This approach maintains comparability with analyses using the traditional approach, yet sheds light on the variation in the proportion of couple-headed, independent households. This is important because households with children experienced some of the largest losses in homeownership during the last decade (Joint Center for Housing Studies 2012). While this approach cannot distinguish the degree to which the prevalence of couple-headed households is affected by changes in living arrangements or changes in union formation, the fact that the Great Recession accelerated neither the long-term downward trend in the marriage and divorce rates nor the rise in the prevalence of cohabitation (Morgan, Cumberworth, and Wimer

FIGURE 6.9 *Distribution of Headship Type Among Twenty-Five- to Thirty-Four-Year-Olds and for Thirty-Five- to Forty-Four-Year-Olds, by Cohort, 1990–2010*

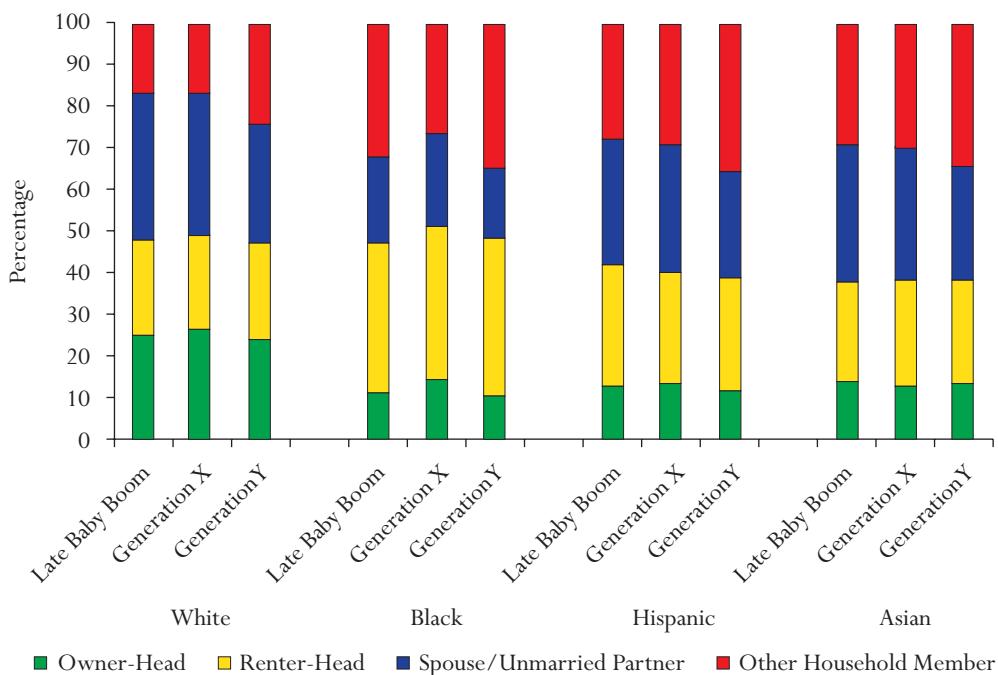


Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

2011) suggests that any change observed will have resulted largely from shifts in living arrangements. Disaggregating spouse and partners from other household members also shows whether racial-ethnic differences in headship are grounded more in variations in cultural preferences for coresidence or in variations in the prevalence of couple-headed households. Most analyses of headship use age as the organizing criterion, examining trends in headship across age groups (for example, Yu and Myers 2010), but I keep age constant (see Yu and Haan 2012) and examine differences across cohorts when each reaches the age range in question. I examine the two youngest groups (twenty-five- to thirty-four-year-olds and thirty-five- to forty-four-year-olds) because economic factors should be central to their household formation and ownership decisions.

Figure 6.9 shows the distribution of headship by cohort, for ages twenty-five to thirty-four and ages thirty-five to forty-four. The left-hand set of bars shows very little difference in the distribution of headship at ages twenty-five to thirty-four for the Late Baby Boom and Generation X, a finding that mirrors the similarity in the ownership rates exhibited by these cohorts (figure 6.1). When Generation Y reached ages twenty-five to thirty-four in 2010, however, it exhibited a far different pattern of headship: its lower overall headship rate stemmed from lower levels of owner-headship. A similar pattern is evident when comparing Generation X to the Late Baby Boom at ages thirty-five to forty-four (the right-hand bars of figure 6.9). Indeed, the fact that the most recent cohorts in both age groups in 2010 did not form independent households at the same rate as their predecessors reflects a more serious inter-cohort deterioration in housing status than differences in the ownership rate would suggest.

FIGURE 6.10 *Distribution of Headship Type Among Twenty-Five- to Thirty-Four-Year-Olds, by Race-Ethnicity and Cohort, 1990–2010*

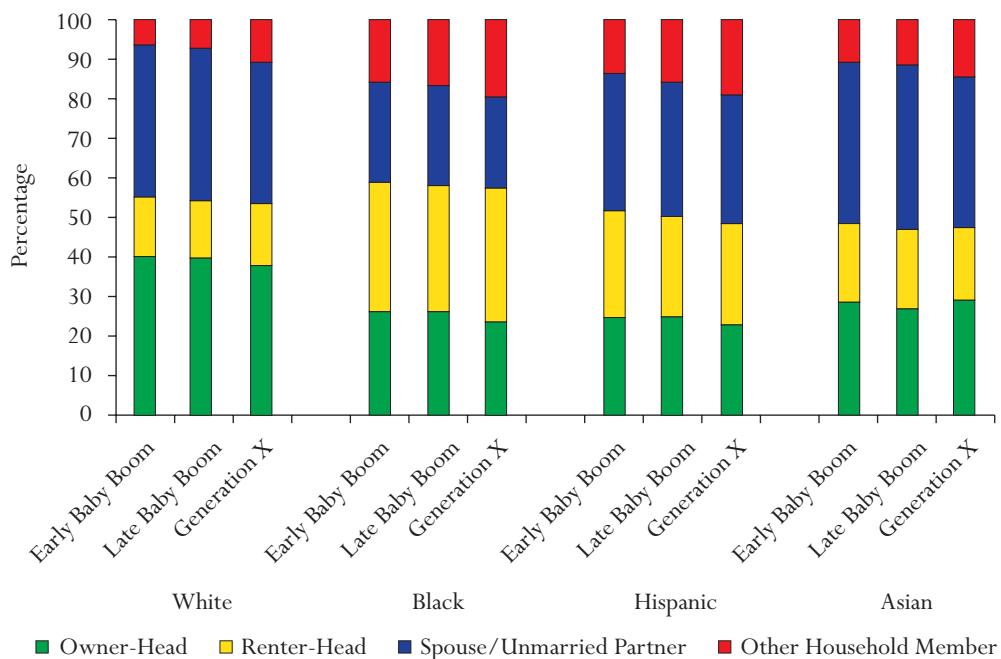


Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

The lower headship rates exhibited by Generation Y (at twenty-five to thirty-four) and Generation X (at thirty-five to forty-four), relative to preceding cohorts, are accompanied by both lower rates of having a spouse or partner and higher rates of coresidence. The former suggests that couple-headed households became a smaller proportion of all independent households, with many merging into households maintained by others. In fact, among coresidents in both age groups, the percentage reporting their relationship to the householder as "son- or daughter-in-law" rose across cohorts, from just under 2 percent (for the Late and Early Baby Booms in 1990) to just over 4 percent (for Generations X and Y in 2010). While the greater prevalence of coresidence is consistent with the growing likelihood that young adults will live with their parents (Qian 2012), the percentage of coresidents who reported being the child of the householder fell across cohorts. Thus, the inter-cohort increase in doubling up reflects a more complicated set of rearrangements than simply young adults failing to launch. Friends, children-in-laws, other relatives—all have moved in with other households.

Figures 6.10 and 6.11 show the distribution of headship by cohort for each of these two age groups, specific to race-ethnicity, and figures 6.12 and 6.13 show the distributions by educational attainment. Looking first at headship patterns for racial-ethnic groups, the disproportionately low homeownership rates of black cohorts at both ages (figure 6.3) stem less from differences in access to owned units (especially relative to Hispanic and Asian cohorts) than from differences in the tendency to form renter-households. Because blacks are more likely to form renter-households, blacks in all cohorts have headship rates slightly above those of whites, but

FIGURE 6.11 *Distribution of Headship Type Among Thirty-Five- to Forty-Four-Year-Olds, by Race-Ethnicity and Cohort, 1990–2010*



Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

far higher than those of Hispanics and Asians. Blacks in all cohorts at both ages are also the least likely to live as spouses or partners in independent households, reflecting the lower prevalence overall of couple-headed households among all black households. As a result, blacks are more likely than their Hispanic and Asian peers to coreside in someone else's household, despite the greater tendency for Hispanic and Asian households to be doubled up or multigenerational. A headship analysis that did not differentiate spouses or partners from other coresiding adults would miss this finding. Indeed, this finding casts doubt on previous assertions that racial-ethnic variation in the headship rate stems mostly from varying cultural preferences for coresidence. Finally, the striking increase in the likelihood of coresidence and the diminished chance of being a co-independent spouse or partner, seen for Generation Y and Generation X in 2010 (figure 6.9), is evident for all racial-ethnic groups.

Looking at inter-cohort differences, figures 6.10 and 6.11 show that during the 1990s black Gen-Xers formed owner- and renter-households at a higher rate than did black Late Boomers the decade before, thereby reducing the relative tendency of Gen-Xers to coreside with others. The tendency to be the spouse or partner in an independent household was also higher among black Gen-Xers than Late Boomers at ages twenty-five to thirty-four. Black Late Boomers did not, however, experience the period in the same way. Black Late Boomers exhibited a headship profile at ages thirty-five to forty-four in 2010 similar to black Early Boomers' profile ten years earlier. Although the analysis of household-based ownership rates among cohorts implied that black Gen-Xers enjoyed broader access to ownership during the 1990s, the headship analysis

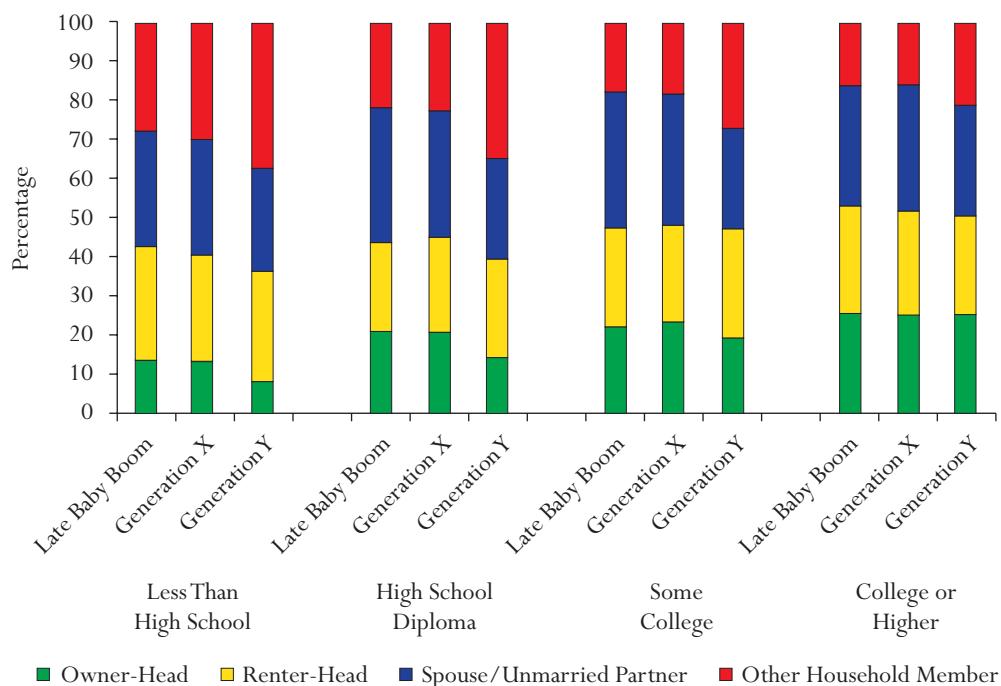
reveals that this was part of a wider expansion of opportunity to form independent households in early adulthood. The impressive inter-cohort improvement in headship among blacks between the Late Baby Boom generation and Generation X stands in stark contrast to the constriction of opportunity to form independent (and especially owner) households faced by Generation Y.

Inter-cohort patterns in headship help to explain the unique patterns of inter-cohort gains in ownership among Asians (figure 6.5). Asian members of Generations Y and X were about as likely to head independent households in 2010 as were their same-aged predecessors in 2000, and only slightly more likely to head owner-households. Although the relative increase in owner-headship contributes to inter-cohort gains in the household-based ownership rate and reflects a truly unique increase in access to owned housing, there are at least two possible interpretations of the coincident increase in the prevalence of coresidence. It may be attributable to a growing pool of young Asian adults whose lack of resources to establish independent households has widened the gap in housing status, or there may be inter-cohort differences in the strength of cultural preferences for multigenerational living. Because such differences are unlikely without broader social change, a greater prevalence of the foreign-born among coresidents in Generation Y than in Generation X, and in Generation X versus the Late Baby Boom (assuming that cultural preferences would be stronger among immigrants) would support the “cultural preferences” explanation. While the proportion of thirty-four- to forty-five-year-old Asian coresidents who were native-born persons remained steady from 1990 through 2010 (at around 20 to 22 percent), among twenty-five- to thirty-four-year-olds that proportion rose from 25.5 percent in 1990 to 37.9 percent in 2010. The evidence, then, supports the thesis that economic need, rather than cultural preferences, underlies inter-cohort change in coresidence. Although a greater number of recent Asian cohorts appear to be buying homes than their predecessors did, the headship analysis reveals instead a pattern of inter-cohort deterioration in housing status.

Inter-cohort patterns of headship also provide insight into the pattern of cohort differences in household-based ownership rates among Hispanics. In figure 6.4, we saw that Generation X had the highest ownership rate at age twenty-five to thirty-four, followed by Generation Y and the Late Baby Boom. Figures 6.10 and 6.11 show that Generation X also had the highest rate of owner-headship, but that Generation Y’s owner-headship rate fell below that of the Late Baby Boom. Unlike inter-cohort differences in ownership rates, which suggest that Generation Y enjoyed broader access to owned housing than did the Late Baby Boom among Hispanics, headship rates tell the opposite story. Yet because the overall headship rate fell consistently across cohorts, Generation Y’s ownership rate received an artificial boost over the Late Baby Boom’s rate. Moreover, as was the case for Asians, the fact that the percentage of native-born among twenty-five- to thirty-four-year-old Hispanic coresidents rose from 37.3 percent to 47.6 percent between 2000 and 2010 suggests that the large inter-cohort rise in the prevalence of coresidence stemmed largely from a widening gap between individuals who were financially able to establish households and those who could not.

Shifting to patterns of headship across educational attainment groupings, less-educated adult heads, regardless of cohort and age, were less likely to own and more likely to rent (figures 6.12 and 6.13). However, the latter differential is more muted among twenty-five- to thirty-four-year-olds than among thirty-five- to forty-four-year-olds, owing to life-course differentials in entry into ownership. In addition, the least-educated Gen-Yers and Gen-Xers were far less likely to head owner-households in 2010 relative to their predecessors in 2000. The inter-cohort loss in owner-headship among the least-educated between 2000 and 2010 at both ages was accompanied by a large increase in the likelihood of coresidence, underscoring the disproportionate effects of the economic crises on the less-educated.

FIGURE 6.12 *Distribution of Headship Type Among Twenty-Five- to Thirty-Four-Year-Olds, by Educational Attainment and Cohort, 1990–2010*

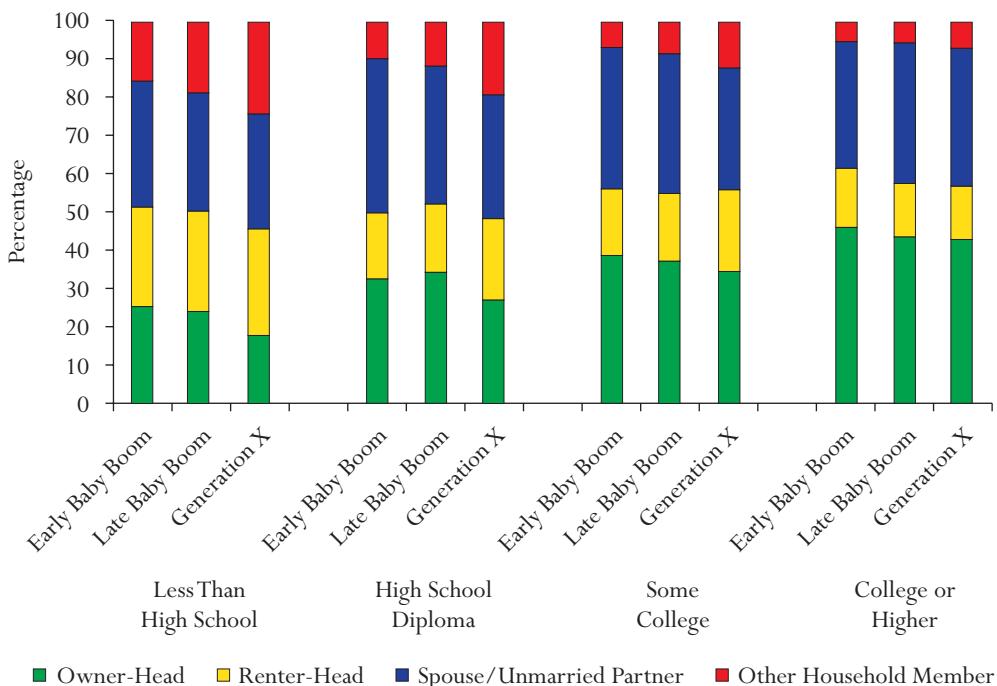


Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

Contrary to the popular, if optimistic, wisdom that the most-educated were spared the fallout of the housing market crash (suggested by figure 6.7), the headship analysis suggests the converse: that the most-educated did suffer. Among twenty-five- to thirty-four-year-olds, we see a consistent—albeit small—inter-cohort decline in the headship rate for those with at least a college education. Because the owner-headship rate remained fairly steady, the declining headship rate stemmed from a loss in the renter-headship rate. Not surprisingly, that loss in headship was accompanied by a sizable increase in the coresidence rate for Generation Y relative to Generation X, suggesting growing polarization in housing status across the most recent cohorts of the most-educated young adults. Conceivably, the rapid increase over time in student loan debt among those under thirty-five made them reluctant to live independently. Those age thirty-five to forty-four also show this pattern of inter-cohort change, but this group shows a loss, across all cohorts, in the owner-headship rate. The household-based ownership rate does not reveal the diminishing access to owned housing because it is counterbalanced by the overall decline in headship. Thus, while the absence of change in the ownership rate across cohorts with the most education suggests that those at the top of the educational hierarchy were immune to the economic crises of the last decade, the headship analysis demonstrates a growing degree of housing inequality across cohorts.

In summary, the headship analysis reveals more complex inter-cohort shifts in housing status than does the declining ownership rate across generations. In particular, the headship analysis reveals a growing divide between those young adults with the means to establish and sustain

FIGURE 6.13 *Distribution of Headship Type Among Thirty-Five- to Forty-Four-Year-Olds, by Educational Attainment and Cohort, 1990–2010*



Source: Author's calculations based on 1990 and 2000 PUMS files, and 2010 ACS file.

independent living arrangements and those without such resources. The latter had to merge into households headed by friends and family. Generational increases in coresidence were greatest for twenty-five- to thirty-four-year-olds and for nonwhites and the least-educated, even among thirty-five- to forty-four-year-olds. The headship analysis also counters findings based on the conventional ownership rate: even the most highly educated young adults are now increasingly likely to coreside with others, a finding hidden by the absence of changes in the conventional rate.

THE NET EFFECTS ON CHANCES OF HOMEOWNERSHIP

Successive cohorts exhibit differences in both their ownership rates and their rates of household headship at the same points in the life course, especially among those at younger ages. At face value, such inter-cohort differences appear to result from the varying economic conditions at these periods, which can affect everyone. However, these differences across cohorts might plausibly arise not from period effects but from cohort effects, which stem from the mixture of early life experiences and exposure to varying social and economic conditions throughout the life course (Yang 2008). In other words, what affected each cohort's housing and household status: the overall economic and social climate, the particular circumstances of the cohort, or the age of its members?

Multivariate analyses can separate the effects of period, cohort, and age, but these three variables are perfectly related in what is referred to as the “identification problem”; hence, stan-

TABLE 6.2 *APCC Logistic Regression Models Predicting Homeownership, Among Household Heads Ages Twenty-Five to Eighty-Four (Odds Ratios)*

	All	Whites	Blacks
Cohort (versus Late Baby Boom)			
Generation Y	1.075	1.102	0.907
Generation X	1.157+	1.185+	1.003
Early Baby Boom	0.929	0.944	0.898
War Babies	0.828*	0.879	0.723
Depression Babies	0.791+	0.863	0.684
Poverty rate	0.982	0.965	1.033
Age	1.210***	1.225***	1.151***
Age-squared	0.999***	0.999***	0.999+
Black	0.421***		
Foreign-born	0.500***	0.448***	0.946
Female	0.945	0.915	1.064
Marital status (versus currently married)			
Previously married	0.227***	0.222***	0.253***
Never married	0.184***	0.173***	0.245***
Education	1.100***	1.097***	1.127***
Region (versus South)			
Northeast	0.784***	0.913	0.392***
Midwest	1.079	1.160*	0.879
West	0.673***	0.729***	0.459***
Nagelkerke R-squared	0.333	0.302	0.281
N	11,224	9,273	1,951

Source: Author's calculations based on General Social Survey (GSS), 1985–2010.

Note: Analyses are weighted.

+ $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.0001$

dard regression approaches are not feasible. Instead, I use an age-period-cohort-characteristic (APCC) approach, in which a continuous variable reflecting the characteristics of one of the three (period, cohort, or age) is used in place of the chosen variable's set of dichotomies (Slack and Jensen 2008).

The multivariate analysis relies on data from the General Social Survey (GSS) from 1985, when a question about homeownership was first asked, to 2010, the most recent wave of available data. The GSS began as an annual survey in 1972, but switched to a biennial format in 1994. In total, seventeen years of data are available for the current analysis.

As a time series of a broad set of behaviors, attitudes, and attainments of the U.S. non-institutionalized adult population, the GSS is unparalleled. For the current purposes, however, the main limitations of the GSS arise from the small sample size (around 2,000 each year). Specifically, each year a few respondents self-identify as neither white nor black in the race question and thus are coded "other." Since this precludes analyzing Hispanics and Asians in separate models, the analysis is limited to blacks and whites.

Table 6.2 presents the results of APCC logistic regression models predicting homeownership for household heads ages twenty-five and older. All results are shown as odds ratios to facilitate interpretation. (An odds ratio of less than 1 indicates a negative effect, while an odds ratio greater than 1 indicates a positive effect.) Cohorts are defined as described in table 6.1 and measured with dichotomous variables, using the Late Baby Boom as the reference group. Age

and age-squared are entered as continuous variables. Because I posit that period effects arise mainly from the shifts in macroeconomic conditions, I use the poverty rate to gauge period effects.² The remaining predictors tap into aspects of the family life cycle and human capital attainment that are well-recognized covariates of homeownership.³

In general, these covariates influence the odds of homeownership as would be expected (table 6.2). Specifically, each year of education raises the odds of homeownership, the odds of ownership are lower among foreign-born than native-born householders, and being married is associated with higher odds of ownership. These effects are seen in the pooled model and in the models for whites and blacks. In the pooled model, the odds of ownership are lower for blacks than whites, reflecting the lower rates of ownership among blacks.

There is no evidence of a unique period effect on homeownership rates. Despite expectations that adverse economic conditions would be associated with lower odds of ownership (as suggested by the ownership trajectories of the cohorts), the annual poverty rate is not significantly associated with the odds of homeownership among GSS householders. There are, however, age effects: the odds of ownership rise with age, and the negative influence of age-squared reflects the tendency for homeownership to drop at the older ages. This is normative, as older people often downsize from homes to apartments or to assisted living facilities, if not nursing homes.

In the presence of controls for period and age effects (and for the other covariates), we see evidence of a cohort effect, largely in the pooled model. Specifically, relative to the Late Baby Boom, the odds of ownership are significantly lower among the War Babies and the Depression Babies, by about 17 percent and 21 percent, respectively. In contrast, the odds of ownership among members of Generation X are about 16 percent higher than those for the Late Baby Boom. Among whites, the odds of ownership are higher, by about 19 percent, for Generation X (relative to the Late Baby Boom), while no cohort effects are evident for blacks.

Taken on their own, these results suggest rising odds of ownership among cohorts up to and including Generation X that are independent of life-cycle changes in ownership (the age effect) and variations in macroeconomic conditions (the period effect), at least when blacks and whites are combined. One interpretation of this cohort effect could be that the Baby Boom and Generation X have larger proportions of groups with low levels of ownership, such as blacks and immigrants, than do older cohorts. However, results based on sequential models (not shown but available upon request) show higher odds for the Late Baby Boom and Generation X when age and age-squared are entered into the model along with cohort and period; controlling for race and foreign birth does not produce this pattern.

Alternatively, it could be that the Baby Boom and later cohorts differ from older cohorts in their postwar socialization: they grew up when homeownership had become an integral, realizable part of American middle-class life, and thus they expected to own homes as adults. Although it has been argued that homeownership is a long-standing norm in U.S. society (Chevan 1989), as a result of Depression-era and postwar policies, the Baby Boom was the first cohort in which the middle class grew up in owned homes. The ubiquity of homeownership in television sitcoms during the 1960s and 1970s further imprinted the notion of homeownership as normative.

Although it is conceivable that homeownership gained strength as an expectation starting with the Baby Boom, any interpretation of this sort is risky without also investigating whether cohort effects are uniquely evident in headship rates in a similar way. To address this concern, I also ran a set of APCC multinomial logistic regression models predicting owner-headship, renter-headship, and spousal or partner status relative to nonheadship, for all white and black adults, ages twenty-five to forty-four, using the 1985–2010 GSS waves.⁴ These models essentially compare the odds of different types of (co-) independent living to the odds of coresiding

in someone else's household and use the same set of predictors as in the ownership models, apart from marital status.⁵ Results from these models—estimated for all (white and black) adults and for whites and blacks separately—are presented in table 6.3.

Looking first at the influence of the covariates, again we see unsurprising results. First, additional years of education raise the odds of owner-headship, renter-headship (except among blacks), and being a spouse or partner relative to the odds of coresidence with others, illustrating the importance of education—and thus by extension income—in facilitating independent living. In the pooled model, being black (versus white) reduces the odds of owner-headship and being a spouse or partner, relative to membership in someone else's household, but increases the odds of renter-headship. This relationship reflects the lower prevalence of owner-headship and couple households among blacks. In the pooled model, being female (rather than male) is associated with lower odds of owner-headship, relative to coresidence, but far higher odds of being a spouse or partner. The same results are evident among whites; additionally, being a white female is related to lower odds of renter-headship. In contrast, among blacks, being female raises the odds of renter-headship and being a spouse or partner, relative to coresidence. Taken together, these findings reflect the greater tendency for men than women to be designated as household heads, especially among whites, but the greater tendency for black women to establish independent renter-households.

In contrast to the results for homeownership in table 6.2, the poverty rate is negatively and significantly associated with all forms of (co-) independent living, relative to living as a member of someone else's households, in the pooled model. The poverty rate is also negatively related to owner- and renter-headship among whites, but not to the odds of any type of headship among blacks. Thus, at least for whites, the results suggest that harsh economic conditions suppress the formation of new households, among both owners and renters. This statistically significant period effect is paralleled by a significant age effect, again in the pooled and white models; that is, age raises (and age-squared lowers) the odds of owner- and renter-headship and of being a spouse or partner, relative to coresidence. The absence of similar age effects among blacks, and the associated interpretation that independent living is removed from life-course changes, suggests the greater vulnerability of black young adults to shifting living arrangements.

Cohort effects are more numerous and consistent for headship than for homeownership. Among whites and blacks (and all adults), membership in Generation Y, relative to membership in the Late Baby Boom, is associated with lower odds of (co-) independent living arrangements, relative to coresidence. Specifically, among all adults, relative to Late Boomers, Gen-Yers are 55 percent less likely to form owner-households, 62 percent less likely to form renter-households, and 68 percent less likely to be a co-household head, relative to living in someone else's household. For whites and all adults, a similar negative association is evident between membership in Generation X and the odds of headship. For example, among all adults, Generation X experiences odds of owner-headship, renter-headship, and being a spouse or partner (relative to coresidence) that are 19 percent, 39 percent, and 35 percent lower, respectively, than those for Late Boomers. The significantly lower odds of owner-headship stand in contrast to the higher odds of ownership among white households from Generation X (table 6.2). Yet the lower odds of owner- and renter-headship help to explain the apparent advantage that Generation X holds in the household-based ownership rate: lower rates of household formation artificially boost Generation X's ownership rate above that of the Late Baby Boom. Similarly, the finding that membership in the War Babies cohort (versus the Late Baby Boom) is positively associated with the odds of owner- and renter-headship, as well as of being a spouse or partner, seems at odds with the prior findings of lower household-based ownership rates for this cohort (table 6.2). But again, despite the higher odds of owner-headship for the War Babies—and the implication that

TABLE 6.3

APCC Multinomial Logistic Regression Models Predicting Headship Type Among Adults Ages Twenty-Five to Forty-Four (Odds Ratios)

Predictor	All		Whites			Blacks		
	Owner- Head	Renter- Head	Spouse	Owner- Head	Renter- Head	Spouse	Owner- Head	Renter- Head
								Spouse
Cohort (versus Late Baby Boom)								
Generation Y	0.452***	0.377***	0.318***	0.427***	0.319***	0.304***	0.474+	0.593*
Generation X	0.812*	0.713**	0.651***	0.753***	0.616***	0.595***	1.018	1.153
Early Baby Boom	1.253+	1.355**	1.610***	1.175	1.191	1.507**	1.465	1.929**
War Babies	2.611**	2.995***	4.069***	2.858***	3.048***	4.194***	2.027	3.011+
Poverty-rate	0.862***	0.848***	0.941+	0.856***	0.841***	0.965	0.911	0.882
Age	2.034***	1.272**	1.736***	2.189***	1.300***	1.827***	1.303	1.130
Age-squared	0.991***	0.996***	0.992***	0.990***	0.996***	0.992***	0.998	0.999
Black	0.458***	1.377***	0.314***					
Foreign-born	0.765+	1.133	0.716	0.886	1.493*	1.152	0.665	0.596*
Female	0.534***	0.978	8.602***	0.442***	0.771**	8.006***	1.205	2.186***
Education	1.129***	1.048***	1.059***	1.135***	1.070***	1.059***	1.129***	0.987
Region (versus South)								
Northeast	0.701***	0.830+	0.764*	0.772*	0.816+	0.823	0.371***	0.803
Midwest	1.045	0.986	1.030	1.065	0.933	1.078	0.957	1.113
West	0.610***	0.959	0.738**	0.607***	0.894	0.753*	0.826	1.513
Nagelkerke R-squared			0.335		0.338		0.195	
N			9,387		7,830		1,557	

Source: Author's calculations based on GSS, 1985–2010.

Note: All outcomes are assessed against the category of "other" household member. Analyses are weighted.

+ $p \leq 0.10$; * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.0001$

homeownership was greater for this cohort—the enhanced odds of renter-headship offset the higher prevalence of owner-households. Together, they suppress the relative odds of ownership among (all) households in this cohort. In short, the War Babies were more likely to form independent households, whether rented or owned.

Among blacks, only Generation Y experiences significantly different—and lower—odds of headship than coresidence when compared to the Late Baby Boom. The relative absence of cohort effects on the odds of owner-headship suggests little social change in access to owned housing among blacks. Yet the negative association between membership in Generation Y and all forms of headship, relative to coresidence, underscores the disadvantaged starting position as the most recent cohort of blacks enters adulthood.

In summary, the Late Baby Boom marks a break from the household formation behavior of the past. The analysis of cohort effects on headship rates highlights the declining odds of household formation from the Late Baby Boom forward. In response to the rising levels of inequality as their members enter young adulthood, these cohorts are delaying the formation of independent households. The increasing need for alternatives to independent living early in adulthood, whether coresidence with parents or sharing housing with roommates, has become part of the life course, perhaps more by necessity than by choice. Living with parents longer than had been the norm or merging into someone else's household can help young adults in many ways, especially financially; this was one way the Baby Boomers achieved a higher per capita level of well-being than earlier cohorts (Easterlin et al. 1990; Easterlin et al. 1993). However, because delayed or forgone independent living signals a problem in owning or renting, the consistent declines in headship signal downward mobility in housing status across generations.

CONCLUSION

This chapter has assessed changes across cohorts in homeownership and household headship using census and ACS data from 1990 to 2010. At the descriptive level, losses in the household-based homeownership rate between 2000 and 2010 were greatest among the most recent cohorts, whose position in the life course made them most vulnerable to economic fluctuations. The last decade's economic misery seems to have had its most serious impact on African Americans and to have extended farther into the life course for African Americans than has been true for other groups. Even cohorts that had reached their retirement years in 2010 did not register ownership rates as high as those the next-older cohorts had achieved ten years earlier. Yet one difference between black cohorts stemmed from the stunning progress achieved in the previous decade, when economic conditions were better and policy changes broadened opportunities for homeownership. The policy regime in the 1990s enforced extant laws regarding fair housing and fair banking and strengthened regulations to raise the ownership levels of low- and moderate-income households. For most of this decade, buyers used conventional mortgages; the subprime industry had not yet taken hold (Immergluck 2010). During the 2000s, when predatory, subprime lenders made deeper inroads into the lending market, targeting vulnerable households, ownership spiked, then ultimately fell.

In terms of homeownership, most Asian, and to a lesser extent Hispanic, cohorts did better than their next-older counterparts over the 2000s. The analysis of headship explained why. Rather than benefiting from adverse economic conditions (as implied by a rising homeownership rate), headship rates for the youngest cohorts were far lower in 2010 than they had been for their next-older peers ten years earlier. The far higher rates of coresidence among Asian Gen-Xers and Gen-Yers in 2010 artificially propped up each cohort's ownership rate, but these ownership rates hid a growing gap in housing status.

The headship analysis also identified clear patterns of intergenerational decline in housing status. Specifically, the odds of any kind of (co-) independent living arrangements fell from the War Babies on, when age effects and period effects were held constant. This finding points to an ever-widening housing status gap between the generations. This gap may have repercussions when older cohorts want to sell their homes but find a shortage of younger buyers who can afford them. Of even greater importance, this gap puts into sharp relief the long-standing, unmet need for rental housing subsidies and affordable rental housing. While the percentage of renter-households paying in excess of 50 percent of their income for rent has risen steadily since 1960, these percentages are far higher among low-income households (Ellen and Dastrup 2012), which arguably have the most tenuous grasp on independent living arrangements. If affordable rental housing were more plentiful, headship rates would be less likely to plummet, and perhaps some of the generational decline in housing status could be ameliorated.

In addition, while the delays in establishing independence grow longer with each succeeding cohort, changed living arrangements may burden the households taking in friends and family. That is, although the individual who stays at or moves back home may see his or her per capita level of well-being improve as a result of sharing in the household's pool of resources, the other members of the household may suffer a loss in per capita well-being. There may be other benefits to taking in friends or family, but when economically stretched households take in additional financially stressed members, the balance between benefits and costs may not be so clear. More important is the fact that the intergenerational rise in coresidence involves only those young adults who are actually housed. As the stock of affordable rental housing diminishes and as demand for low-income rental assistance continues to outstrip supply, some people may end up not in the households of friends or family but homeless. (The census does not count people who have no fixed residence.) Thus, even though the preceding analysis has pointed conclusively to escalating housing inequality across generations, with recent cohorts doing far worse than their parents' cohorts, the true extent of the gap may remain hidden.

NOTES

1. See Alejandro Lazo, "Housing Market Recovery Spreads to New Markets," *Los Angeles Times*, February 6, 2013.
2. The annual poverty rate is based on families and derives from the Current Population Survey; the time series is available at U.S. Census Bureau, "Historical Poverty Tables: Families," <http://www.census.gov/hhes/www/poverty/data/historical/families.html> (accessed March 28, 2013). I also estimated the models using the unemployment rate and got substantively similar results. Among the other indicators for period effects considered was the joblessness rate (discouraged workers), but the time series did not extend back far enough.
3. I did not use income because of the extensive missing data on this variable. I assume that education, as an indicator of permanent income and its correlation with actual income, will pick up the effects of income.
4. A second limitation of the GSS with particular consequences for this analysis is that it does not identify unmarried partners of householders.
5. Marital status cannot be used as a predictor since it constitutes one category of the outcome.

REFERENCES

- Belsky, Eric. 2013. "The Dream Lives On: The Future of Homeownership in America." Cambridge, Mass.: Harvard University.
- Browne, Irene. 1995. "The Baby Boom and Trends in Poverty, 1967–1987." *Social Forces* 73(3): 1071–95.
- Carliner, Michael. 1998. "Development of Federal Homeownership 'Policy.'" *Housing Policy Debate* 9(2): 299–321.
- Chevan, Albert. 1989. "The Growth of Home Ownership: 1940–1980." *Demography* 26(2): 249–66.

- Dwyer, Rachel E. 2008. "Cohort Succession in the U.S. Housing Market: New Houses, the Baby Boom, and Income Stratification." *Population Research and Policy Review* 27(2): 161–81.
- Easterlin, Richard A., Christine Macdonald, and Diane J. Macunovich. 1990. "How Have American Baby Boomers Fared? Earnings and Economic Well-being of Young Adults, 1964–1987." *Journal of Population Economics* 3(4): 277–90.
- Easterlin, Richard A., Christine M. Schaeffer, and Diane J. Macunovich. 1993. "Will the Baby Boomers Be Less Well Off Than Their Parents? Income, Wealth, and Family Circumstances over the Life Cycle in the United States." *Population and Development Review* 19(3): 497–522.
- Ellen, Ingrid Gould, and Samuel Dastrup. 2012. "Housing and the Great Recession." Great Recession Brief. New York and Stanford, Calif.: Russell Sage Foundation and Stanford Center on Poverty and Inequality. Available at: http://www.stanford.edu/group/recessiontrends/cgi-bin/web/sites/all/themes/barron/pdf/Housing_fact_sheet.pdf (accessed November 1, 2013).
- Farley, Reynolds. 1996. *The New American Reality: Who We Are, How We Got Here, Where We Are Going*. New York: Russell Sage Foundation.
- Fetter, Daniel. 2013. "The Twentieth-Century Increase in U.S. Home Ownership: Facts and Hypotheses." Working paper. Cambridge, Mass.: National Bureau of Economic Research.
- Fligstein, Neil, and Adam Goldstein. 2011. "The Roots of the Great Recession." In *The Great Recession*, ed. David B. Grusky, Bruce Western, and Christopher Wimer. New York: Russell Sage Foundation.
- Hogan, Dennis P., and Nan Marie Astone. 1986. "The Transition to Adulthood." *Annual Review of Sociology* 12: 109–30.
- Hughes, Mary Elizabeth, and Angela O'Rand. 2005. "The Lives and Times of the Baby Boom." In *The American People: Census 2000*, ed. Reynolds Farley and John Haaga. New York: Russell Sage Foundation.
- Immergluck, Dan. 2010. *Foreclosed: High-Risk Lending, Deregulation, and the Undermining of America's Mortgage Market*. Ithaca, N.Y.: Cornell University Press.
- Jackson, Kenneth. 1985. *Crabgrass Frontier: The Suburbanization of the United States*. New York: Oxford University Press.
- Joint Center for Housing Studies. 2012. "State of the Nation's Housing." Cambridge, Mass.: Harvard University.
- Keister, Lisa A., and Natalia Deeb-Sossa. 2001. "Are Baby Boomers Richer Than Their Parents? Intergenerational Patterns of Wealth Ownership in the United States." *Journal of Marriage and Family* 63(2): 569–79.
- Martin, Steven. 2004. "Women's Education and Family Timing: Outcomes and Trends Associated with Age at Marriage and First Birth." In *Social Inequality*, ed. Kathryn Neckerman. New York: Russell Sage Foundation.
- Masnick, George. 2001. "Home Ownership Trends and Racial Inequality in the United States in the Twentieth Century." Working paper W01-4. Cambridge, Mass.: Joint Center for Housing Studies at Harvard University.
- Masnick, George, Zhu Xiao Di, and Eric Belsky. 2006. "Emerging Cohort Trends in Housing Debt and Home Equity." *Housing Policy Debate* 17(3): 491–527.
- Morgan, S. Philip, Erin Cumberworth, and Christopher Wimer. 2011. "The Great Recession's Influence on Fertility, Marriage, Divorce, and Cohabitation." In *The Great Recession*, ed. David B. Grusky, Bruce Western, and Christopher Wimer. New York: Russell Sage Foundation.
- Morris, Martin A., and Bruce Western. 1999. "Inequality in Earnings at the Close of the Twentieth Century." *Annual Review of Sociology* 25: 623.
- Myers, Dowell. 1985. "Wives' Earnings and Rising Costs of Homeownership." *Social Science Quarterly* 66(2): 319–29.
- . 1999. "Cohort Longitudinal Estimation of Housing Careers." *Housing Studies* 14(4): 473–90.
- . 2005. "Cohorts and Socioeconomic Progress." In *The American People: Census 2000*, ed. Reynolds Farley and John Haaga. New York: Russell Sage Foundation.
- Myers, Dowell, Gary Painter, Zhou Yu, Ryu Sung Ho, and Wei Liang. 2005. "Regional Disparities in Homeownership Trajectories: Impacts of Affordability, New Construction, and Immigration." *Housing Policy Debate* 16(1): 53–83.
- Myers, Dowell, and Jennifer Wolch. 1995. "The Polarization of Housing Status." In *State of the Union: America in the 1990s*, vol. 1, ed. Reynolds Farley. New York: Russell Sage Foundation.
- Qian, Zhenchao. 2012. "During the Great Recession, More Young Adults Lived with Their Parents." Research Report, US2010 project (August). Available at: <http://www.s4.brown.edu/us2010/Data/Report/report08012012.pdf> (accessed August 15, 2012).
- Rosenbaum, Emily. 2012. "Homeownership's Wild Ride, 2001–2011." Research Report, US2010 Project (March). Available at: <http://www.s4.brown.edu/us2010/Data/Report/report03212012.pdf> (accessed April 1, 2012).

- Rosnick, David, and Dean Baker. 2010. "The Impact of the Housing Crash on the Wealth of the Baby Boom Cohorts." *Journal of Aging and Social Policy* 22(2): 117–28.
- Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. *Integrated Public Use Microdata Series: Version 5.0* (machine-readable database). Minneapolis: University of Minnesota.
- Shlay, Anne. 2006. "Low-income Homeownership: American Dream or Delusion?" *Urban Studies* 43(3): 511–31.
- Slack, Tim, and Leif Jensen. 2008. "Birth and Fortune Revisited: A Cohort Analysis of Underemployment, 1974–2004." *Population Research and Policy Review* 27(6): 729–49.
- Tamborini, Christopher, and Howard Iams. 2011. "Are Generation X'ers Different Than Late Boomers? Family and Earnings Trends Among Recent Cohorts of Women at Young Adulthood." *Population Research and Policy Review* 30(1): 59–79.
- Trawinski, Lori. 2012. "Nightmare on Main Street: Older Americans and the Mortgage Market Crisis." Washington, D.C.: AARP Public Policy Institute.
- White, Lynn. 1994. "Coresidence and Leaving Home: Young Adults and Their Parents." *Annual Review of Sociology* 20: 81–102.
- Wolff, Edward. 2010. "Recent Trends in Household Wealth in the United States: Rising Debt and the Middle-Class Squeeze—an Update to 2007." Working Paper 589. Annandale-on-Hudson, N.Y.: Bard College, Levy Economics Institute.
- Yang, Yang. 2008. "Social Inequalities in Happiness in the United States, 1972 to 2004: An Age-Period-Cohort Analysis." *American Sociological Review* 73(2): 204–26.
- Yu, Zhou, and Michael Haan. 2012. "Cohort Progress Toward Household Formation and Homeownership: Young Immigrant Cohorts in Los Angeles and Toronto Compared." *Ethnic and Racial Studies* 35(7): 1311–37.
- Yu, Zhou, and Dowell Myers. 2010. "Misleading Comparisons of Homeownership Rates When the Variable Effect of Household Formation Is Ignored: Explaining Rising Homeownership and the Homeownership Gap Between Blacks and Asians in the U.S." *Urban Studies* 47(10): 2615–40.

Chapter 7

Residential Segregation by Income, 1970-2009

Kendra Bischoff and Sean F. Reardon

Every city or metropolitan area in the United States has higher- and lower-income neighborhoods.¹ The average socioeconomic status of these neighborhoods, however, varies considerably. Moreover, socioeconomic residential sorting has grown substantially in the last forty years (Reardon and Bischoff 2011a, 2011b; Watson 2009), and the bulk of that growth occurred in the 1980s and in the 2000s.

We refer to the uneven geographic distribution of families of different income levels within a metropolitan area as “family income segregation,” or more simply, “income segregation.” Our use of the term “segregation” is descriptive: it denotes the extent to which families of different incomes live in different neighborhoods and does not imply any particular cause of these residential patterns.² We focus on the segregation of families by income primarily because children generally live in family households. Segregation is likely to be more consequential for children than for adults for two reasons.³ First, most children spend a great deal of time in their neighborhood, making that immediate context particularly salient for them, while adults generally work and socialize within a larger geographic area. Second, for children, income segregation can lead to disparities in the quality and quantity of crucial public amenities like schools, parks, libraries, and recreation.

In this chapter, we describe the patterns and trends in family income segregation over the last forty years. We begin with a discussion of several different measures of income segregation, each of which provides insight into one aspect of the patterns. Then we describe the trends in family income segregation from 1970 to 2009. Here we find clear evidence that income segregation has grown rapidly, particularly in the last decade and particularly among black and Hispanic families. Next we describe the variation in income segregation among the 117 metropolitan areas with populations of at least 500,000 in 2007. We document considerable variation in income segregation among metropolitan areas—a variation systematically related to several key features of metropolitan areas, including their size, level of income inequality, age composition, and average educational levels. From there we go on to investigate the metropolitan area correlates of changes in income segregation, exploring whether changes in these characteristics over time are systematically related to changes in income segregation levels. Again, we find that segregation has grown most rapidly in metropolitan areas characterized by growing income inequality, growing proportions of children, and increasing average educational attainment levels. The longitudinal analyses also show that changes in unemployment and manufacturing jobs are inversely related to income segregation.

WHY DOES INCOME SEGREGATION MATTER?

As anyone who has bought or rented a home knows, housing prices and rental costs are spatially patterned. People choose their neighborhood in large part based on their ability to afford housing in that area and, conditional on that, their preferences for location (for instance, proximity to work) and neighborhood amenities, such as schools, parks, and safety. Because the ability to afford housing in a given neighborhood is generally tied to income, the fact that some families have more or less income leads to residential sorting by income: high-income families tend to live in neighborhoods with other high-income families, and low-income families with other low-income families. However, the linkage between a family's income and the income of its neighbors is not perfect. Many factors determine the income segregation of a region, including: the extent of income inequality in the region; the patterns of family residential preferences (such as preferences for neighbors of similar ethnicity); the location of cultural, institutional, and environmental amenities; suburbanization patterns; the extent of family income volatility; variation in the type and quality of the housing stock; topography and geography; school and municipal boundaries; and zoning and housing policies (Bischoff 2008; Cutler and Glaeser 1997; Jargowsky 1996; Reardon and Bischoff 2011b; Rothwell and Massey 2010; Watson 2009; Yang and Jargowsky 2006).

Income segregation may accentuate the economic advantages of high-income families and exacerbate the economic disadvantages of low-income families. It is useful to distinguish between two categories of mechanisms by which this occurs: neighborhood composition mechanisms and spatial resource distribution mechanisms. Neighborhood composition effects stem from the demographic composition of neighborhoods—for example, poverty rates, average educational attainment levels, and the proportion of single-parent families. Spatial resource distribution effects operate when segregation leads to the unequal distribution of collective resources (such as high-quality schools and public parks) and/or public hazards (such as pollution and crime) among neighborhoods. Although both of these distinct processes are often implied in the “neighborhood effects” literature in the social sciences, they are rarely disentangled for theoretical or empirical purposes.

This distinction is not sharp, but a stylized example will make it clearer. Suppose that low-income neighbors hinder children’s educational success because children observe fewer adults in their neighborhood with high educational attainment, and, by extension, fewer adults who have reaped the benefits of higher education. Children in high-income neighborhoods observe just the opposite. In this case, income segregation will lead to educational inequality between high- and low-income children because it produces large differences in children’s access to adult role models. We consider this a neighborhood compositional effect.

Suppose instead that one’s neighbors do not influence school success, but that it is largely determined by the resources in the school—for example, highly skilled teachers. If high-income communities attract those highly skilled teachers—for instance, by paying higher salaries—then residential income segregation will lead to unequal school resources among communities, which will in turn lead to inequalities in educational success among high- and low-income children. We consider this a spatial resource distribution effect. In practice, the effects of segregation may include both compositional and distributional components.

A considerable body of scholarship discusses neighborhood composition effects. In sociology, much of this literature predicts that neighborhood composition—particularly neighborhood poverty and concentrated economic disadvantage—will affect residents’ social, economic, educational, psychological, and physical outcomes through a variety of mechanisms (for discussions of these mechanisms, see, for example, Burdick-Will et al. 2011; Jencks and Mayer 1990; Leventhal and Brooks-Gunn 2000; Sampson, Raudenbush, and Earls 1997).

The empirical evidence on the effects of neighborhood composition, however, is more mixed. A number of carefully designed observational (non-experimental) studies find evidence that prolonged residence in very poor neighborhoods harms schooling outcomes (Burdick-Will et al. 2011; Harding 2003; Sampson, Sharkey, and Raudenbush 2008; Wodtke, Harding, and Elwert 2011), though other observational studies find smaller or insignificant neighborhood compositional effects (Jencks and Mayer 1990; Sampson, Morenoff, and Gannon-Rowley 2002). In addition, studies of the Moving to Opportunity (MTO) experiment, in which a random sample of low-income families were offered housing vouchers to encourage them to move to low-poverty neighborhoods, show few significant or long-term impacts of reduced exposure to neighborhood poverty (Kling, Liebman, and Katz 2007; Ludwig et al. 2013). Some of the discrepancies among the observational studies and the MTO experiment may arise from differences in the types of neighborhoods studied, differences in the duration of exposure to high-poverty neighborhoods experienced by families in each of the studies, or the observational studies' failure to account fully for family differences among those in high- and low-poverty neighborhoods.⁴ There is no clear consensus in the literature, however, regarding the differences in estimated neighborhood compositional effects. In short, it is unclear whether income segregation operates through neighborhood composition mechanisms to exacerbate social, economic, educational, and health disparities between high- and low-income families.

On the question of whether income segregation operates through spatial resource distribution mechanisms, the theory and evidence are even less well developed. Susan Mayer (2002) suggests that income segregation leads to greater inequality in school funding, as states with rising income segregation have experienced rising disparities in educational attainment. More broadly, we might expect the local tax base and the involvement of the community in the maintenance of and investment in shared public resources (such as community centers and playgrounds) and local social institutions (such as schools) to influence the quality of those resources and institutions. Income segregation therefore may create disparities in these public resources and institutions among high- and low-income communities.

Another possibility is that income segregation concentrates political power in a small number of local areas. Research in political science has shown that high-income individuals wield more political influence than low-income individuals (Bartels 2008); thus, more affluent communities may have undue influence in the distribution of collective goods (and hazards). Regional decisions about where to site train, subway, and bus lines, for example, or where to locate a new hospital or a new landfill, all have implications for those who live near these amenities or hazards. If residents of high-income communities are collectively more effective at influencing these decisions than residents of low-income communities, then income segregation may lead to unequal control over regional decision-making. There is little research, however, that empirically investigates this possibility. More generally, there is little research examining the effects of segregation per se: although several studies credibly identify the effects of racial segregation on racial disparities in education and earnings (Ananat 2009; Card and Rothstein 2007; Cutler and Glaeser 1997), no similarly rigorous studies examine the effects of income segregation.

DATA AND MEASUREMENT

This study uses decennial U.S. census data from 1970 to 2000 (GeoLytics 2004; Minnesota Population Center 2011), as well as American Community Survey (ACS) data from 2005 to 2011. We use these data to compute measures of metropolitan-level income segregation as well as to construct measures of other metropolitan-level characteristics that are included in the multivariate analyses. We measure income segregation among neighborhoods within metro-

politan areas, using census tract boundaries to approximate neighborhoods.⁵ The 2000 census marked the last available single-year estimates of tract-level income distributions; tract-level data from the ACS are available only as five-year moving averages, covering the years 2005–2009, 2006–2010, and 2007–2011.⁶ The interpretations of the ACS estimates therefore differ from the previous decennial estimates because they represent rolling averages instead of sharp cross-sections. To simplify our language in the remainder of this chapter, we refer to the ACS estimates by the middle of the five-year time span. Thus, “2007” refers to the 2005–2009 period, “2008” refers to the 2006–2010 period, and “2009” refers to the 2007–2011 period.

We restrict our analyses to metropolitan areas with total populations of 500,000 or more in 2007. This creates a sample of 117 large- and moderate-sized metropolitan areas.⁷ These areas were home to 197 million people in 2007 and represent roughly 65 percent of the total U.S. population and 78 percent of the total population living in metropolitan areas.⁸ Though we use all 117 metropolitan areas for our overall calculations of income segregation, we use fewer metropolitan areas in the racial-ethnic group-specific analyses.⁹

As we stated earlier, we focus on the income segregation of *families* rather than *households*. We do this for two reasons. First, income segregation may be particularly salient for children because neighborhood resources and neighborhood context are important for early development (Leventhal and Brooks-Gunn 2000; Wodtke et al. 2011). In census tabulations, children are embedded in families, whereas households may contain just one adult or groups of unrelated adults. Because we are particularly interested in children’s experiences, families are the relevant unit. The second reason is pragmatic: family income by race-ethnicity is available for all census years, while income for households by race-ethnicity is not.

Income segregation—the extent to which high- and low-income families live in separate neighborhoods—can be measured in several ways. We report four different measures, each of which has a different interpretation.

The Proportions of Families in Poor and Affluent Neighborhoods

We compute the proportions of families who live in high-, moderate-, or low-income neighborhoods. Specifically, for each neighborhood (census tract) in each metropolitan area, we compute the ratio of the neighborhood median family income to the metropolitan-area median income. We use this ratio to classify neighborhoods as poor (median income ratio less than 0.67), low-income (ratio between 0.67 and 0.80), low-middle-income (ratio between 0.80 and 1.0), high-middle-income (ratio between 1.0 and 1.25), high-income (ratio between 1.25 and 1.5), or affluent (ratio more than 1.5). We then compute the proportion of families in each metropolitan area who live in each of these six categories of neighborhoods. In a highly segregated metropolitan area, many families will live in poor or affluent neighborhoods and relatively few will live in middle-income neighborhoods. Thus, we add together the proportion of families living in poor and affluent neighborhoods to construct a measure of income segregation.

Note that neighborhood poverty and affluence are defined here relative to the median income of the metropolitan area. A typical metropolitan area in 2009 had a median family income of roughly \$75,000; in a poor neighborhood (by our definition), more than half the families would have incomes below \$50,000; in an affluent neighborhood, more than half the families would have incomes above \$112,500. The advantage of this measure is that it is relatively intuitive and readily interpretable. However, it has two disadvantages: it relies on somewhat arbitrary definitions of neighborhood poverty and affluence, and it may confound changes in income inequality with changes in segregation. If every family stayed in the same neighborhood but in-

come inequality grew (high-income families' incomes rose while low-income families' incomes declined), the number of poor and affluent neighborhoods would increase simply because median incomes would rise, on average, in higher-income neighborhoods and decline in lower-income neighborhoods.

The Rank-Order Information Theory Index

The second measure of income segregation—the rank-order information theory index (denoted H)—is less intuitive than the first, but does not confound changes in income inequality with changes in income segregation (Reardon 2011; Reardon and Bischoff 2011b). This measure compares the variation in family incomes within census tracts to the variation in family incomes in the metropolitan area. It can range from a theoretical minimum of 0 (no segregation) to a theoretical maximum of 1 (total segregation). In a hypothetical metropolitan area in which the income distribution among families within every census tract is identical—and therefore identical to the overall metro income distribution—the index would equal 0, indicating no segregation by income. In such a metropolitan area, a family's income would have no correlation with the average income of its neighbors. In contrast, in a hypothetical metropolitan area in which each tract contains families of only a single income level, the index would equal 1. In such a metropolitan area, segregation would be at its absolute maximum; no family would have a neighbor with a different income than its own.

Although the magnitude of H does not have a particularly intuitive meaning, differences in H between metropolitan areas or changes over time indicate where and when segregation is higher or lower. Moreover, the level of income inequality in a metropolitan area does not influence H , so it more accurately measures the extent to which families of different incomes are sorted among neighborhoods than does our first measure.¹⁰

Segregation of Poverty, Segregation of Affluence

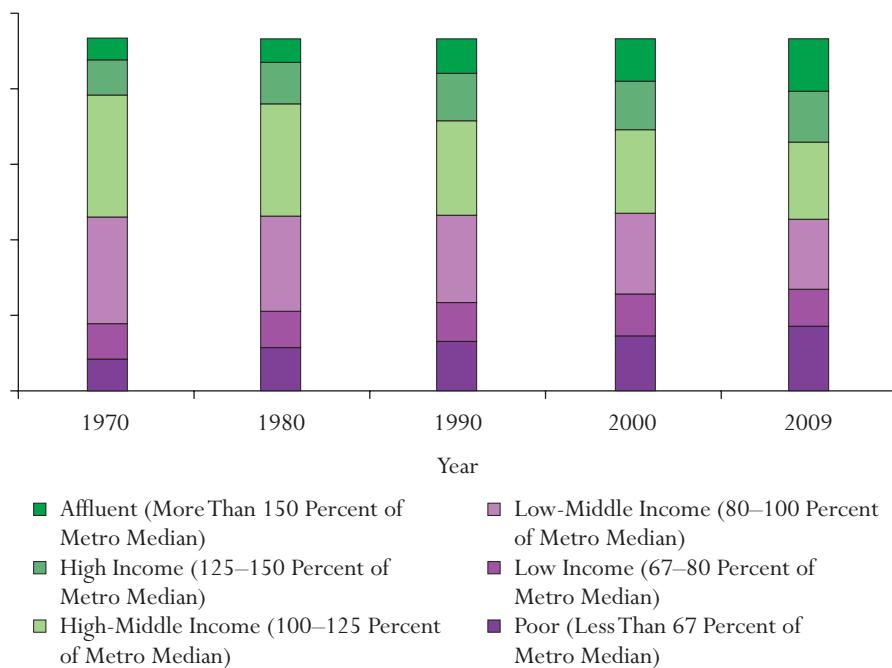
The third and fourth measures describe the extent to which either low- or high-income families are segregated from all other families. The segregation of poverty (denoted as $H10$) is measured by using a variant of H that describes the extent to which the lowest-earning families (the bottom 10 percent) in a metropolitan area live in neighborhoods separate from all other, higher-earning families (the remaining 90 percent). Likewise, the segregation of affluence (denoted as $H90$) describes the extent to which the highest-earning families (the top 10 percent) in a metropolitan area live in neighborhoods separate from all other, lower-earning families (the remaining 90 percent). For instance, if $H10$ is close to 0, it means that the poorest families are scattered fairly evenly throughout the area; in theory, as $H10$ approaches 1, those families are increasingly clustered.

Together, these four measures provide a detailed picture of variations in income segregation among metropolitan areas and the changes over the last four decades.

INCOME SEGREGATION TRENDS

We now turn to the results of our analyses. We begin by describing trends in the proportions of families who lived in high-, moderate-, or low-income neighborhoods from 1970 to 2009. We then describe trends in overall and racial-ethnic group-specific income segregation from 1970 to 2009 using the rank-order information theory index. Third, we report the trends in the segregation of affluence and poverty.

FIGURE 7.1 *Proportion of Families Living in High-, Middle-, and Low-Income Neighborhoods in Metropolitan Areas with Population Greater Than 500,000, 1970–2009*



Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011). Figure is based on data from all 117 metropolitan areas with at least 500,000 residents in 2007.

Figure 7.1 shows the proportion of families who resided in the six categories of high-, middle-, and low-income neighborhoods from 1970 to 2009. The figure shows a steady decline in the proportion of families living in middle-income neighborhoods from 1970 to 2009 and a corresponding increase in the number of families in neighborhoods at the extremes of the neighborhood income distribution.

In 1970, 65 percent of families lived in middle-income neighborhoods (neighborhoods in one of the two middle categories); by 2009, only 42 percent of families lived in such neighborhoods. The proportion of families living in affluent neighborhoods more than doubled, from 7 percent in 1970 to 15 percent in 2009. Likewise, the proportion of families in poor neighborhoods doubled, from 8 percent to 18 percent, over the same period. Thus, in 1970 only 15 percent of families lived in one of the two extreme types of neighborhoods; by 2009, that number had more than doubled, to 33 percent of families.

By this measure, income segregation grew significantly from 1970 to 2009. Moreover, family income segregation grew in every decade from 1970 to 2009. The proportion living in poor or affluent neighborhoods increased by 4.1 percentage points in the 1970s, by 4.6 percentage points in the 1980s, by 4.2 percentage points in the 1990s, and by 5.1 percentage points from 2000 to 2009 (see appendix table 7A.1 for details). The rate of growth in segregation in the 2000s was faster than in any of the three prior decades. Although Americans may still have believed in middle-class communities, our metropolitan areas were dividing by income.

TABLE 7.1 *Average Family Income Segregation and Segregation of Poverty and Affluence in Metropolitan Areas with Population Greater than 500,000, 1970–2009*

	1970	1980	1990	2000	2007	2008	2009
Overall segregation (H)	0.115 (0.027)	0.112 (0.027)	0.134 (0.029)	0.135 (0.027)	0.143 (0.028)	0.148 (0.027)	0.148 (0.027)
Segregation of poverty (H_{10})	0.112 (0.023)	0.124 (0.030)	0.153 (0.038)	0.146 (0.031)	0.158 (0.031)	0.163 (0.029)	0.163 (0.029)
Segregation of affluence (H_{90})	0.173 (0.037)	0.156 (0.037)	0.189 (0.039)	0.185 (0.036)	0.195 (0.038)	0.202 (0.037)	0.200 (0.036)

Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: N = 117. Standard deviations are in parentheses.

The trends in average income segregation, the segregation of poverty, and the segregation of affluence repeat the pattern of residential cleavage. Table 7.1 presents descriptive statistics on levels and changes in H , the segregation of poverty, and the segregation of affluence from 1970 to 2009 in the 117 large- and moderate-sized metropolitan areas in this study.

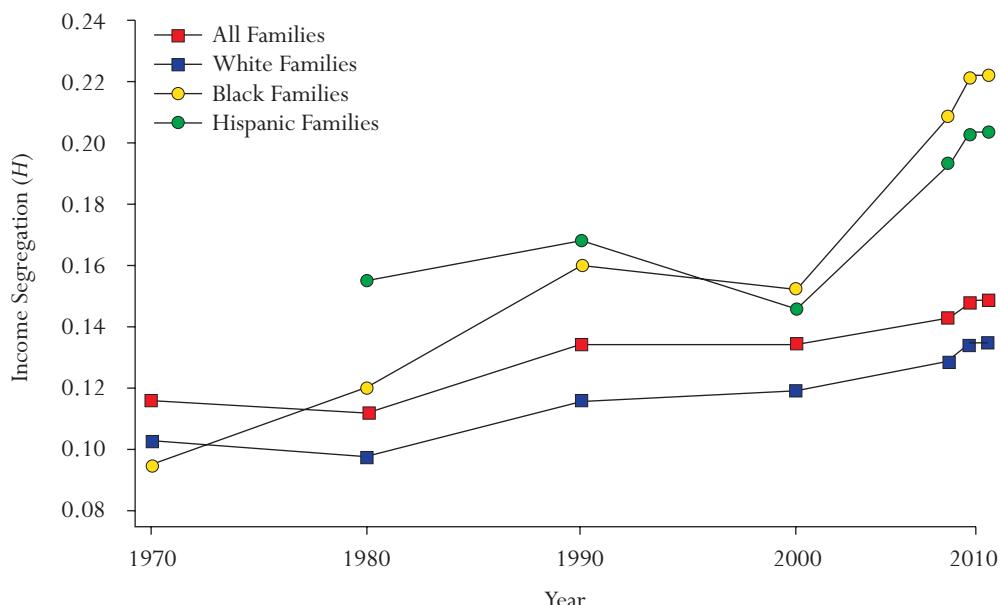
Segregation by income among all families increased from 0.115 in 1970 to 0.148 in 2009, a change of 0.033. In the metric of H , this is a substantial change, roughly equal to a 1.2 standard deviation increase. Put differently, overall income segregation increased by approximately 29 percent over this forty-year period. Figure 7.2 shows the trend in average segregation, as measured by H , from 1970 to 2009. Note that, by this measure, the segregation of families by income changed little in the 1970s or 1990s but grew substantially in the 1980s (from 0.112 in 1980 to 0.134 in 1990) and grew again in the 2000s (from 0.135 to 0.148).

One reason the trend in income segregation, as measured by H , differs from the trend based on the proportion of families in poor and affluent neighborhoods is that the proportion of families living in these neighborhoods is affected by *both* the level of income inequality and the degree to which families of different incomes are sorted among neighborhoods. The rank-order index (H), in contrast, is not affected by changes in income inequality, so it is a clearer measure of the degree of sorting alone.¹¹

Black and Hispanic families lived in increasingly income-segregated communities. In addition to showing the trend in income segregation for the full population of families, figure 7.2 presents trends in within-race income segregation among white, black, and Hispanic families separately. The line for black families represents the trend in residential segregation among black families of differing income levels (not the trend in segregation between white and black families). The different lines in the figure compare trends in within-group income segregation across racial-ethnic groups. These trend lines can be thought of as describing the extent to which families' exposure to same-race neighbors of varying income levels has changed over time. Increasing income segregation among black families means that low-income black families had fewer middle-class neighbors who were black in 2009 than in 1970.

The rapid rise in income segregation among black families in the 1970s and 1980s may have stemmed in part from changes in housing legislation, increases in the suburbanization of black families (see, for example, Logan and Schneider 1984; Schneider and Phelan 1993), and the emergence of a more substantial black middle class (Landry 1987; Pattillo-McCoy 2000).¹² The combination of these forces created opportunities for black families of differing socioeconomic statuses to live in a variety of places throughout the metropolitan area.¹³ The interaction among racial segregation, between-group differences in income, and within-group income segregation

FIGURE 7.2 Trends in Family Income Segregation in Metropolitan Areas with Population Greater Than 500,000, by Race, 1970–2009



Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: Figure presents unweighted average segregation levels in all metropolitan areas with at least 500,000 residents in 2007 and at least 10,000 families of a given race in each year 1970–2009 (or each year 1980–2009 for Hispanics). This includes 117 metropolitan areas for the trends in total and white income segregation, 65 metropolitan areas for the trends in income segregation among black families, and 37 metropolitan areas for the trends in income segregation among Hispanic families. Note that the trends are very similar if metropolitan areas are weighted by the group population of interest.

complicates any straightforward interpretation of the implications of these trends for individual- and group-level outcomes.¹⁴ The sociologist William Julius Wilson argues in *The Truly Disadvantaged* (1987) that formerly mixed-income black neighborhoods in inner cities became impoverished during this period at least in part because of high levels of racial segregation coupled with the outward migration of the black middle class.

The trends in income segregation among black and Hispanic families are much more striking than those among white families. Segregation by income among black families was lower than among white families in 1970, but grew four times as much between 1970 and 2009. By 2009, income segregation among black families was 65 percent greater than among white families. Although income segregation among blacks grew substantially in the 1970s and 1980s, it grew at an even faster rate from 2000 to 2009, after declining slightly in the 1990s. Indeed, in the nine years from 2000 to 2009, income segregation among black families grew by almost two standard deviations. (The 2000 standard deviation of income segregation among blacks was 0.036; the change from 2000 to 2009 was 0.069.)

The trend in income segregation among Hispanic families is similar to that among black families, though the growth of Hispanic income segregation in the 1980s and 2000s was less than the growth for black families during those time periods. In the 1990s, the decline of segregation

was greater among Hispanic families than among black families. In the 2000s, income segregation among Hispanic families grew more than one standard deviation (by 0.057 points, compared to a 2000 standard deviation of 0.044). The trends presented in figure 7.2 highlight the growing socioeconomic diversity within historically disadvantaged groups and their corresponding spatial separation. This pattern among black and Hispanic families may exacerbate “concentrated disadvantage” when coupled with the persistent racial segregation that pervades most American metropolitan areas.¹⁵ In short, racial segregation coupled with income segregation means that low-income black and Hispanic families will tend to cluster in communities that are disadvantaged along a number of dimensions, such as average educational attainment, family structure, and unemployment.

In contrast, low-income white families, although affected by income segregation as well, tend to live in neighborhoods with higher average incomes than even middle-class black and Hispanic families do (Logan 2011). Thus, white families are able to “buy up” while black and Hispanic families “buy down.” Long-standing racial wealth differentials may explain some of this disparity in neighborhood attainment (Oliver and Shapiro 1995; Taylor, Fry, and Kochhar 2011), though it is likely that racial discrimination in the housing market, individual preferences, and “white flight” also contribute to the creation of neighborhoods characterized by concentrated disadvantage.

Consider the extent to which very high-income or very low-income families are isolated from other families within a metropolitan area. Table 7.1 shows that between 1970 and 2009, the segregation of poverty (the extent to which the 10 percent of families with the lowest incomes in a metropolitan area are isolated from all higher-income families) increased by 0.051 and the segregation of affluence (the extent to which the 10 percent of families with the highest incomes in a metropolitan area are isolated from all lower-income families) increased by 0.027. Although the rise in the segregation of poverty is greater than that for the segregation of affluence, in all years the level of the segregation of affluence is considerably higher than the level of the segregation of poverty. Figure 7.3 displays trends in the segregation of affluence ($H90$) and the segregation of poverty ($H10$) from 1970 through 2009.

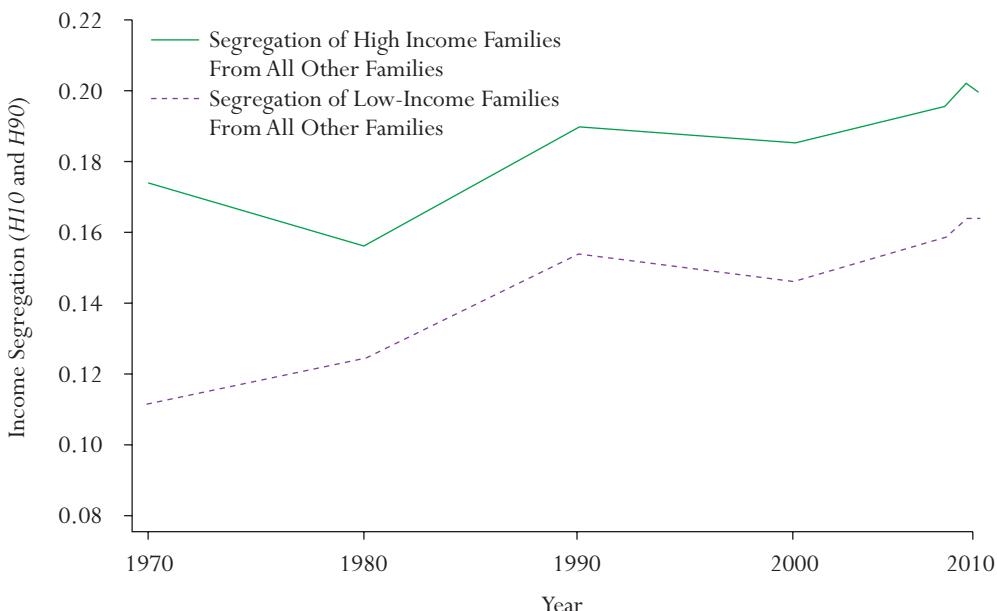
Although the segregation of poverty grew rapidly in the 1970s while the segregation of affluence declined substantially, figure 7.3 clearly shows that the trends in the segregation of both poverty and affluence have followed a similar pattern for the last thirty years. In the 1980s, segregation levels rose substantially; in the 1990s, they declined slightly. Paul Jargowsky (1996) also found increases in the isolation of poverty through the 1980s and reported significant declines in concentrated poverty in the 1990s. He attributed the declines in concentrated poverty in the 1990s largely to the strong economic upswing the nation experienced through much of the decade (Jargowsky 2003). Predictably, in the 2000s both high- and low-income families became increasingly isolated from all other families, reversing the pattern of declining isolation through the 1990s. Macroeconomic conditions surely played a role in this sharp increase in economic segregation over the past decade, with the Great Recession likely shaping the decade-long trends. Later in the chapter, we discuss possible reasons for these shifting trends.

METROPOLITAN CHARACTERISTICS AND INCOME SEGREGATION

We have shown the increasing income segregation in American metropolitan areas (figures 7.2 and 7.3), but those trends mask substantial variation among metropolitan areas. In any given year, segregation is two to three times as high in the most segregated 10 percent of metropolitan areas as in the least segregated 10 percent.

We next examine whether this variation is systematically associated with demographic and structural features of metropolitan areas. This section explores the relationship between selected

FIGURE 7.3 *Trends in Segregation of Affluence and Poverty in Metropolitan Areas with Population Greater Than 500,000, 1970–2009*



Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: Figure presents unweighted average segregation levels in all 117 metropolitan areas with at least 500,000 residents in 2007. Note that the trends are very similar if metropolitan areas are weighted by the group population of interest.

metropolitan characteristics and three measures of income segregation—overall income segregation (H), the segregation of poverty ($H10$), and the segregation of affluence ($H90$). Consistent with the previous analyses, we present estimates only for the most populous 117 metropolitan areas in 2007.

Although there are many hypotheses regarding the metropolitan characteristics most strongly associated with income segregation, we focus on a small set of characteristics that theory and prior research suggest may be strongly related to income segregation. First is metropolitan family income inequality. Although income inequality is a necessary condition for income segregation, it is not a sufficient explanation. In theory, families of different income levels can spread equally across a metropolitan area to create mixed-income neighborhoods. However, prior research has established a strong—and arguably causal—link between the rise in income inequality and the rise in income segregation from 1970 to 2000 (Reardon and Bischoff 2011b; Watson 2009). We expect the same positive relationship to persist through the 2000s, as both inequality and income segregation increased in the past decade.

Second, because the potential for residential sorting is greater in larger metropolitan areas, we expect income segregation to be higher in larger metropolitan areas, a pattern found in prior research (Jargowsky 1996; Reardon and Bischoff 2011b; Watson 2009).

Third, based on the argument that residential location is more consequential for children than for adults, we expect that families with children will be more segregated by income than

families and households without children. Residential location often determines the school a child attends. In addition, residential location may affect other factors important to parents, including access to parks and playgrounds and exposure to crime and violence. If parents care more about these factors than do nonparents, they may be willing to pay more to live in neighborhoods with better schools and parks and lower crime rates; this in turn will increase levels of income segregation. If this pattern holds, we would expect higher levels of income segregation in metropolitan areas with a larger proportion of children than in those with fewer children.

Fourth, we expect income segregation to be higher in metropolitan areas with higher levels of educational attainment inequality. As the returns to education have increased in recent decades (Goldin and Katz 2008; Oreopoulos and Petronijevic 2013), the income gap between those with college degrees and those with high school degrees or less has grown. In addition, as average education levels continue to rise, those without a high school diploma struggle to find well-paying, stable jobs. As a result, income segregation is likely increasingly correlated with educational segregation. Though we do not test this hypothesis explicitly, we do examine whether income segregation is higher in metropolitan areas with larger shares of both college graduates and high school dropouts than in metropolitan areas with less inequality in educational attainment.

Fifth, we want to understand recent changes in income segregation. Since unemployment rose dramatically during the Great Recession, we examine the association between metropolitan-area unemployment rates and income segregation. Tara Watson (2009) found that higher *employment* rates are associated with lower levels of income segregation: unemployment among less-skilled men is associated with an exodus of middle- and upper-income families from central cities, thereby increasing income segregation. However, it is also possible that unemployment decreases income segregation if it is spread across the income distribution instead of affecting mostly low-wage workers. In this case, some high- and middle-income families would suffer a loss of income, even as they stay put in their neighborhoods. Since our last data point coincides with the end of a major economic recession, it is possible that unemployment in 2009 affected families across the income distribution and therefore decreased income segregation.

Finally, we examine the association between income segregation and the percentage of workers in a metropolitan area employed in the manufacturing sector. Traditionally, that sector has paid relatively high wages for those with low educational attainment, leading to lowered income inequality (Cloutier 1997) and so, perhaps, to lowered income segregation. Moreover, manufacturing industries often cluster within metropolitan areas, with workers living nearby. Over the last forty years, manufacturing in this country has declined. When a plant closes, the incomes of families living relatively near each other may decline. As formerly mixed-income neighborhoods become low-income neighborhoods, income segregation increases. Thus, we expect declines in manufacturing to be associated with increases in income segregation.

In addition to these explanatory variables of theoretical interest, we include in our analyses a small number of metropolitan-level covariates that are related to both income segregation and the other explanatory variables: per capita income, percentage black, percentage Hispanic/Latino, percentage foreign-born, percentage female-headed families (no husband present), and percentage of the population age sixty-five and older.

Although the measurement of some of the metropolitan-level factors is straightforward, others may require clarification. We measure income inequality with the Gini index, which measures the extent to which the actual income distribution deviates from a hypothetical distribution in which each family receives an equal proportion of total income. The measure ranges from 0 (perfect equality) to 1 (maximum inequality).¹⁶ Population size is logged in the analyses to correct for positive skew in the distribution of population size among metropolitan areas.

Average educational attainment is measured among adults age twenty-five and older, and unemployment is measured among individuals in the labor force age sixteen and older.¹⁷ Per capita income, adjusted for inflation, is presented in 2009 dollars. Finally, our measure of female-headed families includes all families headed by women with no husband present. Besides a woman's own children, these families can include other children who live with her (for example, a grandmother caring for a grandchild).

CORRELATES OF METROPOLITAN-AREA FAMILY INCOME SEGREGATION

Table 7.2 presents simple bivariate correlations between three measures of metropolitan income segregation and metropolitan-level characteristics in 2009. First, note that income inequality is moderately positively correlated with H (overall income segregation), highly positively correlated with the segregation of affluence, and uncorrelated with the segregation of poverty. This is consistent with our finding elsewhere (Reardon and Bischoff 2011b) that income inequality is most strongly associated with the spatial separation of affluent families from all other families, as opposed to the spatial isolation of the poor. Second, income segregation is higher, on average, in larger metropolitan areas, though this appears to be due primarily to the high correlation between metropolitan-area size and the segregation of affluence. Income segregation is only weakly correlated with most of the other key characteristics of interest—age composition, educational attainment levels, unemployment rates, and the percentage of workers in the manufacturing sector.

The bivariate associations between income segregation and metropolitan-area characteristics do not take into account the relationships among the metropolitan-level characteristics. Many of these characteristics are correlated with one another, which confounds interpretation of their independent associations. To isolate the independent association (holding all of the other

TABLE 7.2 *Bivariate Correlations Between Metropolitan Characteristics and Measures of Income Segregation, 2009*

	Segregation of H	Segregation of Poverty	Segregation of Affluence
Income inequality (Gini)	0.46*	-0.07	0.63*
Population (log)	0.54*	0.21*	0.63
Age eighteen and under (percentage)	0.16	-0.17	0.11
With a BA degree or higher (percentage)	0.28*	0.25*	0.29*
With less than a high school degree (percentage)	0.09	-0.29*	0.18
Unemployed (percentage)	0.05	-0.11	0.08
Workers in manufacturing (percentage)	-0.02	0.22*	-0.15
Per capita income (2009 dollars)	0.26*	0.28*	0.26*
Black (percentage)	0.33*	0.26*	0.33*
Hispanic/Latino (percentage)	0.12	-0.37*	0.24*
Foreign-born (percentage)	0.21*	-0.25*	0.38*
Female-headed families (percentage)	0.36*	0.23*	0.33*
Age sixty-five and older (percentage)	-0.33*	-0.04	-0.25*

Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011). Note: N = 117. Metropolitan areas are those with at least 500,000 residents in 2007.

* $p < 0.05$

TABLE 7.3 *Estimated Partial Associations Between Selected Metropolitan Characteristics and Income Segregation, 2009*

	Segregation (H)	Segregation of Poverty	Segregation of Affluence
Income inequality (Gini)	0.734*** (0.142)	-0.115 (0.187)	1.290*** (0.161)
Population (log)	0.025*** (0.006)	0.022* (0.009)	0.038*** (0.007)
Age eighteen and under (percentage)	0.467*** (0.124)	0.439** (0.163)	0.391** (0.140)
With a BA degree or higher (percentage)	-0.041 (0.074)	0.104 (0.097)	-0.047 (0.084)
With less than a high school degree (percentage)	-0.287** (0.090)	-0.025 (0.118)	-0.386*** (0.102)
Unemployed (percentage)	-0.032 (0.116)	-0.008 (0.153)	-0.103 (0.132)
Workers in manufacturing (percentage)	0.06 (0.048)	0.098 (0.064)	0.037 (0.055)
Per capita income (2009 dollars)	0.003*** (0.001)	0.003** (0.001)	0.003** (0.001)
Black (percentage)	-0.039 (0.031)	-0.129** (0.041)	0.033 (0.035)
Hispanic/Latino (percentage)	0.029 (0.029)	-0.047 (0.038)	0.061 (0.032)
Foreign-born (percentage)	-0.093* (0.040)	-0.138** (0.052)	-0.077 (0.045)
Female-headed families (percentage)	0.401*** (0.098)	0.796*** (0.129)	0.12 (0.111)
Age sixty-five and older (percentage)	-0.042 (0.111)	0.207 (0.146)	-0.026 (0.126)
Adjusted R-squared	0.64	0.459	0.734
N	117	117	117

Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: Metropolitan areas are those with at least 500,000 residents in 2007. Standard errors are in parentheses.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

characteristics constant) between the metropolitan-area characteristics and income segregation levels, we estimate three ordinary least squares (OLS) regression models using metropolitan-area data from 2009. These models estimate the cross-sectional associations between income segregation and each metropolitan characteristic, net of the other factors in the model. Table 7.3 presents results from these three models.

The first model, which regresses overall income segregation (H) on metropolitan-area characteristics, produces a large and highly statistically significant estimated association between income inequality and income segregation of 0.734 (standard error = 0.142; $p < 0.001$), controlling for the other metropolitan characteristics. A difference of one point in income inequality is associated with a difference of approximately three-quarters of a point in income segregation. This pattern is consistent with prior findings that metropolitan areas with high levels of income inequality also have high levels of income segregation. The first model also confirms our hypotheses regarding population size and age structure. Metropolitan population size is positively and significantly associated with income segregation ($\beta = 0.025$; standard error = 0.006; $p < 0.001$), as is the share of the population age eighteen or younger ($\beta = 0.467$; standard error = 0.124; $p < 0.001$). A one-point difference in the proportion of children in a metropolitan area is associated with a roughly half-point difference in income segregation. The results of this cross-sectional model do not support our hypothesis regarding the association between diversity in educational attainment and segregation: the proportion of the population with a college degree is not significantly associated with segregation, and the proportion with less than a high school degree is negatively associated with income segregation. Finally, these models show no significant association between income segregation and unemployment or between income segregation and the percentage of workers in manufacturing.

The second and third models present results for the estimated associations between the metropolitan characteristics and the segregation of poverty and of affluence. In general, the same patterns evident in the first models hold here, with several key exceptions. Most notably, income inequality is not significantly associated with the segregation of poverty, but is strongly associated with the segregation of affluence ($\beta = 1.290$; standard error = 0.161; $p < 0.001$), a pattern that mirrors our analysis in Reardon and Bischoff (2011b) of 1970–2000 income segregation. In that earlier work, we argue that this may be because the segregation of affluence is more responsive to upper-tail income inequality, which comprises a larger component of overall income inequality, or perhaps because housing policy has a greater impact on the segregation of poverty than income inequality does.

CORRELATES OF CHANGES IN INCOME SEGREGATION, 1970–2009

The cross-sectional associations between metropolitan-area characteristics and income segregation levels in 2009 should not be interpreted as causal relationships. Other unobserved features of metropolitan areas may lead to both high income segregation and high inequality or high proportions of children in the population. To address this possibility, we use multiple years of data from each metropolitan area to estimate the average within–metropolitan area associations between changes in metropolitan characteristics and changes in income segregation levels. Because this strategy focuses only on changes over time within metropolitan areas, it has a stronger causal warrant than the cross-sectional models. Nonetheless, the estimates from these models may still not represent causal relationships if there are unobserved time-varying features of metropolitan areas that are not only correlated with the metropolitan-area characteristics of interest but also affect income segregation. That said, the estimates from these within–metropolitan area models are useful for understanding how changes in metropolitan-area characteristics are associated with changes in income segregation.

To begin, we examine the substantial changes in key metropolitan-area characteristics between 1970 and 2009 (table 7.4). Average family income inequality rose 15 percent in our sample of metropolitan areas, while the proportion of the population under age nineteen declined by 28 percent. As for educational attainment, the share of college graduates increased by more than 150 percent. Unemployment nearly doubled, although this is partly an artifact of the timing of our initial and final time points, as unemployment was historically low in 1970 and unusually high in 2009. Moreover, the share of workers employed in manufacturing declined by nearly 60 percent during this period, a result of the general deindustrialization in American cities over the last four decades. Notable among the control variables, the Hispanic population tripled, and the percentage of female-headed families grew by 80 percent. Taken as a whole, this table depicts a broadly changing metropolitan landscape over the last forty years.

Table 7.5 offers yet another perspective on the changing metropolitan landscape: it reports estimates from a series of regression models where data were pooled across decades between 1970 and 2009. These models include metropolitan fixed effects and therefore control for any time-invariant characteristics of metropolitan areas. One way to think about the coefficients from these models is as estimates of the average within–metropolitan area associations (over time) between the metropolitan covariates and income segregation. For example, a coefficient of 0.443 (the coefficient of income inequality in the first model) means that, on average, each unit of change in the Gini index within a metropolitan area is associated with a contemporaneous

TABLE 7.4 *Metropolitan Characteristic Means, 1970–2009*

	1970	1980	1990	2000	2009	Unit Change	Percentage Change
Income inequality (Gini)	0.352 (0.029)	0.360 (0.023)	0.383 (0.026)	0.399 (0.025)	0.405 (0.022)	0.05	15%
Population (log)	5.868 (0.352)	5.941 (0.324)	6.001 (0.313)	6.051 (0.307)	6.108 (0.304)	0.24	4%
Age eighteen and under (percentage)	0.339 (0.027)	0.272 (0.030)	0.256 (0.033)	0.266 (0.030)	0.245 (0.028)	-0.09	-28%
With a BA or higher (percentage)	0.119 (0.033)	0.176 (0.044)	0.22 (0.055)	0.263 (0.064)	0.303 (0.070)	0.18	155%
With less than a high school degree (percentage)	0.446 (0.083)	0.307 (0.072)	0.226 (0.060)	0.179 (0.057)	0.134 (0.049)	-0.31	-70%
Unemployed (percentage)	0.042 (0.015)	0.061 (0.019)	0.06 (0.017)	0.055 (0.017)	0.086 (0.019)	0.04	105%
Workers in manufacturing (percentage)	0.242 (0.099)	0.212 (0.081)	0.167 (0.056)	0.131 (0.049)	0.103 (0.038)	-0.14	-57%
Per capita income (2009 dollars)	19.419 (2.966)	22.333 (3.121)	26.109 (5.011)	29.134 (5.422)	29.043 (5.565)	9.62	50%
Black (percentage)	0.106 (0.092)	0.112 (0.094)	0.116 (0.095)	0.122 (0.100)	0.127 (0.100)	0.02	20%
Hispanic/Latino (percentage)	0.053 (0.098)	0.07 (0.119)	0.09 (0.135)	0.123 (0.151)	0.159 (0.161)	0.11	200%
Foreign-born (percentage)	0.046 (0.039)	0.062 (0.054)	0.075 (0.074)	0.11 (0.092)	0.127 (0.089)	0.08	176%
Female-headed families (percentage)	0.108 (0.019)	0.14 (0.025)	0.161 (0.031)	0.182 (0.034)	0.194 (0.034)	0.09	80%
Age sixty-five and older (percentage)	0.091 (0.030)	0.104 (0.035)	0.121 (0.035)	0.125 (0.034)	0.125 (0.029)	0.03	37%

Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: N = 117. Metropolitan areas are those with at least 500,000 residents in 2007. Standard deviations are in parentheses.

TABLE 7.5 *Effects of Change in Metropolitan Characteristics on Change in Income Segregation, 1970–2009*

	Change in Segregation (<i>H</i>)	Change in Segregation of Poverty	Change in Segregation of Affluence
Decadal change in:			
Income inequality (Gini)	0.443*** (0.090)	0.104 (0.082)	0.658*** (0.085)
Population (log)	0.028* (0.012)	0.022 (0.019)	0.038*** (0.010)
Age eighteen and under (percentage)	0.252*** (0.040)	0.270*** (0.054)	0.129* (0.065)
With a BA degree or higher (percentage)	0.226*** (0.064)	0.286*** (0.061)	0.172* (0.069)
With less than a high school degree (percentage)	0.025 (0.030)	0.135*** (0.040)	-0.096* (0.040)
Unemployed (percentage)	-0.128** (0.046)	-0.047 (0.065)	-0.176** (0.065)
Workers in manufacturing (percentage)	-0.060* (0.030)	-0.151*** (0.045)	0.061 (0.035)
Per capita income (2009 dollars)	-0.001 (0.001)	0.000 (0.001)	-0.001 (0.001)
Black (percentage)	0.027 (0.072)	0.037 (0.092)	0.005 (0.090)
Hispanic/Latino (percentage)	0.118** (0.041)	0.119* (0.049)	0.107* (0.044)
Foreign-born (percentage)	-0.185*** (0.035)	-0.312*** (0.055)	-0.077 (0.047)
Female-headed families (percentage)	0.094 (0.100)	0.213 (0.120)	0.109 (0.088)
Age sixty-five and older (percentage)	-0.061 (0.083)	0.041 (0.090)	-0.059 (0.092)
National metro change: 1970s	0.000 (0.008)	0.023** (0.008)	-0.035*** (0.009)
National metro change: 1980s	0.006 (0.005)	0.020*** (0.006)	0.007 (0.005)
National metro change: 1990s	-0.018*** (0.004)	-0.021*** (0.005)	-0.028*** (0.004)
National metro change: 2000s	0.006 (0.005)	0.011* (0.005)	0.003 (0.005)
Metropolitan-area fixed effects	Included	Included	Included
Adjusted R-squared	0.905	0.875	0.912
N	584	584	584

Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: Bootstrapped standard errors are in parentheses.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

0.443 unit change in segregation.¹⁸ We also include a set of indicator variables that capture the average metropolitan-area change in income segregation within each decade across the nation, net of changes in the covariates in the models.¹⁹

The first model shows that changes in income inequality are positively related to changes in overall income segregation (*H*), net of other time-varying metropolitan-area factors and decade fixed effects ($H = 0.443$, standard error = 0.090; $p < 0.001$). This effect accounts for approximately 70 percent of the average change in overall income segregation. In terms of effect size, a one-standard-deviation change in inequality leads to a roughly 0.40 standard deviation change in income segregation.²⁰ Similar to the cross-sectional results, the association between inequality and segregation is much larger for the segregation of affluence ($H = 0.658$; standard error = 0.085; $p < 0.001$) than it is for overall segregation; there is no significant association between changes in inequality and changes in the segregation of poverty.

Children, like income inequality, emerge as a key factor. As predicted, changes in the proportion of children in metropolitan areas strongly predict changes in income segregation at all

points in the income distribution. The estimated association between the percentage of children and overall segregation is 0.252 (standard error = 0.040; $p < 0.001$). In other words, a decrease of ten percentage points in the percentage of children (roughly the average change from 1970 to 2009) is associated with a corresponding decrease in income segregation of 0.025, or approximately one standard deviation. Given that income segregation increased, on average, by 0.033 points from 1970–2009, it appears that this growth was less than it might have been had the proportion of children not declined so sharply. As described earlier, this relationship provides evidence that the presence of children makes residential location more important and thereby aggravates residential sorting by income.

In addition, the estimated association between changes in educational attainment inequality and changes in income segregation is positive and significant. That is, the models indicate that, holding constant the proportion of the population without a high school diploma, increases in the proportion of the population with a college degree are positively associated with increases in income segregation. This may be because families tend to segregate by educational attainment levels as well as by income. Given the correlation between educational attainment and income, greater inequality in educational attainment may lead to more segregation by education levels, which in turn produces greater segregation by income. This is a speculative explanation, however, because we have no evidence regarding the relationships among educational inequality, educational segregation, and income segregation. The models also provide estimates of the association between the proportion of adults without high school diplomas and income segregation. These estimates differ considerably across the three models and are difficult to interpret.

Although the cross-sectional results show no significant association between unemployment levels and income segregation, the longitudinal models in table 7.5 show a negative, statistically significant association between changes in unemployment rates and changes in both overall income segregation ($\beta = -0.128$; standard error = 0.046; $p < 0.01$) and changes in the segregation of the affluent ($\beta = -0.176$; standard error = 0.065; $p < 0.01$). It is possible that within-metropolitan area increases in unemployment reduce income among some middle- and high-income families, thereby creating mixed-income neighborhoods, at least in the short term.²¹

Similarly, the cross-sectional models reveal no significant association between income segregation and the percentage of the labor force in the manufacturing sector. The panel models, however, show significant negative associations between changes in manufacturing and changes in both overall segregation ($\beta = -0.060$; standard error = 0.030; $p < 0.05$) and changes in the segregation of poverty ($\beta = -0.151$; standard error = 0.045; $p < 0.001$). Consistent with our predictions, these findings suggest that declining local manufacturing sectors may lead not only to increases in inequality (by reducing the size of the middle class) but also to increases in income segregation, net of changes in income inequality. The effect is especially pronounced for the segregation of the poor, a finding consistent with Wilson's (1987) hypothesis that deindustrialization harmed minority and low-education workers the most and caused high- and middle-income families to leave urban centers for the suburbs.

Finally, consistent with previous studies, we also find a significant positive relationship between changes in population size and changes in both overall income segregation ($\beta = 0.028$; standard error = 0.012; $p < 0.05$) and the segregation of the affluent ($\beta = 0.038$; standard error = 0.010; $p < 0.001$), although the coefficients are modest. Metropolitan areas with population growth experienced moderate increases in overall income segregation and slightly larger increases in the segregation of affluence, perhaps owing to the construction of gated communities and other outlying enclaves as middle- and high-income families moved away from city centers during this period.

In sum, the multivariate regression results show that in 2009 income segregation was strongly associated with income inequality, population size, the proportion of children in a metropolitan area, and average educational attainment, but that it had no relationship with unemployment or the percentage of workers in manufacturing. The panel models, which control for time-variant confounding characteristics of metropolitan areas, largely corroborate the cross-sectional results: income segregation grew in metropolitan areas with growing income inequality, with increasing proportions of children, and with increasing average educational attainment levels. These models also reveal, however, that areas with decreasing unemployment (hence, rising employment) experienced growth in income segregation, as did areas with decreasing proportions of workers in manufacturing.

Recall that the descriptive trends presented earlier showed a rapid rise in income segregation in the 1980s and 2000s and stagnation in the 1990s. We examine the decade-specific indicators included in the longitudinal models to assess the capacity of our models to account for these trends. These indicators can be interpreted as the average within-metropolitan area change in income segregation in each decade, net of the changes associated with the time-varying covariates included in the model. In the first model, in which overall segregation is the dependent variable, the coefficients for the 1970s, 1980s, and 2000s are not statistically significant and are close to 0. This implies that our models explain most of the change in overall income segregation in these decades. The coefficient for the 1990s, however, is -0.018 , and it is statistically significant (standard error = 0.004 ; $p < 0.001$), indicating that the processes driving the stagnation in income segregation during this decade are not well represented in this model. Our model would have predicted that income segregation would continue to rise in the 1990s at about the same rate as in the 1980s, but this was not the case. Similarly, in the second and third models, in which the segregation of poverty and the segregation of affluence are the dependent variables, respectively, the coefficients for the 1990s are both negative and significant. Again, this shows a lower rate of change for the segregation of poverty and affluence in the 1990s than our models would have predicted. Although previous research has also found declines in concentrated poverty in the 1990s (Jargowsky 2003; Reardon and Bischoff 2011b), the cause is not clear. Because the factors included in our models do explain much of the trend in income segregation in the other decades, the temporary flattening of the trend in the 1990s remains somewhat of a puzzle. One possibility is that the destruction of some large public housing projects and the subsequent growth in scattered-site public housing and Section 8 vouchers may have contributed to this trend.

The increases in income segregation that occurred in the 2000s are largely explained by the covariates included in our models, as evidenced by the insignificant coefficients for the 2000 indicator when predicting overall segregation and the segregation of affluence (models 1 and 3). The coefficient is small but significant in the second model ($\beta = 0.011$; standard error = 0.005 ; $p < 0.05$), however, indicating that our model slightly underestimates the increase in the segregation of poverty in the 2000s. It may be that the housing bubble led to an increase in the segregation of the poor by pricing them out of middle-income neighborhoods, where the availability of low-interest mortgages led to inflated home prices.

CONCLUSION

By any of the measures we examine, the segregation of families by socioeconomic status has grown significantly in the last forty years. The proportion of families living in poor or affluent neighborhoods doubled, from 15 percent to 33 percent, and the proportion of families living in middle-income neighborhoods declined, from 65 percent to 42 percent. Similarly, income seg-

regation as measured by H rose by 1.2 standard deviations between 1970 and 2009. This increase marked the increasing segregation of both low- and high-income families. In addition, we find a strong and consistent positive association between income inequality and income segregation. In both the cross-sectional and longitudinal models, income inequality is significantly associated with overall income segregation, as well as with the segregation of affluence. Also, metropolitan areas with larger proportions of children tended to have higher levels of income segregation, on average, a pattern consistent with the idea that parents are more sensitive than nonparents to neighborhood context and place-based amenities, such as schools, when making residential decisions. Finally, the deindustrialization of American cities over the past forty years was associated with increases in income segregation.

Three of the measures— H , the segregation of poverty ($H10$), and the segregation of affluence ($H90$)—indicate that income segregation did not grow in the 1990s, but began to grow again after 2000. Although the recent growth of income segregation in the 2000s has not been as rapid as the increase during the 1980s, it nonetheless represents a significant reversal from the flattening of the trend in the 1990s. The increase in segregation occurred at both ends of the income distribution: both high- and low-income families became increasingly residentially isolated in the 2000s, resulting in greater polarization of neighborhoods by income. The fourth measure—the proportion of families in affluent or poor neighborhoods—differs from the H measure in that it captures absolute differences in median incomes among neighborhoods rather than only the sorting of families by their rank in the income distribution. As a result, it is sensitive to changes in income segregation that are due both to increased income inequality and to increased residential sorting by income. By this measure, income segregation grew in every decade, with the fastest growth in the last decade.

During the last four decades, the isolation of the rich has been consistently greater than the isolation of the poor. Although much of the scholarly and policy discussion about the effects of segregation and neighborhood conditions focuses on the isolation of poor families in neighborhoods of concentrated disadvantage, it is perhaps equally important to consider the implications of the substantial, and growing, isolation of high-income families. In 2010 the 10 percent of families with the highest incomes controlled approximately 46 percent of all income in the United States (Saez 2012). The increasing geographic isolation of affluent families means that a significant proportion of society's resources are concentrated in a smaller and smaller proportion of neighborhoods. This has consequences for low- and middle-income families: the isolation of the rich may lead to lower public and private investments in resources, services, and amenities that benefit large shares of the population, such as schools, parks, and public services.

One additional and striking pattern evident in the census and ACS data is the very large increase in income segregation among black and Hispanic families over the last four decades, particularly in the 2000s. Low-income black and Hispanic families are much more isolated from middle-class black and Hispanic families than are low-income white families from middle- and high-income white families. The rapid growth of income segregation among black families has exacerbated the clustering of poor black families in neighborhoods with very high poverty rates. And while middle-class black families were less likely to live in neighborhoods with low-income black families, this does not mean that middle-class blacks gained access to middle-class white neighborhoods: middle-class black families are much more likely to live in neighborhoods with low-income white neighbors than are comparable middle-class white families (Logan 2011). Similarly, even high-income black families live in neighborhoods with levels of concentrated disadvantage that are higher than the national average (Sharkey forthcoming).

The reasons for the rapid increase in income segregation among black and Hispanic families are not entirely clear. Prior research on trends from 1970 to 2000 (Reardon and Bischoff 2011b),

as well as the multivariate analyses presented in this chapter, which extend through 2009, show that increases in income inequality are responsible for a significant portion of the growth in income segregation from 1970 to 2009. The growth of the black middle class led to a rapid rise in income inequality *among* black families from 1970 to 1990; in short, the difference in incomes between high- and low-income black families grew during this time period. At the same time, reductions in housing discrimination opened up new opportunities for middle-class black families to live in a wider range of neighborhoods. The combination of the growth in income inequality among black families and the decline in housing discrimination was likely the primary reason why income segregation among black families grew so rapidly in the 1970s and 1980s.

The same explanation, however, does not hold for the 2000s. In analyses not shown here, we find that metropolitan-area income inequality among black families did not grow from 1990 to 2009; for Hispanic families, income inequality grew slightly in the 1990s, but not at all in the 2000s. Thus, we cannot attribute the rapid growth in income segregation among black and Hispanic families to rising within-group income inequality. One possible explanation for the growth is the lenient mortgage lending practices that were common in the early part of the 2000s. These practices provided many moderate-income families with increased access to homeownership and therefore may have increased the residential distance between low- and middle-income families. Although many moderate-income families of all races and ethnicities were affected by this practice, evidence suggests that the subprime mortgage market disproportionately affected black and Hispanic families (Armstrong et al. 2009). In addition, a large percentage of Hispanic families live in California, Florida, Nevada, and Arizona, where the housing bubble was most pronounced. Hispanics in these states probably had increased access to homeownership in the early part of the decade, but then also suffered the biggest losses in assets as a result of the housing crisis beginning in 2007 (Taylor, Fry, and Kochhar 2011). These patterns suggest that the rise in income segregation among black and Hispanic families may be at least partly a result of the disproportionate effects of these mortgage lending and housing market forces.

The impacts of increasing socioeconomic segregation may be substantial. Much of the research on the impact of neighborhood context has focused on the impact of income segregation on the neighborhood contexts of children from low-income families, their access to high-quality schools and to adults with high levels of education, and their social and educational development. But perhaps equally important is the impact of segregation on the attitudes, actions, and investments of the most-advantaged families. If socioeconomic segregation means that more advantaged families do not share social environments and public institutions such as schools, public services, and parks with low-income families, advantaged families may hold back their support for investments in shared resources. Such a shift in commitment may have far-reaching consequences. Understanding the connection between income segregation and social attitudes and the willingness to support investment in public goods is an important topic for future research.

APPENDIX: MEASURING INCOME SEGREGATION

The U.S. Census Bureau provides counts of families and households within income categories in each decennial census. For the total population there were fifteen income bins in 1970, seventeen in 1980, twenty-five in 1990, and sixteen in both 2000 and 2005–2009. The income-by-race bins are the same except for in 1980, when there were only nine income bins by race. Our approach to measuring income segregation is insensitive to these differences (Reardon 2011).

To measure income segregation, we use the rank-order information theory index (Reardon 2011), which measures the ratio of within-unit (tract) income rank variation to overall

(metropolitan-area) income rank variation. For any given value of p , we can dichotomize the income distribution at p and compute the residential (pairwise) segregation between those with income ranks less than p and those with income ranks greater than or equal to p . Let $H(p)$ denote the value of the traditional information theory index of segregation (James and Taeuber 1985; Theil 1972; Theil and Finezza 1971; Zoloth 1976) computed between the two groups so defined. Likewise, let $E(p)$ denote the entropy of the population when divided into these two groups (Pielou 1977; Theil 1972; Theil and Finezza 1971). That is,

$$E(p) = p \log_2 \frac{1}{p} + (1-p) \log_2 \frac{1}{(1-p)}$$

and

$$H(p) = 1 - \sum_j \frac{t_j E_j(p)}{TE(p)},$$

where T is the population of the metropolitan area and t_j is the population of neighborhood j . Then the rank-order information theory index (H^R) can be written as

$$H^R = 2 \ln(2) \int_0^1 E(p) H(p) dp$$

Thus, if we computed the segregation between those families above and below each point in the income distribution and averaged these segregation values, weighting the segregation between families with above-median income and below-median income the most, we would get the rank-order information theory index. The rank-order information theory index ranges from a minimum of 0, obtained in the case of no income segregation (when the income distribution in each local environment, such as a census tract, mirrors that of the region as a whole), to a maximum of 1, obtained in the case of complete income segregation (when there is no income variation in any local environment).

To obtain estimates of income segregation at points in the income distribution for which we do not have exact data (because we only have counts of families in certain income ranges), we can use an estimate of the function $H(p)$ to obtain a measure of segregation at any threshold. For instance, to compute the level of income segregation between those families above and below the ninetieth percentile of the income distribution (what we refer to in the text as “segregation of affluence”), we calculate $H(0.9)$ from our estimated parameters of the function $H(p)$. Likewise, to compute the level of income segregation between those families above and below the tenth percentile of the income distribution (“segregation of poverty”), we calculate $H(0.1)$ from our estimated parameters of the function $H(p)$. To compare the levels of within-group income segregation among racial groups, we compute the rank-order information theory index for each racial group separately. A more thorough explanation of our technique (and its rationale) is provided elsewhere (Reardon 2011; Reardon and Bischoff 2011b).

APPENDIX

TABLE 7A.1 *Proportion of Families in Low-, Middle-, and High-Income Neighborhoods in Metropolitan Areas with Population Greater Than 500,000, 1970–2009*

	1970	1980	1990	2000	2007	2008	2009
Poor	8.4%	11.8%	13.3%	15.2%	17.0%	17.5%	17.9%
Low-income	10.4%	10.6%	11.3%	11.9%	11.1%	11.1%	10.9%
Low-middle income	30.6%	26.9%	25.0%	23.2%	20.6%	20.2%	19.8%
High-middle income	34.1%	31.3%	26.7%	23.9%	22.9%	22.6%	22.2%
High-income	9.9%	12.2%	13.3%	13.1%	14.3%	13.9%	14.0%
Affluent	6.6%	7.3%	10.4%	12.7%	14.1%	14.6%	15.1%
Middle income	64.7%	58.2%	51.7%	47.1%	43.5%	42.8%	42.0%
Poor + affluent	15.0%	19.1%	23.7%	27.9%	31.1%	32.1%	33.0%

Source: Authors' tabulations of data from U.S. Census (1970–2000) and American Community Survey (2005–2011).

Note: N = 117.

NOTES

1. The research reported here was supported by the US2010 Project of the Russell Sage Foundation and Brown University. We are grateful to John Logan for leading the US2010 Project, Claude Fischer for helpful comments on earlier drafts, Brian Stults for providing data support, and Lindsay Fox for her outstanding research assistance.
2. In particular, our use of the term “segregation” is not meant to imply that residential patterns result from forced separation of high- and low-income families. Unlike the legally mandated racial segregation of schools in the South prior to the 1954 *Brown v. Board of Education* decision, residential segregation of families with respect to income has never been an explicit legal or policy mandate, though it certainly may be exacerbated or ameliorated by housing, zoning, and lending practices.
3. In U.S. census data, not all persons are counted as members of “families.” Persons living alone or with unrelated individuals are counted as members of “households,” but not as members of families. Because children rarely live alone or with unrelated adults, they are generally members of census-defined families.
4. In addition, there are important differences in the ways in which neighborhood effects are measured in different studies. In the MTO experiment, neighborhood effects were measured by moving some families into lower-poverty neighborhoods and comparing their outcomes to those of similar families who did not move. Observational studies sometimes rely on families who move; however, they often compare similar types of families who have selected into different kinds of neighborhoods, or they examine individual families who do not change their residence but experience changes in their neighborhood context over time (as a result of gentrification processes, social policy programs, law enforcement initiatives, or other factors that may alter a neighborhood environment). These differences across studies in the sources of variation in neighborhood context—people changing neighborhoods versus neighborhoods changing around people—also make it difficult to compare the results of different studies.
5. Census tracts are small subdivisions of a county. They usually have between 2,500 and 8,000 persons and are designed to approximate neighborhoods. See U.S. Census Bureau, “Geographic Terms and Concepts—Census Tract,” available at: http://www.census.gov/geo/reference/gtc/gtc_ct.html (accessed September 1, 2014).
6. The 2005–2009 estimates are the first available from the ACS.
7. We have shown elsewhere (Reardon and Bischoff 2011b) that income segregation was lower and grew less from 1970 to 2000 in small metropolitan areas than in large ones. Because there is less geographic area in small metropolitan areas, there is less possibility for spatial separation between high- and low-income families. We focus on the largest metro areas as defined by their 2007 populations (rather than more recent years) for consistency with our earlier published report (Reardon and Bischoff 2011a).

8. We use the Office of Management and Budget (OMB) June 2003 metropolitan-area definitions; based on the 2000 census, these were the first definitions of metropolitan areas; see U.S. Census Bureau, “Metropolitan and Micropolitan Statistical Areas Main,” available at: <http://www.census.gov/population/metro/index.html> (accessed September 1, 2014). We use these same definitions in each year from 1970 to 2009 to ensure comparability over time. In cases where a metropolitan area comprises multiple metropolitan divisions, we treat each division as a distinct metropolitan area. For instance, the New York (N.Y.)–Newark (N.J.)–Edison (Penn.) metropolitan area is made up of four metropolitan divisions—New York (N.Y.)–Wayne (N.J.)–White Plains (N.Y.); Newark (N.J.)–Union (Penn.); Edison (N.J.); and Suffolk County–Nassau County (N.Y.)—each of which we treat as a separate metropolitan area. The 117 metropolitan areas with populations of at least 500,000 in 2007 range in population from 11.6 million (New York [N.Y.]–White Plains [N.J.]) to 505,000 (Modesto, Calif.).
9. We exclude metropolitan areas with small black or Hispanic subpopulations because the income segregation measures we use require moderately large populations to compute income segregation accurately. Specifically, following Jargowsky (1996), we include in our within-racial-ethnic group income segregation analyses only metropolitan areas in which there were at least 10,000 black or Hispanic families in each census from 1970 to 2009 (or from 1980 to 2009 for Hispanic families, as the census did not provide data for a Hispanic category in 1970). This creates a stable sample of metropolitan areas to compare over time. Of the 117 metropolitan areas with 500,000 or more residents in 2007, 65 had at least 10,000 black families in each year from 1970 to 2009, and 37 had at least 10,000 Hispanic families in each year from 1980 to 2009.
10. We briefly describe the rank-order information theory index in the appendix. The technical details of calculating the index are described elsewhere (Reardon 2011; Reardon and Bischoff 2011a, 2011b).
11. Because H relies only on information about each family’s rank in the metropolitan-area income distribution, changes in income inequality that leave each family’s rank and residential location unchanged will not alter H . Such changes would, however, alter the proportion of neighborhoods of each type. To see this, suppose the incomes of all families with above-median income are doubled and the incomes of all below-median income families are cut in half, but all families remain in their original neighborhoods. This would change income inequality, but leave each family’s rank in the income distribution unchanged, so H would be unchanged. However, because each neighborhood’s median income would be either doubled or halved (depending on whether the median resident of the neighborhood had an income above or below the metropolitan median), all neighborhoods would now be poor or affluent by our definitions. This would register as a large increase in income segregation, as measured by the proportion of families living in poor or affluent neighborhoods.
12. For a history of fair housing regulations, see U.S. Department of Housing and Urban Development, “Fair Housing Laws and Presidential Executive Orders,” available at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/fair_housing_equal_opp/FHLaws.
13. Although great strides were made in fair housing legislation from the late 1960s through the 1990s, there have been serious and ongoing issues regarding enforcement of these laws (for a thorough discussion of these issues, see Massey and Denton 1993), and recent evidence suggests that discrimination in the housing market has not been eliminated (Ross and Turner 2005; Turner 2008).
14. Discussions of these interactions are beyond the scope of this chapter. For a more extensive discussion, see Bruch (2014).
15. Although racial segregation has declined some in recent decades, evidence from the 2010 census shows that the changes are slow and the historical patterns entrenched (Logan and Stults 2011).
16. Because individual-level data are unavailable from publicly available census files, we use a procedure described in detail in Nielsen and Alderson (1997).
17. To obtain the most accurate measure of unemployment, it may be optimal to calculate unemployment only among those of prime working age, and perhaps only among men. But to maintain consistency over our five time points, we use the entire universe of those in the labor market who are of working age.
18. We use bootstrapped standard errors in all of the regression models to take into account the clustered nature of the observations. We are missing data for one moderately sized metropolitan area in 1970—Cape Coral–Fort Myers, Florida. This reduces our sample size from 585 (117 metropolitan areas multiplied by five time points) to 584.
19. These indicator variables are constructed as follows: the “1970s” variable is coded 0 in 1970 and 1 in each year from 1980 onward. The “1980s” variable is coded 0 in 1970 and 1980, and 1 in each year following, and so on.

- By coding the year fixed effects in this way, their coefficients can be interpreted as the average change in segregation in a given decade, net of the changes in segregation associated with changes in the other covariates in the models.
20. These are computed from the changes in inequality and segregation from 1970 to 2009. Inequality grew by 0.053 and segregation grew by 0.033 from 1970 to 2009. The effect of income inequality on income segregation is 0.443, and thus the change in income segregation over this time period is $0.443 \times 0.053 = 0.023$. This accounts for approximately 70 percent of the total change in income segregation (0.033). In addition, the standard deviation of income inequality within a given year is 0.025 on average, while the standard deviation of income segregation is roughly 0.027 on average. This implies that an effect of 0.443 corresponds to an effect size of 0.41.
 21. Alternatively, it is possible that some other time-varying metropolitan characteristic correlated with unemployment, but not included in our models, is leading to a reduction in income segregation. The fixed-effects models do not control for this possibility.
- ## REFERENCES
- Ananat, Elizabeth Oltmans. 2009. "The Wrong Side(s) of the Tracks: The Causal Effects of Racial Segregation on Urban Poverty and Inequality." *American Economic Journal: Applied Economics* 3(2): 34–66.
- Armstrong, Amy, Vicki Been, Ingrid Gould Ellen, and Josiah Mada. 2009. "The High Cost of Segregation: Exploring the Relationship Between Racial Segregation and Subprime Lending." New York: New York University, Furman Center for Real Estate and Urban Policy.
- Bartels, Larry M. 2008. *Unequal Democracy: The Political Economy of the New Gilded Age*. Princeton, N.J.: Princeton University Press.
- Bischoff, Kendra. 2008. "School District Fragmentation and Racial Residential Segregation: How Do Boundaries Matter?" *Urban Affairs Review* 44(2): 182–217.
- Bruch, Elizabeth. 2014. "How Population Structure Shapes Neighborhood Segregation." *American Journal of Sociology* 119(5): 1221–78.
- Burdick-Will, Julia, Jens Ludwig, Stephen W. Raudenbush, Robert J. Sampson, Lisa Sanbonmatsu, and Patrick Sharkey. 2011. "Converging Evidence for Neighborhood Effects on Children's Test Scores: An Experimental, Quasi-experimental, and Observational Comparison." In *Whither Opportunity? Rising Inequality and the Uncertain Life Chances of Low-Income Children*, ed. Greg J. Duncan and Richard J. Murnane. New York: Russell Sage Foundation.
- Card, David, and Jesse Rothstein. 2007. "Racial Segregation and the Black-White Test Score Gap." *Journal of Public Economics* 91(11-12, December): 2158–2218.
- Cloutier, Norman R. 1997. "Metropolitan Income Inequality During the 1980s: The Impact of Urban Development, Industrial Mix, and Family Structure." *Journal of Regional Science* 37(3): 459–78.
- Cutler, David M., and Edward L. Glaeser. 1997. "Are Ghettos Good or Bad?" *Quarterly Journal of Economics* 112(3): 827–71.
- GeoLytics. 2004. "Neighborhood Change Database." East Brunswick, N.J.: GeoLytics, Inc.
- Goldin, Claudia, and Lawrence F. Katz. 2008. *The Race Between Education and Technology*. Cambridge, Mass.: Harvard University Press.
- Harding, David J. 2003. "Counterfactual Models of Neighborhood Effects: The Effect of Neighborhood Poverty on Dropping Out and Teenage Pregnancy." *American Journal of Sociology* 109(3): 676–719.
- James, David R., and Karl E. Taeuber. 1985. "Measures of Segregation." *Sociological Methodology* 14: 1–32.
- Jargowsky, Paul A. 1996. "Take the Money and Run: Economic Segregation in U.S. Metropolitan Areas." *American Sociological Review* 61(6): 984–98.
- . 2003. "Stunning Progress, Hidden Problems: The Dramatic Decline of Concentrated Poverty in the 1990s." In *Redefining Urban and Suburban America: Evidence from Census 2000*, vol. 2, ed. Bruce Katz, Alan Berube, and Robert Lang Washington, D.C.: Brookings Institution Press.
- Jencks, Christopher, and Susan Mayer. 1990. "The Social Consequences of Growing Up in a Poor Neighborhood." In *Inner-City Poverty in the United States*, ed. Laurence E. Lynn Jr. and Michael G. H. McGahey. Washington, D.C.: National Research Council.
- Kling, Jeffrey R., Jeffrey B. Liebman, and Lawrence F. Katz. 2007. "Experimental Analysis of Neighborhood Effects." *Econometrica* 75(1): 83–119.

- Landry, Bart. 1987. *The New Black Middle Class*. Berkeley: University of California Press.
- Leventhal, Tama, and Jeanne Brooks-Gunn. 2000. "The Neighborhoods They Live In: The Effects of Neighborhood Residence on Child and Adolescent Outcomes." *Psychological Bulletin* 126(2): 309–37.
- Logan, John R. 2011. "Separate and Unequal: The Neighborhood Gap for Blacks, Hispanics, and Asians in Metropolitan America." US2010 Project (July). Available at: www.s4.brown.edu/us2010/Data/Report/report0727.pdf (accessed September 1, 2014).
- Logan, John R., and Mark Schneider. 1984. "Racial Segregation and Racial Change in American Suburbs, 1970–1980." *American Journal of Sociology* 89(4): 874–88.
- Logan, John R., and Brian J. Stults. 2011. "The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census." US2010 Project (March 24). Available at: www.s4.brown.edu/us2010/Data/Report/report2.pdf (accessed September 1, 2014).
- Ludwig, Jens, Greg J. Duncan, Lisa A. Gennetian, Lawrence F. Katz, Ronald C. Kessler, Jeffrey R. Kling, and Lisa Sanbonmatsu. 2013. "Long-Term Neighborhood Effects on Low-Income Families: Evidence from Moving To Opportunity." Working Paper 18772. Cambridge, Mass.: National Bureau of Economic Research.
- Massey, Douglas S., and Nancy Denton. 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Mass.: Harvard University Press.
- Mayer, Susan E. 2002. "How Economic Segregation Affects Children's Educational Attainment." *Social Forces* 81(1): 153–76.
- Minnesota Population Center. 2011. "National Historical Geographic Information System: Version 2.0." Minneapolis: University of Minnesota. Available at: <http://www.nhgis.org> (accessed September 1, 2014).
- Nielsen, Francois, and Arthur S. Alderson. 1997. "The Kuznets Curve and the Great U-Turn: Income Inequality in U.S. Counties, 1970 to 1990." *American Sociological Review* 62(1): 12–33.
- Oliver, Melvin L., and Thomas M. Shapiro. 1995. *Black Wealth/White Wealth: A New Perspective on Racial Inequality*. New York: Routledge.
- Oreopoulos, Philip, and Uros Petronijevic. 2013. "Making College Worth It: A Review of Research on the Returns to Higher Education." Working Paper 19053. Cambridge, Mass.: National Bureau of Economic Research.
- Pattillo-McCoy, Mary. 2000. *Black Picket Fences: Privilege and Peril Among the Black Middle Class*. Chicago: University of Chicago Press.
- Pielou, Evelyn C. 1977. *Mathematical Ecology*. New York: John Wiley & Sons.
- Reardon, Sean F. 2011. "Measures of Income Segregation." Working paper. Stanford, Calif.: Stanford University, Center for Education Policy Analysis. Available at: <http://cepa.stanford.edu/content/measures-income-segregation> (accessed September 1, 2014).
- Reardon, Sean F., and Kendra Bischoff. 2011a. "Growth in the Residential Segregation of Families by Income, 1970–2009." US2010 Project, Brown University.
- . 2011b. "Income Inequality and Income Segregation." *American Journal of Sociology* 116(4): 1092–1153.
- Ross, Stephen L., and Margery Austin Turner. 2005. "Housing Discrimination in Metropolitan America: Explaining Changes Between 1989 and 2000." *Social Problems* 52(2): 152–80.
- Rothwell, Jonathan T., and Douglas S. Massey. 2010. "Density Zoning and Class Segregation in U.S. Metropolitan Areas." *Social Science Quarterly* 91(5): 1123–43.
- Saez, Emmanuel. 2012. "Striking It Richer: The Evolution of Top Incomes in the United States" (updated with 2009 and 2010 estimates). March 2. Available at: <http://emlab.berkeley.edu/~saez/saez-USstopincomes-2010.pdf> (accessed September 1, 2014).
- Sampson, Robert J., Jeffrey D. Morenoff, and Thomas Gannon-Rowley. 2002. "Assessing 'Neighborhood Effects': Social Processes and New Directions in Research." *Annual Review of Sociology* 28: 443–78.
- Sampson, Robert J., Stephen W. Raudenbush, and Felton Earls. 1997. "Neighborhoods and Violent Crime: A Multi-level Study of Collective Efficacy." *Science* 277(5328): 918–24.
- Sampson, Robert J., Patrick Sharkey, and Stephen W. Raudenbush. 2008. "Durable Effects of Concentrated Disadvantage on Verbal Ability Among African-American Children." *Proceedings of the National Academy of Sciences* 105(3): 845–52.
- Schneider, Mark, and Thomas Phelan. 1993. "Black Suburbanization in the 1980s." *Demography* 30(2): 269–79.
- Sharkey, Patrick. Forthcoming. "Spatial Segmentation and the Black Middle Class." *American Journal of Sociology*.

- Taylor, Paul, Richard Fry, and Rakesh Kochhar. 2011. "Wealth Gaps Rise to Record Highs Between Whites, Blacks, Hispanics." Washington, D.C.: Pew Research Center.
- Theil, Henri, ed. 1972. *Statistical Decomposition Analysis*. Vol. 14. Amsterdam: North-Holland Publishing.
- Theil, Henri, and Anthony J. Finezza. 1971. "A Note on the Measurement of Racial Integration of Schools by Means of Informational Concepts." *Journal of Mathematical Sociology* 1(2): 187–94.
- Turner, Margery Austin. 2008. "Limits on Housing and Neighborhood Choice: Discrimination and Segregation in U.S. Housing Markets." *Indiana Law Review* 41: 797–816.
- Watson, Tara. 2009. "Inequality and the Measurement of Residential Segregation by Income." *Review of Income and Wealth* 55(3): 820–44.
- Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. Chicago: University of Chicago Press.
- Wodtke, Geoffrey T., David J. Harding, and Felix Elwert. 2011. "Neighborhood Effects in Temporal Perspective: The Impact of Long-Term Exposure to Concentrated Disadvantage on High School Graduation." *American Sociological Review* 76(5): 713–36.
- Yang, Rebecca, and Paul A. Jargowsky. 2006. "Suburban Development and Economic Segregation in the 1990s." *Journal of Urban Affairs* 28(3): 253–73.
- Zoloth, Barbara S. 1976. "Alternative Measures of School Segregation." *Land Economics* 52(3): 278–98.

Part II

*The Persistence of Change:
Dealing with Diversity*

Chapter 8

The Divergent Paths of American Families

Zhenchao Qian

For a very long time, a typical American family consisted of a working husband, a stay-at-home wife, and children.¹ This traditional family was portrayed during the 1950s and 1960s in popular TV dramas and sitcoms such as *Father Knows Best* and *Leave It to Beaver* and represented what an ideal family looked like. Over time, especially since the 1970s, American families have been undergoing fundamental changes. The so-called traditional family is now much less common, and the transformation of marriage as a social institution has given young adults today many more options about partnering and parenting (Cherlin 2004). Some young Americans delay marriage, and others forgo marriage altogether (Lichter and Qian 2004; McLanahan and Casper 1995). Unmarried cohabitation, which is typically a short-lived arrangement, has emerged as the initial coresidential choice for most young men and women. Marriage is no longer “till death do us part” for all because divorce and separation have become commonplace. Over the life course, individuals now experience more cohabitations, remarriages, and relationship disruptions (Cherlin 2004).

As a result, marital and cohabiting unions have become transitory in the United States. Men and women cohabit, marry, and separate or divorce, once or even multiple times, a phenomenon described as the “American marriage-go-round” (Cherlin 2009). Family structure has become more diverse, with smaller shares of traditional families and more dual-earner families, declining percentages of married families and more cohabiting or single-parent families, multigenerational families, and same-sex couples (Casper and Bianchi 2002; Ellwood and Jencks 2004; Lichter and Qian 2004). Consequently, fewer children today live in traditional families with both biological parents, and more live with single parents, with stepparents, or with parents and their cohabiting partners.

After documenting rapid changes in American families in the earlier decades, the sociologists Lynne Casper and Suzanne Bianchi (2002) noted the “quieting” of family change: a halt in the rise of the single-mother family and in the decline of the two-parent family in the latter half of the 1990s. Casper and Bianchi posited that if that trend were to continue in the 2000s, the transformation of family formation and dissolution might be complete and that American family structures would then stabilize. Yet the halt may have been temporary because of the good economic conditions of the latter half of the 1990s. Rapid family change apparently resumed during the first decade of the new century, especially during the “Great Recession” of the late 2000s, when unemployment was high, family incomes stagnated, and housing markets collapsed. In this study, I examine changes in marriage, cohabitation, divorce, remarriage, and children’s living arrangements to explore whether the “quieting” of family change continued in the 2000s.

An overall portrait of changes in American families does not provide diverse family pictures for large segments of average Americans. The reason is simple. Americans differ in fundamental ways—by race and ethnicity, educational attainment, and nativity. Whites are more likely to marry, to have children while married, and to stay married than African Americans (McLanahan and Casper 1995). Yet Americans can no longer be viewed in simple black and white, or even in single-race terms (Lee and Bean 2010). Increasing shares of minority populations, especially Hispanics and Asian Americans, also have different family structures. Hispanics, despite economic status similar to African Americans', have higher marriage rates than African Americans (Saenz 2004). Asians, on the other hand, marry at later ages and tend to have stable families (Xie and Goyette 2004). Clearly, America's growing racial and ethnic diversity has added new variation to America's families (Oropesa and Gorman 2000; Zhou and Bankston 1998).

Meanwhile, continuous improvement in levels of schooling, especially women's surpassing of men in education, has had a profound impact on American families (Buchmann and DiPrete 2006) and made educational attainment a more important factor in how men and women choose spouses. During the 1950s, when traditional families were common, husbands typically had more schooling than their wives. In recent decades, educational homogamy (husbands and wives with the same levels of education) increased dramatically, especially among those at the two ends of the education distribution (Schwartz and Mare 2005). Educational attainment is an important sorting mechanism for marriage (and for cohabitation as well), as men and women with more schooling are far more likely to marry than those with fewer years of schooling (Qian 1998). In addition, highly educated men and women are more likely to stay married than their less-educated counterparts (Amato 2010). The impact of educational attainment on marriage, divorce, and assortative mating undeniably leads to increasing diversity among American families.

Another dimension of diversity is nativity status. A continuous influx of immigrants to the United States has increased the number and share of racial-ethnic minorities. In 2010 immigrants accounted for nearly 13 percent of the population, and over 85 percent of the immigrants were racial-ethnic minorities (Grieco et al. 2012). When immigrant and minority groups are small in size, pressure to assimilate into mainstream America is strong. When they grow in size, cultural differences become more salient owing to increases in the number of ethnic restaurants, places of worship, and communities. To be sure, many immigrants bring to America more "traditional" values attached to marriage, including greater stigma associated with divorce. It is not a surprise that immigrants consist of proportionately more married families than the U.S.-born (Clark, Glick, and Bures 2009). The impact of immigration extends beyond immigrants themselves, however, because the rise in inter-nativity interactions may reinforce immigrant and minority cultures (Lichter, Carmalt, and Qian 2011; Stevens, Ishizawa, and Escandell 2012). To say the least, immigration contributed to the recent "quieting" of family change in America.

Children are on the front line of recent changes in American families. While men and women exercise their individual freedom as they go through transitory marital and cohabiting unions, children are often caught in between, and sometimes their well-being is at risk. Children living with married parents perform better at school and achieve greater socioeconomic status later in life than children living in single-parent, cohabiting, or step families (Cherlin 2004; Manning and Brown 2006). In large part, this is because married couples have higher levels of education and are more financially stable. Persistent income and socioeconomic status inequality has created diverse family structures (McLanahan and Percheski 2008). Children living in female-headed single families or cohabiting families are more likely to live in poverty than those living in married-couple families (Lichter and Qian 2004; Manning and Smock 1997). The Great Recession presumably has affected family living arrangements and heightened the prospect of poverty among America's children.

My intention here is to provide a descriptive portrait of changes in American families. I address the question of whether the “quieting” of family change continued in the 2000s by presenting evidence of change in marriage, cohabitation, divorce, remarriage, and children’s living arrangements during that period. The data present a mixed picture of whether the “quieting” of the 1990s continued into the 2000s. I highlight the contribution of race-ethnicity, educational attainment, and nativity to changes and diversity in family structure.

I use Integrated Public Use Microdata Series (IPUMS) data from the 2000 census and the pooled sample of the 2008–2010 American Community Survey (ACS). I have pooled three years of ACS data in order to obtain sufficiently large samples for special populations (including, for example, racial and ethnic minorities, immigrants, and single-parent families). When examining remarriage, I use the ACS data as well as the IPUMS data from the 1980 census, which is the last census that includes information on marriage order. I include three main variables in my analyses: nativity, race-ethnicity, and educational attainment. Nativity is classified as U.S.-born and immigrants; race-ethnicity is classified as non-Hispanic white, non-Hispanic African American, non-Hispanic Asian American, non-Hispanic American Indian, and Hispanic (multiracial individuals are not included in the analysis); and educational attainment is classified as less than high school, high school, some college, and college and more.

MARRIAGE

Evidence suggests that married individuals are happier and healthier and that they have better socioeconomic status than their unmarried counterparts (Waite and Gallagher 2000). Because of these benefits, marriage promotion was included in the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA)—the welfare reform bill that sought to end the dependence of low-income single mothers on government benefits (Lichter, Graefe, and Brown 2003). Of course, marriage promotion does not necessarily lead to marriage. More importantly, it is unclear whether marriage itself would actually improve well-being. Nevertheless, marriage as a social institution brings a sense of permanence. Economies of scale and family and friendship networks are just a few of the marriage benefits that protect against unexpected events and play a positive role in health outcomes and socioeconomic well-being (Waite 1995).

Marriage has many benefits, and an overwhelming majority of Americans expect to marry (Thornton and Young-DeMarco 2001). Yet marriage rates have declined over recent decades (Casper and Bianchi 2002; Lichter and Qian 2004; McLanahan and Casper 1995). The reasons for the decline are multiple, including the weakened connection between marriage and child-bearing, the growing popularity of nonmarital cohabitation, the persistent high divorce rates, and the declining remarriage rates (Amato et al. 2007).

Of course, a decline in marriage rates does not necessarily mean that young Americans today are not getting married. Continuous improvement in educational attainment indicates that delays in marriage stem in part from young Americans spending more years in college and more time pursuing a professional career. Even those with no college education may be delaying marriage at least in part owing to the rise in cohabitation; the first coresidential union for the majority of young adults today is cohabitation rather than marriage. Meanwhile, mate selection patterns have changed over time in response to improvements in educational attainment. The traditional social norm of a man marrying a woman with less education has become passé. Today men value women’s educational attainment and labor market positions as equally as women value men’s (Sweeney and Cancian 2004). This suggests that highly educated men and women marry each other and that they do so after they complete their educations and launch their careers.

Educational attainment varies significantly among racial-ethnic groups. Some of the racial-ethnic differences in marriage are attributable to compositional differences in educational attainment. For example, Asian Americans have the highest percentage of college education and also have the latest age at marriage (U.S. Census Bureau 2010). Of course, other factors may also help account for racial-ethnic differences in marriage. Male partners, especially those with potential economic resources, are much less available for African American women than for white women (Ellwood and Jencks 2004; Licherter and Qian 2004). The shortage of marriageable men is especially serious among college-educated African American women: not only do they outnumber college-educated African American men (Buchmann and DiPrete 2006), but highly educated African American men are much more likely to marry interracially than their female counterparts (Qian and Licherter 2007). Therefore, more African American women than white women forgo marriage and remain single. On the other hand, Hispanics tend to exhibit marriage patterns similar to whites', despite Hispanics' lower levels of educational attainment (Saenz 2004).

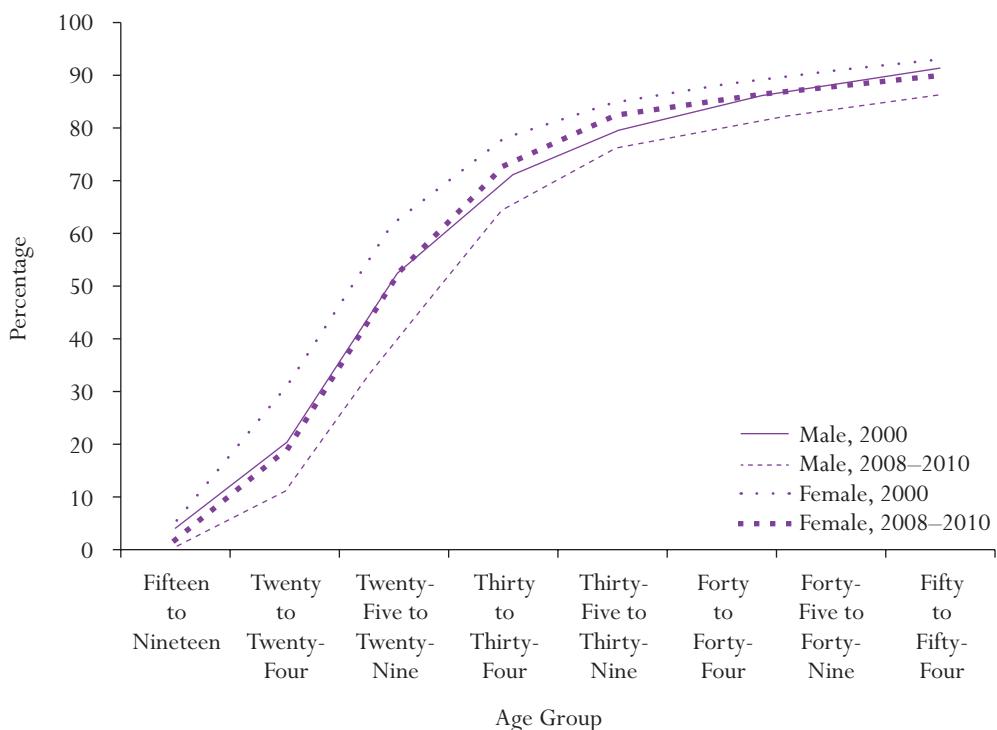
In my examination of changing marital status, I use data from the 2000 U.S. decennial census and the 2008–2010 ACS and classify marital status as “never married,” “currently married,” “divorced,” “separated,” and “widowed.” “Ever married” includes all but those who have never been married. A percentage distribution of men or women ever married by age is a good indicator of marital prevalence, and at later ages it offers an estimate of permanent singlehood. Changes in “ever married” in the 2000s provide answers to whether men and women continue delaying marriage.

Figure 8.1 presents the percentage of those who were ever married by sex and nativity in 2000 and in 2008–2010. The percentage ever married declined from 21 to 11 percent and from 31 to 19 percent, respectively, among U.S.-born men and women age twenty to twenty-four. The declines were equally large among the twenty-five- to twenty-nine-year-olds; only two-fifths of U.S.-born men and about half of U.S.-born women were ever married. The large declines indicate continuing delays in marriage. Most young people in their twenties attend college, explore romantic relationships, pursue jobs and careers, and strive for independence. Yet independence may be hard to come by during the Great Recession. For example, in 2008–2010, 43 percent of twenty- to twenty-four-year-olds and 19 percent of twenty-five- to twenty-nine-year-olds lived with their parents, a phenomenon in large part attributable to financial difficulties or relationship instabilities (Qian 2012). The declines in the percentage of the ever-married over the period were relatively small among U.S.-born men and women over age thirty, indicating that marriage for many was delayed rather than forgone. Figure 8.1 also reveals that U.S.-born men married at later ages, picked up the pace of marriage, and inched closer to the ever-married levels of U.S.-born women by their thirties.

Some people never marry for various reasons—for example, because they choose their career over marriage and children, or because they live in a same-sex relationship in a state where they are not allowed to legally marry, or because they are simply unable to find someone to marry (Licherter and Qian 2004). Singlehood by ages fifty to fifty-four increased notably between 1980 and 2000 (Licherter and Qian 2004) and continued to rise in the 2000s (see figure 8.1). In 2008–2010, 13 percent and 10 percent of U.S.-born men and women, respectively, age fifty to fifty-four had never married—five and three percentage points greater compared with the corresponding figures in 2000. I return to this issue when discussing racial-ethnic and education differences in permanent singlehood.

Immigrants have played a more significant role in American society as their share of the population has increased. As shown in figure 8.2, the percentage of those who had ever been married declined in the 2000s among immigrants as well. In fact, the decline was sharper among

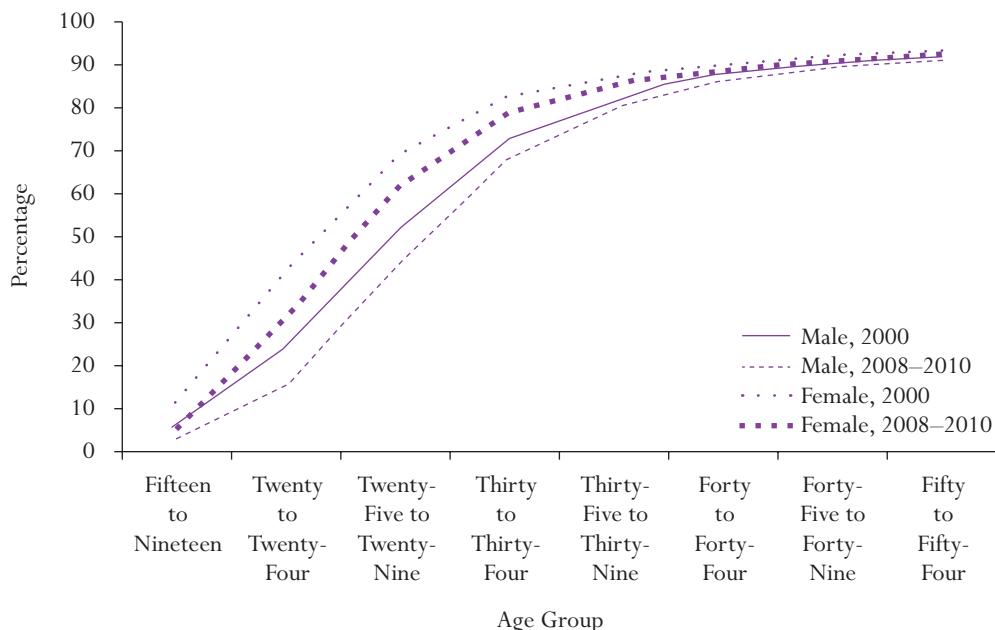
FIGURE 8.1 U.S.-Born Adults Ever Married, by Age and Sex, 2000 and 2008–2010



Source: Author's calculations based on Integrated Public Use Microdata Series (IPUMS) data from the 2000 census and the pooled sample of the 2008–2010 American Community Survey (ACS).

immigrants than among the U.S.-born. The Great Recession may have hit immigrants particularly hard, reducing marriage prospects among young immigrants, slowing down immigration, or driving more married immigrants back to their home countries (Cherlin, Cumberworth, Morgan, and Wimer, 2013). Nevertheless, despite declines in the percentage of the ever-married, immigrants married at a higher level at every age group compared with the U.S.-born. Yet gender differences were greater among immigrants than among the U.S.-born. For example, the percentage of the ever-married among immigrant men and women age twenty-five to twenty-nine was 43 percent and 62 percent, respectively. The gender difference was largely due to a much younger age at marriage among immigrant women than among immigrant men. Overall, the percentages of immigrants who had ever been married in 2008–2010 were similar to the levels of their U.S.-born counterparts in 2000. This suggests that immigrants were about ten years away from approaching the U.S.-born in the percentage of the ever-married, a lag that helped lessen the further delay in marriage at the national level.

Race-ethnicity is an important form of diversity. Table 8.1 presents the percentage of the ever-married by race-ethnicity as well as by age, sex, and nativity in 2008–2010. Almost all Americans expect to marry, but not all individuals of various racial-ethnic groups marry at the same level. U.S.-born non-Hispanic whites had the highest percentage of the ever-married at every age group, and nine out of ten had been married by ages fifty to fifty-four. Whites, despite

FIGURE 8.2 *Immigrants Ever Married, by Age and Sex, 2000 and 2008–2010*

Source: Author's calculations based on IPUMS data from the 2000 census and the pooled sample of the 2008–2010 ACS.

their declining share of the population, had the largest marriage market and were most likely to find marriageable partners. Compared to whites, the percentages of the ever-married among Hispanics, Asian Americans, and American Indians were lower. Among Asian Americans, women were more likely to marry than men at every age group, a finding that can be explained in part by higher levels of interracial marriage among women than among men (Qian and Lichter 2007). In contrast, African Americans had the lowest percentage of those who had ever been married, and only three-quarters were ever married by ages fifty to fifty-four. The frequently cited reason for African Americans' low rates of marriage is limited economic resources (Casper and Bianchi 2002). There are two likely reasons for marriage rates among African American women being the lowest among the racial-ethnic groups considered here: African American men marry interracially at a much higher rate than African American women do, and African American women, on average, have much more schooling than their male counterparts in similar age groups and are faced with shortages of African American men with economic resources (Brien 1997; Buchmann, Di-Prete, and McDaniel 2008; Goldman, Westoff, and Hammerslough 1984; Qian and Lichter 2007).

Many immigrants come from countries where marriage is more prevalent than in the United States. Some married before they immigrated to the United States, and many of them undoubtedly followed cultural traditions in their home countries by entering marriage in early adulthood. The results in table 8.1 reveal higher levels of marriage among immigrants of various racial-ethnic groups. The differences were particularly large between U.S.-born and immigrant Asians—the overall percentages of immigrant men and women who had ever been married were more than two times those for their U.S.-born counterparts. Another notable finding is that racial-ethnic differences were much smaller among immigrants, indicating stronger cultural

TABLE 8.1 *Individuals Ever Married, by Age, Sex, Race, and Nativity, 2008–2010*

	White		Black		Hispanic		Asian		American Indian	
	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant
Men										
Fifteen to nineteen	1%	1%	1%	2%	1%	3%	1%	1%	1%	—
Twenty to twenty-four	12	13	6	9	13	21	4	7	12	—
Twenty-five to twenty-nine	44	46	23	35	37	47	21	35	34	—
Thirty to thirty-four	69	72	42	62	59	66	52	73	50	—
Thirty-five to thirty-nine	80	84	57	76	72	77	66	85	64	—
Forty to forty-four	84	89	64	82	76	85	72	90	72	—
Forty-five to forty-nine	86	91	68	87	80	88	76	92	76	—
Fifty to fifty-four	89	93	74	89	85	90	79	95	81	—
Total	61	73	40	63	40	64	30	70	47	62
Women										
Fifteen to nineteen	2	3	1	2	3	8	1	2	2	—
Twenty to twenty-four	21	27	8	17	21	39	8	21	20	—
Twenty-five to twenty-nine	57	66	25	47	50	63	33	62	45	—
Thirty to thirty-four	78	84	43	67	69	77	63	84	61	—
Thirty-five to thirty-nine	87	91	56	77	78	84	76	89	72	—
Forty to forty-four	90	93	64	80	83	88	82	92	78	—
Forty-five to forty-nine	91	95	70	83	86	90	84	94	82	—
Fifty to fifty-four	93	95	75	85	88	91	87	94	85	—
Total	68	80	43	65	49	74	36	78	55	77

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

influences from home countries and weaker associations with marriage market constraints in the United States.

Educational attainment, another dimension of diversity, is closely related to economic resources. Andrew Cherlin (2004) argues that marriage is a status symbol and that those with economic resources are more likely to tie the knot than those with fewer economic resources. Table 8.2 strongly supports that argument. At every age, the percentage of the ever-married was lower among the least-educated. Of course, the fact that only a little over one-fifth of U.S.-born men and women with less than high school education were ever married can be misleading. A large proportion of fifteen- to nineteen-year-olds have neither completed high school nor married. In contrast, three-quarters of men and women who had completed a college education had been married, the highest percentage among all education groups. Individuals with less than a high school education had higher levels of marriage in their earlier twenties, but their levels of marriage did not increase as much at older ages compared with those who had some college or had completed their college education. This suggests that the likelihood of marriage among less-educated men and women becomes smaller at older ages. Compared to the nineteenth century, when half of all college-educated women never married, and to 1960, when 29 percent of college-educated women never married, college education today increases a woman's likelihood of marriage, compared with the likelihood of marriage for women with fewer years of schooling (Isen and Stevenson 2010). This education profile of marriage is similar for men.

Nativity differences in the percentage of the ever-married were large by race-ethnicity but small by educational attainment, as shown in table 8.2. Those with less than a high school education were the exception. The educational gradient of marriage was less prominent among immigrants. Indeed, less-educated immigrants were much closer to those with higher levels of educational attainment than to their U.S.-born counterparts in the percentage of the ever-married. Clearly, marriage is prevalent and not seen as a status symbol among immigrants, regardless of race-ethnicity and educational attainment.

In summary, marriage became increasingly delayed in the 2000s, especially among young men and women in their twenties. The period of "emerging adulthood" has lengthened in recent decades, providing young people with more opportunities than ever to attend school, develop their careers, and explore new relationships before settling down to marry (Arnett 2004). To be sure, the Great Recession toward the end of the 2000s may have further discouraged more young men and women from getting married as they returned to their parental homes to weather economic hardship (Qian 2012). Nevertheless, the percentage of the ever-married increased rapidly starting in the thirties, especially among those with high levels of education, which suggests that most young adults simply delay marriage. A significant minority (13 percent of U.S.-born men and 10 percent of U.S.-born women) had still not married by ages fifty to fifty-four.

Racial-ethnic and educational differences in marriage support the notion that economic resources are the key to marriage among the U.S.-born. Although white men and women on average marry at later ages, they have the highest percentage of those ever married. From a demographic standpoint, balanced sex ratios mean that whites have sufficient opportunities to marry, unlike African American women, who face large deficits in the supply of men, especially men with jobs that can support a family. Yet whites may be more likely to marry because they face fewer structural barriers than racial-ethnic minorities. Racial-ethnic minorities may have to invest more time and social and human capital in their workplace goals than whites, which may cut down on their investments in marriage markets. Similarly, men and women who have completed a college education are more likely to marry than those with less education. Interestingly, the economic resources argument does not apply to immigrants, as the less-educated and racial-

TABLE 8.2 *Individuals Ever Married, by Age, Educational Attainment, Sex, and Nativity, 2008–2010*

	Less Than High School				High School				Some College				College or Higher	
	U.S.-Born		Immigrant		U.S.-Born		Immigrant		U.S.-Born		Immigrant		U.S.-Born	Immigrant
	Men													
Fifteen to nineteen	1%	2%											3%	17%
Twenty to twenty-four	13	24			13	18			8	9			11	9
Twenty-five to twenty-nine	33	47			40	47			42	41			40	37
Thirty to thirty-four	50	65			61	67			67	69			70	73
Thirty-five to thirty-nine	62	75			73	79			79	80			82	85
Forty to forty-four	67	84			79	85			83	87			86	90
Forty-five to forty-nine	72	87			83	89			86	90			88	92
Fifty to fifty-four	77	90			87	91			88	92			89	94
Total	22	60			58	65			60	64			74	78
Women														
Fifteen to nineteen	1	4			3	7			2	4			16	13
Twenty to twenty-four	26	48			24	36			15	20			17	23
Twenty-five to twenty-nine	47	65			53	65			55	61			48	58
Thirty to thirty-four	61	76			71	80			75	79			74	81
Thirty-five to thirty-nine	70	82			80	86			84	87			84	88
Forty to forty-four	75	86			86	90			87	91			87	91
Forty-five to forty-nine	80	89			89	92			90	92			88	92
Fifty to fifty-four	84	90			92	93			91	93			89	93
Total	23	69			66	76			66	73			74	82

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

ethnic minorities married at levels similar to those of their highly educated and white counterparts. Many immigrants who come to the United States hold traditional values about marriage and children and marry regardless of their economic resources. Indeed, immigration has helped slow down the marriage decline in American society.

COHABITATION

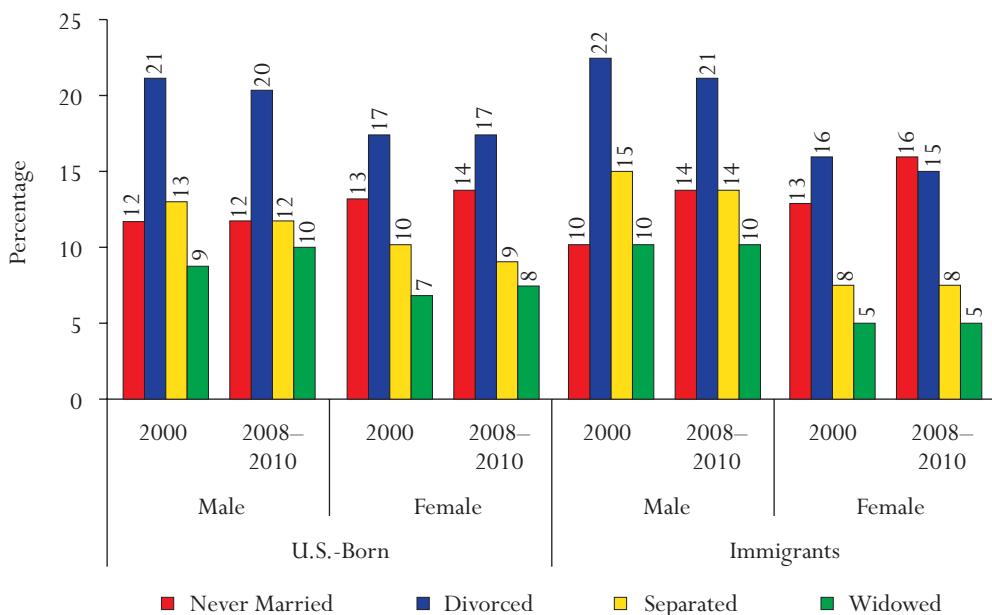
The decline in marriage has given rise to more cohabitation, which emerged as a new living arrangement in the 1960s and has become prevalent over time (Cherlin 2004). The number of cohabiting couples grew from 400,000 in 1960 to 3.8 million in 2000 (U.S. Census Bureau 2003). Unlike marriage, cohabitation is typically a short-lived arrangement, mostly lasting one or two years (Bumpass and Lu 2000). Many young adults view cohabitation as a step between dating and marriage. Nearly 60 percent of the couples who formed their marriage in the early 1990s cohabited prior to marriage (Bumpass and Lu 2000). Those who have made the transition to marriage tend to be those with economic resources (Lichter, Qian, and Mellott 2006). Meanwhile, some others consider cohabitation an alternative to marriage, move from one cohabitation to another, and become serial cohabitators (Lichter and Qian 2008). Working- and lower-middle-class individuals are particularly likely to be in such relationships (Manning and Smock 2005). They expect to marry and aspire to have a big wedding, but limited financial resources constrain their ability to do so. They resort to cohabitation as a way of adapting to their economic hardships (Sassler and McNally 2003).

The marriages of couples who cohabited before marriage are more likely to break up than the marriages of those who did not (Lichter and Qian 2008). Some argue that cohabitators' learning and experience of alternative intimate relationships outside of marriage raises the risk of divorce (Axinn and Thornton 1992; Smock 2000). Others posit that married couples with prior cohabitation experience may not be as committed to the relationship in the first place. Not only are they more likely to cohabit, but they also are more likely to divorce compared to those without cohabitation experience (Thomson and Colella 1992). However, Bo Lu and others (2012) find that the selection effect of cohabitation on subsequent marital disruption has weakened over time because cohabitation has become less selective (of "divorce-prone" persons) as it has become the modal pathway to marriage (see also Manning and Cohen 2012).

Over the life course, many individuals experience singlehood, cohabitation, marriage, and divorce once or more than once. Even among the elderly, cohabitation has increasingly become commonplace (Brown, Lee, and Bulanda 2006). Clearly, cohabitation is no longer a living arrangement that is only common among never-married young men and women. Previously married individuals often cohabit rather than marry or at least cohabit and then move on to marriage (Smock 2000).

Delays in marriage suggest that cohabitation may have surged over the period between 2000 and 2008–2010. Figure 8.3 provides answers to this question by presenting the percentage of cohabitators by sex and nativity among never-married, divorced, separated, or widowed individuals ages eighteen to sixty-four. The rapid increase in cohabitation witnessed prior to 2000 appeared to have been halted, but only because cohabitation is usually a temporary rather than permanent arrangement and the prevalence measure of cohabitation provided only a snapshot of cohabitations at the time of the interviews. Most young people today cohabit before they marry. Among the U.S.-born, the percentage cohabiting remained largely unchanged between 2000 and 2008–2010 for every marital status group. The story was the same among immigrants, with one important exception—the percentage cohabiting increased from 10 to 14 percent and

FIGURE 8.3 *Individuals Ages Eighteen to Sixty-Four Cohabiting, by Marital Status, Sex, and Nativity, 2000 and 2008–2010*



Source: Author's calculations based on IPUMS data from the 2000 census and the pooled sample of the 2008–2010 ACS.

from 13 to 16 percent over the period between 2000 and 2008–2010 among never-married immigrant men and women, respectively.

Among individuals ages eighteen to sixty-four who were not currently married, the divorced had the highest percentage cohabiting, while the widowed had the lowest, for both sexes and every nativity group. The percentage cohabiting was lower among the separated than among the divorced because separated individuals had started the divorce process more recently and their marriage was not officially over. Gender differences in cohabitation were evident: a higher percentage of never-married women were cohabiting compared with their male counterparts, while divorced and separated men had a higher percentage cohabiting than their female counterparts. The reason is simple: custody of children may discourage divorced and separated women from developing intimate relationships, but divorced and separated men, especially those with economic resources, have more opportunities to form cohabiting relationships with never-married women (Shafer 2013). Nativity differences are surprisingly small—for each marital status group, the difference in the percentage cohabiting is within two percentage points. As shown, this small difference is in part due to wide acceptance of cohabitation among Hispanic immigrants (Landale and Fennelly 1992).

Table 8.3 presents racial-ethnic differences in cohabitation among individuals age eighteen to sixty-four. U.S.-born whites and American Indians had the highest percentage of cohabitation and U.S.-born African and Asian Americans had the lowest. Along with the findings on marriage, it is clear that U.S.-born Asian Americans married at later ages but did not cohabit as much either. African Americans, especially African American women, exhibited the lowest levels of cohabitation and marriage. Nativity differences are generally small. Hispanic immigrants were

TABLE 8.3 *Individuals Ages Eighteen to Sixty-Four Cohabiting, by Marital Status, Race, Sex, and Nativity, 2008–2010*

	White		Black		Hispanic		Asian		American Indian	
	U.S.-Born		Immigrant		U.S.-Born		Immigrant		U.S.-Born	
	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant
Men										
Never married	13%	11%	9%	10%	11%	18%	6%	7%	14%	—
Divorced	21	20	16	19	21	23	16	15	21	—
Separated	12	10	10	13	11	16	6	10	11	—
Widowed	10	10	9	11	9	11	6	7	14	—
Total	15	14	10	12	13	19	7	8	16	15%
Women										
Never married	16	13	8	9	13	24	9	9	18	—
Divorced	18	16	7	8	17	16	18	14	19	—
Separated	11	6	5	5	8	9	9	6	12	—
Widowed	8	5	4	4	9	7	8	5	9	—
Total	16	13	7	8	14	19	10	9	17	20

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

the only immigrant group with higher levels of cohabitation compared with their U.S.-born counterparts because cohabitation is more culturally acceptable and commonly practiced in Latin America (Landale and Fennelly 1992).

Unlike in the past, today the percentage of those who have ever been married increases with educational attainment. For less-educated individuals, marriage is often regarded as a status symbol because a wedding has become too expensive (Cherlin 2004). Do they respond by cohabiting more? The answer is no. As revealed in table 8.4, never-married individuals with less than a high school education had the lowest percentage of cohabitation. There could be two possible explanations. One is that the measure used here is based on prevalence. It is possible that less-educated individuals cohabit, but that their cohabiting relationships became more unstable and short-lived during the Great Recession. As a result, the percentage cohabiting—a prevalence rather than incidence measure—captures fewer cohabiting relationships among the less-educated. Another possible explanation is that less-educated individuals lack economic resources, which diminishes the prospect for them not only of marriage but also of cohabitation, as well as the duration of cohabitation. Earning potential, highly correlated with educational attainment, was not a strong predictor of entry into cohabitation in the past (Xie, Raymo, Goyette, and Thornton 2003). It is likely to have become a strong predictor of whether one cohabits and how long each cohabitation episode lasts. After all, cohabitation is a more formal living arrangement than a casual relationship because the expectation is strong that cohabitation will transition into marriage, as seen among those with economic resources (Lichter, Qian, and Mellott 2006). Among the previously married, men and women who had completed a college education had the lowest percentage of cohabitation. Because proportionally fewer college-educated men and women divorce, the few who do may have greater remarriage prospects and less incentive to cohabit because of their economic independence compared with their less-educated counterparts.

Gender differences in cohabitation were surprisingly small by educational attainment and nativity. Immigrants and the U.S.-born had similar percentages of cohabitation for most categories, except that never-married immigrants with less than a high school education had much greater levels of cohabitation than their U.S.-born counterparts (19 percent versus 9 percent for men and 27 percent versus 10 percent for women), and never-married immigrants with at least a college education had much lower levels of cohabitation than their U.S.-born counterparts (12 percent versus 17 percent for both men and women). The reason is compositional: Hispanic immigrants come from cultures in which cohabitation is normative, and immigrants with less than a high school education are more likely to be Hispanic. In contrast, immigrants who have completed a college education are less likely to be Hispanic and thus are less likely to form cohabiting relationships.

Bucking the trend in the past, the prevalence of cohabitation among the U.S.-born did not increase in the 2000s, even with increases in the incidence of cohabitation.² This suggests that cohabitation is a transitory stage in the life course rather than a permanent living arrangement that serves as an alternative to marriage. Are changing patterns of cohabitation a part of the “quieting” of family change documented by Lynne Casper and Suzanne Bianchi (2002)? Or is the Great Recession the culprit for low levels of cohabitation? After all, cohabitation prevalence is lowest among those with less than a high school education and among racial-ethnic minorities, especially African Americans. This is a finding that we did not witness in the past. It is possible that these individuals cannot afford even cohabitation or that they have unstable cohabiting relationships owing to poor employment opportunities and few economic resources. Another possible explanation is that cohabitation is now so prevalent that it has become a social institution, which comes with its own expectations and norms. As a result, some young men and women

TABLE 8.4 *Individuals Ages Eighteen to Sixty-Four Cohabiting, by Marital Status, Educational Attainment, Sex, and Nativity, 2008–2010*

	Less Than High School			High School			Some College			College or Higher		
	U.S.-Born		Immigrant	U.S.-Born		Immigrant	U.S.-Born		Immigrant	U.S.-Born		Immigrant
	Men	Women		Men	Women		Men	Women		Men	Women	
Never married	9%	19%		11%	13%		12%	9%		17%	12%	
Divorced	20	22		21	22		20	21		19	18	
Separated	13	15		13	15		11	14		8	9	
Widowed	11	10		11	10		10	12		8	9	
Total	11	19		14	15		14	12		17	13	
Women												
Never married	10	27		13	16		13	11		17	12	
Divorced	19	15		19	16		16	15		13	13	
Separated	12	10		10	7		8	7		5	5	
Widowed	8	5		8	6		8	6		6	4	
Total	12	19		14	15		14	11		15	12	

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

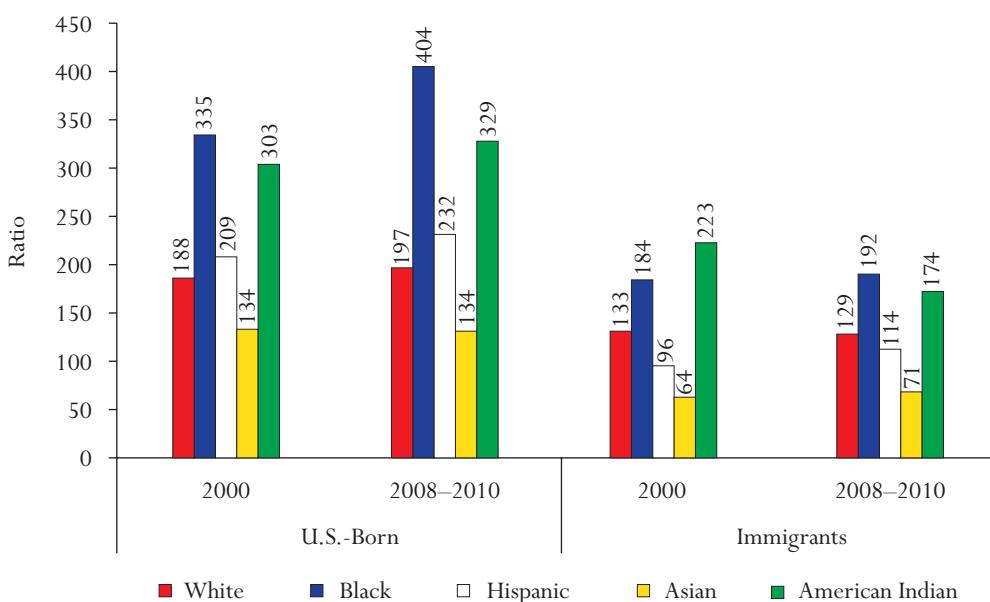
may be discouraged from entering cohabiting relationships that have become more institutionalized.

DIVORCE

The annual divorce rate (the number of divorces per 1,000 individuals) rose from 2.2 in 1960 to 5.2 in 1980 and then dropped to 3.6 in 2006 (Amato 2010). The rise in age at marriage contributes to the decline in the divorce rate because of the denominator. In other words, the denominator includes fewer married individuals and fewer individuals at risk of divorce (Heaton 2002). In addition, marriage has become selective, and those who marry have lower risks of divorce. For example, less-educated individuals and racial-ethnic minorities, who tend to have higher divorce rates, are now much less likely to marry than their highly educated counterparts or whites (McLanahan 2004; Sweeney and Phillips 2004).

What happened to the divorce rate when marriage rates continued to decline in the 2000s? The annual divorce rate is confounded by the proportion who are married, so I use a more refined divorce rate: the ratio of the number of divorces over 1,000 married individuals. Sara McLanahan and Lynne Casper (1995) showed that the ratio of divorced to married adults grew over fourfold from 1960 to 1990, from 33 to 133 among whites and from 62 to 282 among African Americans. Figure 8.4 presents the ratio by race-ethnicity and nativity among men and women ages eighteen to sixty-four in 2000 and 2008–2010. The ratio among whites increased slightly, from 188 divorces per 1,000 marriages in 2000 to 197 in 2008–2010. The ratio was a little higher for Hispanics than for non-Hispanic whites. For African Americans, the ratio was

FIGURE 8.4 *Ratio of Divorced Individuals Ages Eighteen to Sixty-Four per 1,000 Married Individuals, by Race and Nativity, 2000 and 2008–2010*

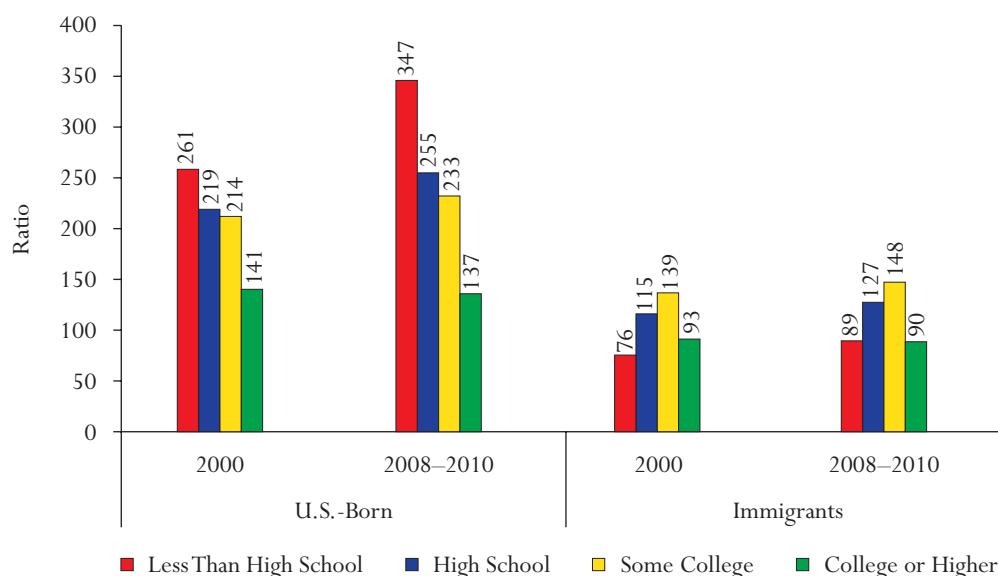


Source: Author's calculations based on IPUMS data from the 2000 census and the pooled sample of the 2008–2010 ACS.

highest in 2000 and rose from 335 in 2000 to 404 in 2008–2010. American Indians had the second-highest ratio. The ratio among U.S.-born Asians was lowest (134) and remained unchanged in the 2000s. Although race-ethnicity differs in compositional effects, including age at marriage and educational attainment, the racial-ethnic effect on divorce does not disappear when compositional effects are taken into account (Sweeney and Phillips 2004). For each racial-ethnic group, immigrants had a much lower ratio and more stable marriages than their U.S.-born counterparts. One cautionary note is that the ratio does not control for marital duration. Compared with the U.S.-born, immigrants may be younger and their marriages may be of shorter duration, thus making them less exposed to the risk of divorce. In other words, nativity differences may be smaller if marital duration is taken into account.

Figure 8.5 presents the divorce-to-marriage ratio by educational attainment. Among the U.S.-born, the higher the level of educational attainment, the lower the likelihood of divorce, a finding consistent with the previous research (Isen and Stevenson 2010; Martin 2006). The ratio among U.S.-born individuals with less than a high school education was high and continued to increase, by 33 percent, from 261 in 2000 to 347 in 2008–2010. In contrast, the ratio among U.S.-born individuals who had completed a college education was 141 in 2000 and 137 in 2008–2010. The ratio was one and a half times greater among those with less than a high school education. Immigrants offer a different story. The divorce-to-marriage ratio among immigrants increased by educational attainment, except for those who had completed a college education. For those immigrants who live in immigrant communities where divorce is frowned upon and strongly discouraged, divorce may be less of an option, especially for those with less education.

FIGURE 8.5 *Ratio of Divorced Individuals Ages Eighteen to Sixty-Four per 1,000 Married Individuals, by Educational Attainment and Nativity, 2000 and 2008–2010*



Marriage and cohabitation rates among individuals with lower levels of education and among racial-ethnic minorities such as African Americans declined between 2000 and 2008–2010. Yet the divorce rates among these groups continued to increase. In contrast, highly educated individuals, whites, and Asians had high rates of marriage and continued to maintain low divorce-to-marriage ratios in the 2000s. Such differences cannot be explained by differences in age at marriage (Stevenson and Wolfers 2007). The results reveal that the stably married population disproportionately consists of those who are white and highly educated. Economic resources appear to be the key. U.S.-born individuals with few economic resources are less likely to marry or cohabit and more likely to divorce after marriage compared with those with more economic resources. The Great Recession in 2008–2010 may have exacerbated the situation. Among immigrants, racial-ethnic differences in the divorce-to-marriage ratio mirror those among the U.S.-born, but immigrants had much lower divorce-to-marriage ratios. Among immigrants, educational attainment did not play a role in determining the likelihood of marriage, and the effect of educational attainment on divorce shows an inverted-U—those with less than a high school education and those who had completed a college education had the lowest rates of divorce. The economic resources argument did not play a role in immigrants' marriage and divorce rates.

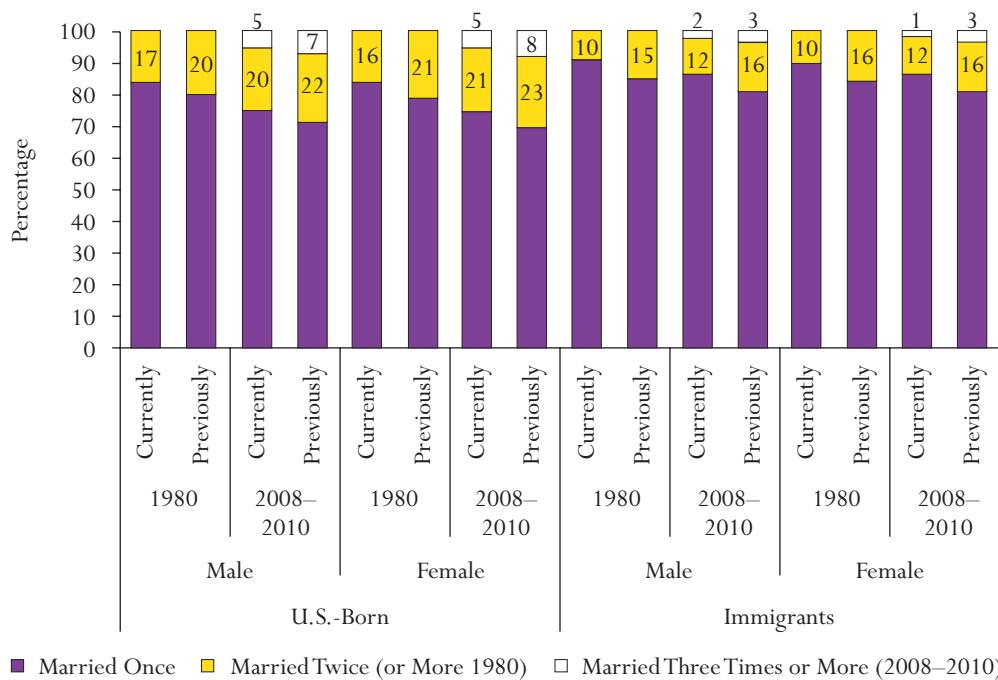
REMARRIAGE

As early as 1981, the sociologist Andrew Cherlin (1992) identified an emerging life-course pattern of marriage, divorce, and remarriage. In his 2009 book *The Marriage-Go-Round*, he draws attention to a uniquely American family life that no other countries in the world have experienced: Americans start relationships at younger ages, experience short-term cohabitations often, divorce quickly after marriage, and move into other cohabiting or marital relationships (Cherlin 2009). Remarriage is unique compared to first marriage because remarried individuals are a select group of all first or previously married individuals—that is, they have been divorced or widowed. Because many of them have minor children, they often face the complications associated with child support, visitation rights, and stepfamilies (Sweeney 1997). Divorced women with economic resources may have less motivation to remarry because of their ability to support themselves and their children, while those with fewer economic resources may have more motivation to remarry in order to escape from poverty (Sweeney 1997). Most divorced women have physical or legal custody of their children, which tends to reduce their attractiveness in the marriage market. On the other hand, divorced men with economic resources remarry at a higher rate. Their pool of marriageable women is larger and often includes never-married, younger women (Shafer 2013).

To examine whether remarriages have increased over time, I rely on data from the 1980 census and the 2008–2010 American Community Survey. The 1980 census was the latest census, and the 2008 ACS was the first ACS, to include information on marriage order. These two data sources are not exactly comparable: marriage order for the 1980 census was classified as “married once” and “married twice or more,” while marriage order for the 2008–2010 ACS had information on those who had been married once, twice, and three times or more, a difference that reflects changes in the prevalence of remarriage over time.

Figure 8.6 compares marriage order between 1980 and 2008–2010 among currently and previously married individuals age eighteen to sixty-four. Among currently married men, the share of remarriage increased from 17 percent in 1980 to 25 percent (20 percent married twice and 5 percent married three times or more) in 2008–2010. Among previously married men, the corresponding percentages in 1980 and 2008–2010 were 20 and 29 percent (22 percent

FIGURE 8.6 *Distribution of Marriage Order Among Currently and Previously Married Individuals Ages Eighteen to Sixty-Four, 1980 and 2008–2010*



■ Married Once ■ Married Twice (or More 1980) □ Married Three Times or More (2008–2010)

Source: Author's calculations based on IPUMS data from the 1980 census and the pooled sample of the 2008–2010 ACS.

married twice and 7 percent married three times or more), respectively. Currently and previously married women had remarried at rates similar to those of their male counterparts. Of course, previously married individuals had already disrupted a marriage and experienced more marital transitions than the currently married. Increases in remarriage reflect the “marriage-go-round”—more individuals are moving from one marital state to another (marriage, divorce, remarriage, divorce) over the life course. Again, the share of remarriage was small among immigrants. The nativity differences were stronger among the previously married than among the currently married, suggesting that immigrants experienced fewer marital transitions than their U.S.-born counterparts.

How did marriage order vary by race-ethnicity in 2008–2010? As shown in table 8.5, U.S.-born whites and American Indians had the highest percentages of remarriage. Among U.S.-born white men, 20 percent and 5 percent of the currently married were in their second or third or higher order marriage, respectively, and the percentages for the previously married were 23 percent and 8 percent, respectively. Among U.S.-born white women, the numbers were one or two percentage points higher. The share of remarriage was lower among U.S.-born African Americans and Hispanics than among their white counterparts, especially among the previously married. Given that divorce was less likely among whites than among racial-ethnic minorities, the findings suggest that whites after divorce have greater prospects of remarriage compared to African Americans or Hispanics. Whites may have a larger pool of remarriageable partners than is available to racial-ethnic minorities. And again, economic resources were probably a factor.

TABLE 8.5 *Distribution of Marriage Order Among Individuals Ages Eighteen to Sixty-Four, by Marital Status, Race, Sex, and Nativity, 2008–2010*

	White		Black		Hispanic		Asian		American Indian	
	U.S.-Born		Immigrant		U.S.-Born		Immigrant		U.S.-Born	
	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant
Men										
Currently married										
Once	74%	81%	73%	76%	79%	87%	88%	91%	72%	78%
Twice	20	16	22	21	17	12	11	8	21	19
Three or more	5	3	5	3	4	2	2	1	8	3
Previously married										
Once	69	76	76	78	78	82	83	83	70	—
Twice	23	20	19	19	18	15	14	15	21	—
Three or more	8	4	4	3	4	3	3	2	9	—
Women										
Currently married										
Once	73	82	76	84	79	87	87	90	70	80
Twice	21	16	20	15	18	12	11	9	22	18
Three or more	6	3	4	1	3	1	2	1	8	2
Previously married										
Once	66	75	77	81	77	82	82	85	68	—
Twice	25	21	19	17	19	16	15	14	23	—
Three or more	9	4	4	2	5	2	3	2	10	—

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

Immigrants in general had lower levels of remarriage than their U.S.-born counterparts, for two reasons. First, immigrants had lower rates of divorce than the U.S.-born. Second, fewer divorced immigrants remarried. Clearly, considering marriage, cohabitation, divorce, and remarriage, immigrants tend to marry and stay married and do not experience as many marital transitions as their U.S.-born counterparts.

The distribution of marriage order varies by educational attainment as well, as shown in table 8.6. Among currently married U.S.-born individuals, the share of first marriages increased by educational attainment, to around 82 percent among men and women who had completed a college education, but only 69 and 66 percent, respectively, among men and women with less than a high school education. The highly educated are not only more likely to marry but more likely to stay married. Nearly one-tenth of men and women with less than a high school education had married three times or more. These results indicate that individuals with low levels of education are more likely to experience multiple marital transitions than those with high levels of education. Higher percentages of U.S.-born women with less than a high school education had remarried compared with their male counterparts, suggesting that women are more likely to make multiple marital transitions than men. Nativity differences were strongest among those with less than a high school education because less-educated immigrants were the most likely to be in their first marriage.

Indeed, more individuals follow the paths of marriage, divorce, and remarriage during their life course. Serial marriage increased rapidly between 1980 and 2008–2010. The data presented here demonstrate that U.S.-born, less-educated individuals are more likely to go through multiple marital transitions than their highly educated counterparts because proportionately more less-educated individuals divorce and are exposed to the risk of remarriage. Meanwhile, whites experience these marital transitions more often than racial minorities. After all, remarriages are more formal than serial cohabitations and receive better legal protections. Once again, immigrants differ significantly from their U.S.-born counterparts. The explanation is straightforward: immigrants do not divorce as much as natives, and those who divorce are less likely to remarry.

THE IMPACTS OF FAMILY CHANGE ON CHILDREN

The family has always been the principal source of support for America's new generations, and family change affects children in various ways. On the one hand, delays in marriage, prevalent cohabitation, relationship instability, and fertility decline increase childlessness, whether voluntary or involuntary. For example, Pew Research (2010) shows that 13 percent of ever-married women age forty to forty-four and 56 percent of never-married women in the same age group in 2006–2008 had no children. An increasing proportion of the population with no young children may lead to a decline in public support for America's children (Preston 1984). On the other hand, rapid changes in American families indicate that children are likely to fare differently than in the past: some will gain resources and parental time because of delays in marriage and the decline in family size, while other children will lose resources and attention because of divorce, nonmarital childbearing, and transitory unions (Cherlin 2009; McLanahan 2004).

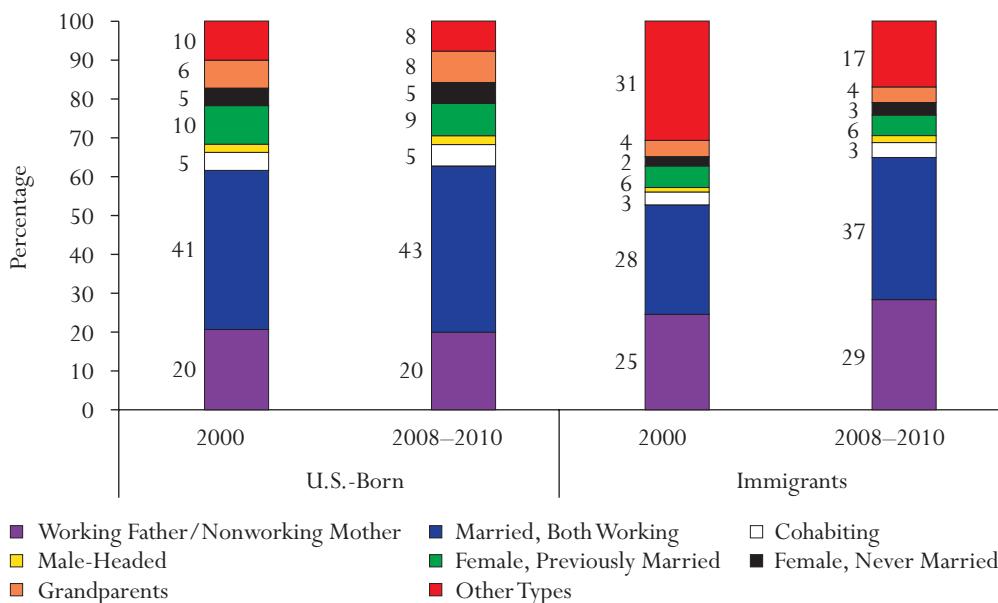
Marriage and childbearing are less likely today to go hand in hand. Social norms against unmarried childbearing are weak, "shotgun weddings" are on the decline, and childbearing outside of marriage is on the rise. This increase in recent decades is largely due to the growing proportion of births among cohabitating couples (Raley 2001; Sassler, Miller, and Favinger 2009). Unfortunately, most cohabiting relationships are unstable and have a negative impact on children (Bulanda and Manning 2008). Children born to cohabiting parents are far more likely to experience single-parenthood or frequent changes of their parents' live-in boyfriends or

TABLE 8.6 *Distribution of Marriage Order Among Individuals Ages Eighteen to Sixty-Four, by Marital Status, Educational Attainment, Sex, and Nativity, 2008–2010*

	Less Than High School			High School			Some College			College or Higher		
	U.S.-Born		Immigrant	U.S.-Born		Immigrant	U.S.-Born		Immigrant	U.S.-Born		Immigrant
	Men	Women		Men	Women		Men	Women		Men	Women	
Currently married												
Once	69%	90%		70%	85%		73%	81%		82%	87%	
Twice	23	9		23	14		22	16		15	12	
Three or more	8	1		7	2		6	2		3	2	
Previously married												
Once	69	85		70	81		70	77		75	79	
Twice	23	13		23	16		23	19		20	18	
Three or more	9	2		7	3		7	4		5	3	
Women												
Currently married												
Once	66	90		69	84		72	83		83	88	
Twice	25	9		24	14		22	15		15	11	
Three or more	9	1		7	2		6	2		3	1	
Previously married												
Once	64	85		66	80		68	77		76	82	
Twice	25	13		25	17		24	20		20	16	
Three or more	11	2		9	3		8	3		4	2	

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

FIGURE 8.7 *Distribution of Living Arrangement of Children Ages Zero to Seventeen, by Nativity, 2000 and 2008–2010*



Source: Author's calculations based on IPUMS data from the 2000 census and the pooled sample of the 2008–2010 ACS.

girlfriends than those born to married parents. Even if their mothers or fathers later marry, their educational attainment and economic well-being in a remarried family pales compared with life for children born in families with two biological parents (Cherlin 1999).

The relationship between children's living arrangements and their socioeconomic well-being is strong. Children living in married-couple families are the least likely to live in poverty, while children growing up in female-headed, single-parent families are the most likely (Lichter and Qian 2004). Meanwhile, children living in cohabiting families also do poorly, at levels that are likely to be overstated because only the income of the householder (not the income of the householder's cohabiting partner) is used to estimate poverty (Lichter, Qian, and Crowley 2005). In addition, when parents move from one relationship to another or have difficulties making ends meet, their children often live with grandparents, a pattern most common among African Americans (Edin 2000).

Family changes such as marriage delay, a growing proportion of children born to unmarried mothers, prevalent cohabitation, and high levels of divorce influence children's well-being. Children often witness every relationship breakup their parents experience. Relationship transitions may be good for their parents, but the children's well-being is often at risk. I now provide a snapshot of changes in children's living arrangements by race-ethnicity and nativity (see figure 8.7). I include all children ages zero to seventeen in my analysis.

The years between 2000 and 2008–2010 saw a period of relative stability in living arrangements among U.S.-born children. In 2000 the highest proportion of children were living with two working parents (41 percent), followed by those living with traditional families (working father and nonworking mother, 20 percent). In 2008–2010 the percentage of children living in

dual-earner families had increased by two percentage points. Of course, living with two working parents or in a traditional family does not necessarily mean that a child lives with two biological parents, and we do not know whether the distribution of children living with both biological parents changed over the period. There was almost no change in other living arrangements. Changes, if any, were within two percentage points. For example, the percentage of children living with previously married mothers declined by nearly one percentage point, to 9 percent, and the percentage living with grandparents increased from 6 percent to 8 percent. This stability was good news for children, because many families did not do well economically during the Great Recession in 2008–2010.

Immigrants tend to have more traditional living arrangements. In 2000 one-quarter of immigrant children lived in a family with a working father and a nonworking mother, and in 2008–2010 nearly 30 percent of immigrant children did so, a rate nine percentage points higher than for their U.S.-born counterparts. Importantly, much lower percentages of immigrant children (18 percent) than their U.S.-born counterparts (30 percent) lived in cohabiting, single-parent, and grandparent families. A higher percentage of immigrant children, on the other hand, lived in “other types” of families, including (but not limited to) living with siblings, in families with married parents but where one parent was absent, and with parents who were not in the labor force.

Table 8.7 reveals strong racial-ethnic differences in children’s living arrangements. Among U.S.-born non-Hispanic white children, 22 percent lived in a traditional family with a working father and nonworking mother, and half lived with a dual-earner family. The only racial group that had higher percentages for these two categories was Asian Americans, at 24 and 53 percent, respectively. Over half of U.S.-born Hispanic children also lived in these two types of families (21 and 33 percent, respectively). U.S.-born African American children were clearly an exception—nearly one-quarter lived with a never-married single mother, and 13 percent lived with a previously married single mother. Among American Indian children, one-tenth lived in a cohabiting family. Living with grandparents was relatively common among African American and American Indian children (15 and 18 percent, respectively). Cultural norms of extended family support may explain why African American and American Indian grandparents are more likely to take on a parental role with their grandchildren (Dunifon and Bajracharya 2012; Luo et al. 2012).

Lower percentages of immigrant children lived in a dual-earner family compared with their U.S.-born counterparts, but higher percentages lived with a working father and nonworking mother. Lower percentages of immigrant children lived in single families, in cohabiting families, or with grandparents than their U.S.-born counterparts. Although similar proportions of black immigrant children lived with a previously married single mother compared with their U.S.-born counterparts, much lower percentages lived with a never-married mother or with grandparents than was the case for African American children.

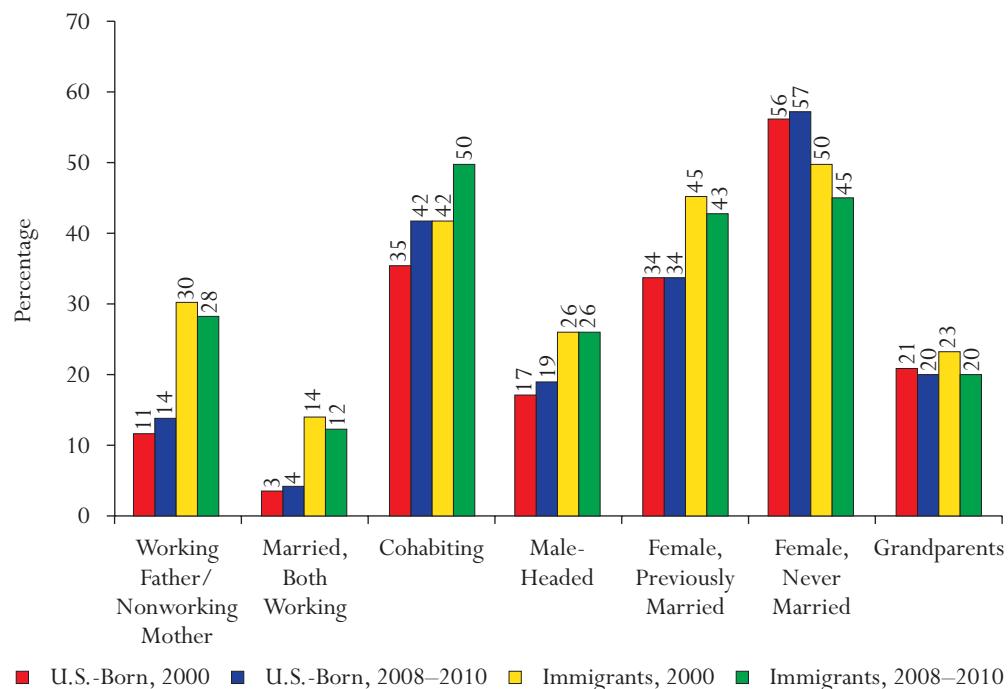
Children’s living arrangements are associated with their well-being in multiple ways (Furstenberg and Cherlin 1991; Ginther and Pollak 2004). In figure 8.8, I examine whether children age zero to seventeen lived in poverty, by living arrangement, in 2000 and 2008–2010. In 2000 the percentage of children living in poverty was lowest among U.S.-born children living in dual-earner families (3 percent), followed by 11 percent among those living in a family with a working father and nonworking mother; the highest percentage of children living in poverty were in a never-married single-mother family (56 percent). Despite the Great Recession, the percentage living in poverty rose only slightly in 2008–2010, with one exception: children living in cohabiting families experienced a large increase in poverty, from 35 percent in 2000 to 42 percent in 2008–2010. As mentioned earlier, however, poverty levels among cohabiting families

TABLE 8.7 *Distribution of Living Arrangement of Children Ages Zero to Seventeen, by Race and Nativity, 2008–2010*

	White		Black		Hispanic		Asian		American Indian	
	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant
Working father/nonworking mother	22%	34%	5%	14%	21%	29%	24%	29%	12%	—
Married, both working	50	43	24	37	33	32	53	42	26	—
Cohabiting	4	1	6	2	8	6	2	1	10	—
Male-headed	3	1	3	3	2	2	1	1	4	—
Female, previously married	8	5	13	11	9	6	4	4	9	—
Female, never married	2	1	24	6	7	4	1	2	8	—
Grandparents	6	2	15	6	9	4	5	4	18	—
Other types	6	13	11	21	10	17	9	17	14	—
Total	100	100	100	100	100	100	100	100	100	—

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

FIGURE 8.8 *Children Ages Zero to Seventeen Living in Poverty, by Living Arrangement, 2000 and 2008–2010*



Source: Author's calculations based on IPUMS data from the 2000 census and the pooled sample of the 2008–2010 ACS.

may be overstated because only the income of the householder, not the income of the householder's cohabiting partner, is used to estimate poverty. Living with grandparents is indeed beneficial to children, because alternatives such as living with a single parent would mean a much higher level of children living in poverty.

Immigrant children are more likely than U.S.-born children to live with married parents who are "working poor." In 2000, the percentage of children living in poverty was significantly higher among immigrant families with a working father and nonworking mother (30 percent) and immigrant dual-earner families (14 percent) than among their U.S.-born counterparts (11 and 3 percent, respectively). Nativity differences were much smaller among children in other types of living arrangements, but immigrants generally had higher levels of children living in poverty than their U.S.-born counterparts for each type of living arrangement. Despite the Great Recession, the percentage living in poverty declined among immigrant children in 2008–2010 for most living arrangements, maybe owing in part to sharper declines in immigration among disadvantaged populations and greater levels of return migration among immigrants who did not do well economically in the United States (Cherlin et al., 2013).

Table 8.8 presents racial-ethnic differences in the percentage of children age zero to seventeen living in poverty, by living arrangement. The lowest percentages of children living in poverty, for every type of living arrangement, were U.S.-born whites and Asian Americans. The percentages of U.S.-born African American, Hispanic, and American Indian children living in

TABLE 8.8 *Children Ages Zero to Seventeen Living in Poverty, by Living Arrangement, Race, and Nativity, 2008–2010*

	White		Black		Hispanic		Asian		American Indian	
	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant	U.S.-Born	Immigrant
Working father/nonworking mother	9%	16%	21%	34%	29%	41%	11%	15%	24%	—
Married, both working	3	7	6	15	9	19	3	7	8	—
Cohabiting	37	24	47	40	47	55	29	25	55	—
Male-headed	14	7	33	24	25	35	21	19	31	—
Female, previously married	29	23	41	44	45	54	28	27	46	—
Female, never married	49	13	60	45	61	61	44	10	60	—
Grandparents	14	11	31	28	23	24	12	11	30	—

Source: Author's calculations based on IPUMS data from the pooled sample of the 2008–2010 ACS.

poverty were relatively similar, with several exceptions. More Hispanic children lived in poverty among the working poor (working father and nonworking mother families and dual-earner families); more American Indian children lived in poverty among cohabiting families; more African American and American Indian children lived in poverty among male-headed families; and more African American children lived in poverty among grandparent families. Overall, immigrant children were more likely to be poor than their U.S.-born counterparts among those living in families with a working father and nonworking mother and in dual-earner families. In contrast, immigrant children living in other types of families did better compared to their U.S.-born counterparts, except that Hispanic immigrant children were more likely to live in poverty than their U.S.-born counterparts in almost every living arrangement.

In summary, U.S.-born children continued to have diverse living arrangements. The good news is that the Great Recession did not witness a significant increase in the percentage of children living in single or cohabiting families. Yet proportionally more African American, Hispanic, and American Indian children lived in single or cohabiting families, in which the risk of poverty is higher, and fewer African American children lived in traditional families or dual-earner families, in which the risk is low. For U.S.-born children, living arrangement is a strong indicator of poverty status. Immigrants are different. Low percentages of immigrant children lived in single or cohabiting families, and higher percentages lived in traditional or dual-earner families, but the percentage of immigrant children who lived in poverty was relatively high because more of these children, especially Hispanics, lived in poverty than did their U.S.-born counterparts among traditional and dual-earner families. Overall, the results show that there are strong disparities in the economic resources of America's children (McLanahan 2004).

CONCLUSION

American families have been transformed over the past several decades. Since the 1960s, delayed marriage, prevalent cohabitation, high divorce rates, and rising remarriage rates have dramatically changed the fabric of American families and influenced children's well-being. In this chapter, I examined how family change evolved in the 2000s and how American families fared during the Great Recession. Was there evidence of a "quieting" of family change during the recession (Casper and Bianchi 2002)? Or was there evidence of continued marriage decline? The answers are not straightforward. We witnessed both a "quieting" and continued change in America's families over the 2000s. Importantly, however, the trajectories of American families have become more divergent, owing to race-ethnicity, educational attainment, and nativity status.

There is strong evidence that family change continued in the 2000s. Marriage was further delayed and the percentage of those who had ever been married by age thirty reached new lows in 2008–2010. Young men and women continued to explore schools, jobs, and relationships, and the Great Recession appeared to extend young adults' period of exploration. Permanent singleness by ages fifty to fifty-four also rose over the period. Although individuals remained single for various reasons, larger proportions of the single were racial-ethnic minorities and less-educated individuals with inadequate economic resources. Meanwhile, divorce and remarriage continued increasing. The continuity of family change suggests that Americans are experiencing more marital transitions during the life course today than in the past and that marital unions have become more transitory (Cherlin 2004).

Yet the 2000s also witnessed a halt in family change. The surge in cohabitation seen in recent decades appeared to have stopped, for several possible reasons. The impact of the Great Recession might have been severe enough that fewer men and women could afford cohabitation, or perhaps cohabitation during the Great Recession became so volatile and short-lived that the

prevalence measure of cohabitation did not capture many short-term cohabitation episodes. Alternatively, cohabitation might have been transformed over the years from a socially unacceptable living arrangement into a widely accepted practice and even a permanent social institution with established expectations and social norms, which could have discouraged some people from forming such relationships. Clearly, more research is needed to understand this new phenomenon. During the 2000s, we also witnessed some renewed stability in children's living arrangements, at least as measured by the changing percentages of children living in two-parent families. The percentage of children living in poverty also was little changed by type of living arrangement. This is good news because any stability in children's living arrangements presumably thwarted even larger increases in the percentage of children living in poverty during the Great Recession, when nearly 22 percent of children were officially poor (DeNavas-Walt, Proctor, and Smith 2012).

A national portrait of change in American families misses a picture of strong and growing diversity by race-ethnicity, educational attainment, and nativity status. U.S.-born non-Hispanic whites delayed marriage in ways similar to those of racial-ethnic minorities, but they had higher rates of marriage and cohabitation and low divorce-to-marriage ratios (second only to Asian Americans), and relatively large percentages remarried. U.S.-born whites were most likely to be in relationships, whether cohabitation, first marriage, or remarriage, in part because U.S.-born whites were the most numerous racial group. Although interracial marriage increased rapidly in recent decades, most Americans searched for spouses or partners within their own racial-ethnic group (Qian and Lichter 2007). A large marriage market provided white Americans with ample opportunities to find a suitable partner or spouse for cohabitation or marriage (Lichter, LeClere, and McLaughlin 1991). Of course, a sizable marriage market was only one necessary condition for forming relationships. Another reason for white Americans' relative success was that they faced fewer structural barriers during the life course than racial-ethnic minorities did and thus had more time to explore relationships and build families. Although this was true for whites regardless of their socioeconomic status, the fact is that socioeconomic status matters. More U.S.-born whites had a college education, a key factor in their high levels of marriage and cohabitation and low levels of divorce. As a result, most white children lived in families with a working father and nonworking mother or a dual-earner family, and the percentage of white children living in poverty was among the lowest across all living arrangements.

At the other end of the spectrum were African Americans, who had the lowest percentage of those who had ever been married in every age group, and the highest percentage of permanent singlehood by ages fifty to fifty-four, lower levels of cohabitation, the highest divorce-to-marriage ratios, and a larger share of remarriages. As a result, African Americans were the least likely to be in formal marital or cohabiting relationships, owing in large part to their poorer economic circumstances; unemployment, underemployment, and limited economic prospects for African American men have a strong negative effect on union formation and stability (McLanahan and Percheski 2008). Consequently, the lowest percentage of children living in a family with a working father and nonworking mother or a dual-earner family and the highest percentage who lived in a female-headed single family were African American. Children in female-headed single families represented the highest percentage of children living in poverty, and, unfortunately, that disadvantage was likely to exacerbate racial-ethnic inequalities (McLanahan and Percheski 2008).

In the 2000s, American families became more diversified by educational attainment. Individuals with less education married and cohabited less and divorced more, despite low marriage rates. The growing racial-ethnic and educational divide in American families had a lot to do with economic resources, a factor that was especially important during the Great Recession. His-

torically disadvantaged minorities retreated not only from marriage but also from cohabitation. Although America's retreat from marriage is no longer a surprise, the slowdown in cohabitation is a relatively new phenomenon. As discussed, the Great Recession may have made cohabitation an expensive living arrangement as more young men and women with poor economic resources returned home to live with their parents (Qian 2012).³

Immigrants often come from countries where marriage and family are highly valued. It is indeed true that regardless of educational attainment and race-ethnicity, higher percentages of immigrants tend to be married and lower percentages cohabit (except for Hispanic immigrants), divorce, and remarry compared with their U.S.-born counterparts. Thus, immigrants are unlikely to experience multiple marital transitions. An overwhelming majority marry and stay married, or if they are among the few who end their first marriage, they remain divorced. Clearly, immigrants present another divergent path of American families—a path toward traditional families—and are likely to slow down the retreat from marriage and cohabitation among blacks and less-educated individuals. Yet, although a much higher percentage of immigrant children live in married-couple families, the risk of living in poverty is much greater because more married-couple immigrant families are among the working poor. With fewer economic resources, immigrant children and later-generation immigrants are likely to adopt American ways of marriage and family life rather quickly, especially racial-ethnic minorities and those with less education. This likelihood casts doubt on the strength of immigrants' tendency toward traditional families. If only immigrants, by and large, value the traditional family, it should be noted that the immigration effect is not long-lasting.

The analysis in this chapter sheds light on the future of America's families. One thing is clear: American families are diverse, and we can no longer describe a typical American family. On the one hand, American families are resilient. Despite the poorer economic conditions experienced by most Americans during the Great Recession, marriage as a social institution remains strong and children's living arrangements are stable. On the other hand, marital unions have become increasingly transitory, with more individuals living in cohabiting relationships and single-parent families, and this relationship instability often puts children's well-being at risk. The polarization of American families raises concern not so much because American families have become more diverse but because they are diverse along racial-ethnic and economic lines. African Americans and individuals with fewer years of schooling are more likely to remain single and to have multiple relationship transitions. Economic inequality is key to the polarization of American families, and the disadvantages of children living in single-parent and unstable families are likely to reproduce and exacerbate class and racial-ethnic inequalities (Edin 2000; Ellwood and Jencks 2004; McLanahan and Percheski 2008).

Family diversity along racial-ethnic and class (as measured by educational attainment) lines has important implications for America's children. Marriage is selective of those who are white and have high levels of education (Blackwell and Licher 2004; Charles, Hurst, and Killewald 2013). Married couples who are highly educated tend to have stable marriages. The selection of marriage and marriage itself benefit their children. These children more often have financial resources, enjoy time with both parents, reside in comfortable neighborhoods, attend good schools, enjoy extracurricular activities, and go to colleges and have successful careers when they grow up (Ginther and Pollak 2004). In contrast, less-educated individuals and African Americans are the least likely to marry. Their children tend to live in single-parent families and to experience their parents' multiple transitory marital or cohabiting unions. A greater share of these children live in poverty, perform poorly in school, and have difficulties finding and securing jobs when they grow up (Downey, Ainsworth, and Qian 2009; Ellwood and Jencks 2004). The contrast between these two groups of children has become much starker, possibly as a result of the Great Recession.

There is no doubt that the gap between America's haves and have-nots grew larger than ever during the 2000s (Grusky, Western, and Wimer 2011). This gap has shaped American families in multiple ways. It influences the kind of families we live in and the kind of family environments in which we raise our children. As a result, some children excel while others lag behind. Unfortunately, public support for all America's children, especially those who lag behind, is often weak. While marriage promotion may encourage couples to marry and raise a family, it does not solve the deep-rooted economic hardship of the have-nots. Now may be the time to have government policies in place to help those children growing up in disadvantaged families.

NOTES

1. The author thanks Yue Qian for her research assistance.
2. Yet Philip Morgan, Erin Cumberworth, and Christopher Wimer (2011) show that the proportion of people age sixteen and older living with an unmarried partner, based on the estimates of the monthly Current Population Survey (CPS), continued to increase, by a little over one percentage point, during the 2000s.
3. We would miss the cohabitations of young people who live with each other but also with their parents. Such cohabiting couples would be considered to be living in subfamilies of their parents' households. The ACS does not collect information on cohabiting couples living in subfamilies.

REFERENCES

- Amato, Paul R. 2010. "Research on Divorce: Continuing Trends and New Developments." *Journal of Marriage and Family* 72(3): 650–66.
- Amato, Paul R., Alan Booth, David R. Johnson, and Stacy J. Rogers. 2007. *Alone Together: How Marriage in America Is Changing*. Cambridge, Mass.: Harvard University Press.
- Arnett, Jeffrey Jensen. 2004. *Emerging Adulthood: The Winding Road from the Late Teens Through the Twenties*. Oxford: Oxford University Press.
- Axinn, William G., and Arland Thornton. 1992. "The Relationship Between Cohabitation and Divorce: Selectivity or Causal Influence?" *Demography* 29(3): 357–74.
- Blackwell, Debra L., and Daniel T. Lichter. 2004. "Homogamy Among Dating, Cohabiting, and Married Couples." *Sociological Quarterly* 45(4): 719–37.
- Brien, Michael J. 1997. "Racial Differences in Marriage and the Role of Marriage Markets." *Journal of Human Resources* 32(4): 741–78.
- Brown, Susan L., Gary R. Lee, and Jennifer Roebuck Bulanda. 2006. "Cohabitation Among Older Adults: A National Portrait." *Journal of Gerontology: Social Sciences* 61(2): S71–79.
- Buchmann, Claudia, and Thomas A. DiPrete. 2006. "The Growing Female Advantage in College Completion: The Role of Parental Resources and Academic Achievement." *American Sociological Review* 71(4): 515–41.
- Buchmann, Claudia, Thomas A. DiPrete, and Anne McDaniel. 2008. "Gender Inequalities in Education." *Annual Review of Sociology* 34: 319–37.
- Bulanda, Ronald E., and Wendy D. Manning. 2008. "Parental Cohabitation Experiences and Adolescent Behavioral Outcomes." *Population Research and Policy Review* 27(5): 593–618.
- Bumpass, Larry L., and Hsien-Hen Lu. 2000. "Trends in Cohabitation and Implications for Children's Family Contexts." *Population Studies* 54(1): 29–41.
- Casper, Lynne M., and Suzanne M. Bianchi. 2002. *Continuity and Change in the American Family*. Thousand Oaks, Calif.: Sage Publications.
- Charles, Kerwin K., Erik Hurst, and Alexandra Killewald. 2013. "Marital Sorting and Parental Wealth." *Demography* 50(1): 51–70.
- Cherlin, Andrew J. 1992. *Marriage, Divorce, Remarriage*. Revised and enlarged edition. Cambridge, Mass.: Harvard University Press.
- . 1999. "Going to Extremes: Family Structure, Children's Well-being, and Social Science." *Demography* 36(4): 421–28.

- . 2004. "The Deinstitutionalization of American Marriage." *Journal of Marriage and Family* 66(4): 848–61.
- . 2009. *The Marriage-Go-Round: The State of Marriage and Family in America Today*. New York: Random House.
- Cherlin, Andrew J., Erin Cumberworth, S. Philip Morgan, and Christopher Wimer. 2013. "The Effects of the Great Recession on Family Life." *Annals of the American Academy of Political and Social Science* 650(1): 214–31.
- Clark, Rebecca L., Jennifer E. Glick, and Regina M. Bures. 2009. "Immigrant Families over the Life Course: Research Directions and Needs." *Journal of Family Issues* 30(6): 852–72.
- DeNavas-Walt, Carmen, Bernadette D. Proctor, and Jessica C. Smith. 2012. "Income, Poverty, and Health Insurance Coverage in the United States: 2011." *Current Population Reports* P60-233. Washington: U.S. Government Printing Office (September).
- Downey, Douglas B., James W. Ainsworth, and Zhenchao Qian. 2009. "Rethinking the Attitude-Achievement Paradox Among Blacks." *Sociology of Education* 82(1): 1–19.
- Dunifon, Rachel, and Ashish Bajracharya. 2012. "The Role of Grandparents in the Lives of Youth." *Journal of Family Issues* 33(9): 1168–94.
- Edin, Kathryn. 2000. "What Do Low-Income Single Mothers Say About Marriage?" *Social Problems* 47(1): 112–33.
- Ellwood, David T., and Christopher Jencks. 2004. "The Uneven Spread of Single-Parent Families: What Do We Know? Where Do We Look for Answers?" In *Social Inequality*, ed. Kathryn M. Neckerman. New York: Russell Sage Foundation.
- Furstenberg, Frank F., Jr., and Andrew J. Cherlin. 1991. *Divided Families: What Happens to Children When Parents Part*. Cambridge, Mass.: Harvard University Press.
- Ginther, Donna K., and Robert A. Pollak. 2004. "Family Structure and Children's Educational Outcomes: Blended Families, Stylized Facts, and Descriptive Regressions." *Demography* 41(4): 671–96.
- Goldman, Noreen, Charles Westoff, and Charles Hammerslough. 1984. "Demography of the Marriage Market in the United States." *Population Index* 50(1): 5–25.
- Greco, Elizabeth M., Yesenia D. Acosta, G. Patricia de la Cruz, Christine Gambino, Thomas Gryn, Luke J. Larsen, Edward N. Trevelyan, and Nathan P. Walters. 2012. "The Foreign-Born Population in the United States: 2010." Washington: U.S. Census Bureau.
- Grusky, David B., Bruce Western, and Christopher Wimer. 2011. *The Great Recession*. New York: Russell Sage Foundation.
- Heaton, Tim B. 2002. "Factors Contributing to Increasing Marital Instability in the United States." *Journal of Family Issues* 23(3): 392–409.
- Isen, Adam, and Betsey Stevenson. 2010. "Women's Education and Family Behavior: Trends in Marriage, Divorce, and Fertility." Working Paper 15725. Cambridge, Mass.: National Bureau of Economic Research.
- Landale, Nancy S., and Katherine Fennelly. 1992. "Informal Unions Among Mainland Puerto Ricans: Cohabitation or an Alternative to Legal Marriage?" *Journal of Marriage and Family* 54(2): 269–80.
- Lee, Jennifer, and Frank D. Bean. 2010. *The Diversity Paradox: Immigration and the Color Line in Twenty-First-Century America*. New York: Russell Sage Foundation.
- Lichter, Daniel T., Julie H. Carmalt, and Zhenchao Qian. 2011. "Immigration and Intermarriage Among Hispanics: Crossing Racial and Generational Boundaries." *Sociological Forum* 26(2): 241–64.
- Lichter, Daniel T., Deborah Roempke Graefe, and J. Brian Brown. 2003. "Is Marriage a Panacea? Union Formation Among Economically Disadvantaged Unwed Mothers." *Social Problems* 50(1): 68–86.
- Lichter, Daniel T., Felicia B. LeClere, and Diane K. McLaughlin. 1991. "Local Marriage Markets and Marital Behavior of Black and White Women." *American Journal of Sociology* 96(4): 843–67.
- Lichter, Daniel T., and Zhenchao Qian. 2004. "Marriage and Family in a Multiracial Society." In *The American People: Census 2000*, ed. Reynolds Farley and John Haaga. New York and Washington, D.C.: Russell Sage Foundation and Population Reference Bureau.
- . 2008. "Serial Cohabitation and the Marital Life Course." *Journal of Marriage and Family* 70(4): 861–78.
- Lichter, Daniel T., Zhenchao Qian, and Martha L. Crowley. 2005. "Child Poverty Among Racial Minorities and Immigrants: Explaining Trends and Differentials." *Social Science Quarterly* 86(suppl. s1): 1037–59.
- Lichter, Daniel T., Zhenchao Qian, and Leanna M. Mellott. 2006. "Marriage or Dissolution? Union Transitions Among Poor Cohabiting Women." *Demography* 43(2): 223–40.
- Lu, Bo, Zhenchao Qian, Anna Cunningham, and Chih-Lin Li. 2012. "Estimating the Effect of Premarital Cohabitation on Timing of Marital Disruption: Using Propensity Score Matching in Event History Analysis." *Sociological Methods and Research* 41(3): 440–46.

- Luo, Ye, Tracey A. LaPierre, Mary Elizabeth Hughes, and Linda J. Waite. 2012. "Grandparents Providing Care to Grandchildren: A Population-Based Study of Continuity and Change." *Journal of Family Issues* 33(9): 1143–67.
- Manning, Wendy D., and Susan Brown. 2006. "Children's Economic Well-being in Married and Cohabiting Parent Families." *Journal of Marriage and Family* 68(2): 345–62.
- Manning, Wendy D., and Jessica A. Cohen. 2012. "Premarital Cohabitation and Marital Dissolution: An Examination of Recent Marriages." *Journal of Marriage and Family* 74(2): 377–87.
- Manning, Wendy D., and Pamela J. Smock. 1997. "Children's Living Arrangements in Unmarried-Mother Families." *Journal of Family Issues* 18(5): 526–44.
- . 2005. "Measuring and Modeling Cohabitation: New Perspectives from Qualitative Data." *Journal of Marriage and Family* 67(4): 989–1002.
- Martin, Steven P. 2006. "Trends in Marital Dissolution by Women's Education in the United States." *Demographic Research* 20(15): 537–60.
- McLanahan, Sara. 2004. "Divergent Destinies: How Children Are Faring Under the Second Demographic Transition." *Demography* 41(4): 607–27.
- McLanahan, Sara, and Lynne Casper. 1995. "Growing Diversity and Inequality in the American Family." In *State of the Union: America in the 1990s*, vol. 2, ed. Reynolds Farley. New York: Russell Sage Foundation.
- McLanahan, Sara, and Christine Percheski. 2008. "Family Structure and the Reproduction of Inequalities." *Annual Review of Sociology* 34: 257–76.
- Morgan, S. Philip, Erin Cumberworth, and Christopher Wimer. 2011. "The Great Recession's Influence on Fertility, Marriage, Divorce, and Cohabitation." In *The Great Recession*, ed. David B. Grusky, Bruce Western, and Christopher Wimer. New York: Russell Sage Foundation.
- Oropesa, R. S., and Bridget K. Gorman. 2000. "Ethnicity, Immigration, and Beliefs About Marriage as a 'Tie That Binds.'" In *The Ties That Bind*, ed. Linda J. Waite. New York: Aldine de Gruyter.
- Pew Research. 2010. "Childlessness Up Among All Women; Down Among Women with Advanced Degrees." Available at: <http://www.pewsocialtrends.org/2010/06/25/childlessness-up-among-all-women-down-among-women-with-advanced-degrees/> (accessed July 30, 2014).
- Preston, Samuel H. 1984. "Children and the Elderly: Divergent Paths for America's Dependents." *Demography* 21(4): 435–57.
- Qian, Zhenchao. 1998. "Changes in Assortative Mating: The Impact of Age and Education, 1970–1990." *Demography* 35(3): 279–92.
- . 2012. "During the Great Recession, More Young Adults Lived with Parents." US2010 Project (August). Available at: www.s4.brown.edu/us2010/Data/Report/report08012012.pdf (accessed July 30, 2014).
- Qian, Zhenchao, and Daniel T. Lichter. 2007. "Social Boundaries and Marital Assimilation: Interpreting Trends in Racial and Ethnic Intermarriage." *American Sociological Review* 72(1): 68–94.
- Raley, R. Kelly. 2001. "Increasing Fertility in Cohabiting Unions: Evidence of the Second Demographic Transition in the United States." *Demography* 38(1): 59–66.
- Saenz, Rogelio. 2004. "Latinos and the Changing Face of America." In *The American People: Census 2000*, ed. Reynolds Farley and John Haaga. New York and Washington, D.C.: Russell Sage Foundation and Population Reference Bureau.
- Sassler, Sharon, and James McNally. 2003. "Cohabiting Couples' Economic Circumstances and Union Transitions: A Reexamination Using Multiple Imputation Techniques." *Social Science Research* 32(4): 553–78.
- Sassler, Sharon, Amanda Miller, and Sarah Favinger. 2009. "Planned Parenthood? Fertility Intentions and Experiences Among Cohabiting Couples." *Journal of Family Issues* 30(2): 206–32.
- Schwartz, Christine R., and Robert D. Mare. 2005. "Trends in Educational Assortative Marriage from 1940 to 2003." *Demography* 42(4): 621–46.
- Shafer, Kevin. 2013. "Unique Matching Patterns in Remarriage: Educational Assortative Mating among Divorced Men and Women." *Journal of Family Issues* 34(11): 1500–1535.
- Smock, Pamela J. 2000. "Cohabitation in the United States: An Appraisal of Research Themes, Findings, and Implications." *Annual Review of Sociology* 26: 1–20.
- Stevens, Gillian, Hiromi Ishizawa, and Xavier Escandell. 2012. "Marrying into the American Population: Pathways into Cross-Nativity Marriages." *International Migration Review* 46(3): 740–59.
- Stevenson, Betsey, and Justin Wolfers. 2007. "Marriage and Divorce: Changes and Their Driving Forces." *Journal of Economic Perspectives* 21(2): 27–52.

- Sweeney, Megan M. 1997. "Remarriage of Women and Men After Divorce: The Role of Socioeconomic Prospects." *Journal of Family Issues* 18(5): 479–502.
- Sweeney, Megan M., and Maria Cancian. 2004. "The Changing Importance of White Women's Economic Prospects for Assortative Mating." *Journal of Marriage and Family* 66(4): 1015–28.
- Sweeney, Megan M., and Julie A. Phillips. 2004. "Understanding Racial Differences in Marital Disruption: Recent Trends and Explanations." *Journal of Marriage and Family* 66(3): 639–50.
- Thomson, Elizabeth, and Ugo Coletta. 1992. "Cohabitation and Marital Stability: Quality and Commitment?" *Journal of Marriage and Family* 54(2): 259–67.
- Thornton, Arland, and Linda Young-DeMarco. 2001. "Four Decades of Trends in Attitudes Toward Family Issues in the United States: The 1960s Through the 1990s." *Journal of Marriage and Family* 63(4): 1009–37.
- U.S. Census Bureau. 2003. *Statistical Abstract of the United States, 2002*. Washington: U.S. Government Printing Office.
- . 2010. *Statistical Abstract of the United States, 2009*. Washington: U.S. Government Printing Office.
- Waite, Linda J. 1995. "Does Marriage Matter?" *Demography* 32(4): 483–507.
- Waite, Linda J., and Maggie Gallagher. 2000. *The Case for Marriage: Why Married People Are Happier, Healthier, and Better Off Financially*. New York: Doubleday.
- Xie, Yu, and Kimberly A. Goyette. 2004. "A Demographic Portrait of Asian Americans." In *The American People: Census 2000*, ed. Reynolds Farley and John Haaga. New York and Washington, D.C.: Russell Sage Foundation and Population Reference Bureau.
- Xie, Yu, James M. Raymo, Kimberly Goyette, and Arland Thornton. 2003. "Economic Potential and Entry into Marriage and Cohabitation." *Demography* 40(2): 351–67.
- Zhou, Min, and Carl L. Bankston III. 1998. *Growing Up American: How Vietnamese Children Adapt to Life in the United States*. New York: Russell Sage Foundation.

Chapter 9

Diversity in Old Age: The Elderly in Changing Economic and Family Contexts

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The economist Charles Kenny's statement in *Bloomberg Business Week* that "the world is rapidly adding wrinkles" describes population aging in more visual terms than is usually found in most census reports.¹ Demographers use the language of "declining fertility" and "increased life expectancy" to account for global growth in the old-age population, and by these measures, the U.S. population is part of the global growth in "wrinkles."² Today more than 40 million Americans are age sixty-five and older (Howden and Meyer 2011, table 1). This group makes up almost 13 percent of the U.S. population, representing more than a threefold increase from 1900 (authors' calculations, U.S. Census Bureau 1996). By 2050, one in five people in the United States will be at least sixty-five years old (Vincent and Velkoff 2010, table 2.1).

The elderly today differ from older adults in the past in three important ways. First, the modern experience of old age in America is marked by unparalleled diversity. Public discussion of the old-age population refers to this age group as the "elderly" or as "seniors" as though this is a homogenous category. These terms mask considerable diversity in the characteristics and experiences of those in this chronological age group. Each person brings a history of his or her experiences from early life and midlife into old age. Their histories are shaped by whether they are male or female, how much schooling and income they have, their race-ethnicity, and their nativity. These characteristics and the life histories shaped by them continue to affect individuals' experiences in later life.

Second, the potential for the long reach of early and midlife experiences into later life is greater now than in the past. Increased longevity among older adults today provides opportunities for longer and more meaningful interactions with children and grandchildren and the potential for exchanges across multiple generations (Bengtson 2001; Uhlenberg 2005). The older generation today helps the younger generation by giving them scarce resources of time and money. The financial support provided by the older generation has become even more important over the past three decades (Wightman et al. 2013). Within families, the economic welfare of the oldest generations has improved compared to the welfare of the younger generations. Over the long term, improvements in the economic circumstances of the elderly, in large part owing to the development and expansion of the social security system, have reduced poverty in the old-age population. In the shorter term, the economic meltdown of the Great Recession of 2007–2010 increased debt more among younger generations than among the elderly (see Wolff, this volume).

Yet the flow of resources between older parents and their adult children is not simply about money. When the oldest generation reaches advanced ages and when frailty and illness increase

their need for help, the younger generation steps in to assist them, usually with time help (Seltzer and Bianchi 2013). In addition, grandparents play an important role in the family safety net by helping their adult offspring with child care and contributing to the welfare of their grandchildren. In extreme cases, grandparents step in to become primary caregivers for grandchildren whose parents are incapacitated.

Macro-level changes in family life mark a third difference in the experience of aging in the United States today, compared to earlier periods. Changes in the structure and composition of older persons' families test the strength of the ties between aging parents and adult children. High rates of cohabitation and childbearing outside of marriage combined with high divorce rates for those who do marry have weakened the bonds between parents and children. Father-child relationships are particularly vulnerable in light of the still-prevailing pattern in which children live with their mother when their parents' relationship dissolves. Remarriage and repartnering through cohabitation have increased stepfamily relationships and cohabiting or quasi-stepfamily relationships. Further fraying intergenerational bonds is the fact that ties to stepkin and kin connected by cohabitation are weaker than those among biological kin (Egglebeen 2005; Ganong and Coleman 1999; Rossi and Rossi 1990; Seltzer, Lau, and Bianchi 2012).

The individuals who have experienced these sweeping changes in the structure of U.S. families are now entering old age. They include members of the large Baby Boom cohort born between 1946 and 1964. Demographers date the start of the dramatic rise in nonmarital cohabitation around 1970, when the Baby Boomers were in young adulthood (Glick and Spanier 1980; Seltzer 2004). In addition, much of the steep rise in divorce rates occurred during the 1970s (Kennedy and Ruggles 2013, figure 1). Now that those who experienced these dramatic family changes have reached old age, we can begin to evaluate how these experiences have shaped their later lives.

Exposure to these large-scale changes in family structure has varied for different sectors of the population. Nonmarital childbearing, divorce, cohabitation, and repartnering occur at higher rates among those with disadvantaged backgrounds. The divergence in the family experiences of those with and without college degrees has increased over the past thirty to thirty-five years (Cherlin 2010). Marriage rates rose and divorce rates decreased for the college-educated at the same time that marriage and marital stability have become more difficult to attain for those without the benefit of a college education (Cherlin 2010). As a consequence, older people with few educational and economic resources are likely to face even greater demands for help from their offspring and grandchildren than their well-educated counterparts face.

In light of these trends, this chapter addresses three key themes. By convention, we focus on those who are sixty-five or older, although only one-third of U.S. adults consider age sixty-five to be old (Pew 2009).³ The popular media tends to portray those who are age sixty-five and older as one group with similar lifestyles and behaviors, but our analysis points to a more varied experience of growing old in America at the beginning of the twenty-first century. Thus, this chapter first describes the growing diversity among the elderly population. Second, a large share of today's older population—and their offspring—have been affected by divorce and remarriage, cohabitation, and single-parenthood. We explore how these large-scale demographic trends affect older people's lives and consider the implications for growing socio-economic inequalities among families. Third, the increased longevity of older adults translates into longer periods of linked lives across generations (Bengtson 2001) and greater possibilities for meaningful roles as parents and grandparents. We describe intergenerational transfers between older individuals and their children and grandchildren and the variations in these relationships.

DATA SOURCES

Much of what we know about the elderly in the United States comes from studies that collect data on individuals who live in the same household. These data sources provide important information on living arrangements and the economic welfare of those who share the work of managing a household, but as we will show, a number of older adults live alone. Other studies collect data on individuals and give less attention to their living arrangements. These studies provide some information on individuals' social lives but often do not include much data on who is in the older person's family and how the older person is involved with his or her adult children and grandchildren.

In this chapter, we combine census and survey data on both living arrangements and older persons' family roles to provide a portrait of the older population. We use data from the decennial censuses of 1970, 1980, 1990, and 2000, using the Integrated Public Use Microdata Series (IPUMS) (Ruggles et al. 2010). For the most recent period, we use data from the American Community Survey (ACS) of 2007, 2008, and 2009. When we combine the three years, we sometimes refer to the data as representing 2008, the midyear point, for ease of presentation in the figures. For some analyses, such as disability among the elderly, we restrict the analysis to 2008 and 2009, excluding 2007 because it included different measures of disability than in the latter two years.

The census data are restricted to characteristics of individuals and their living arrangements, including household composition. We combine the census data with data from two surveys: the University of Michigan's Health and Retirement Study (HRS) and its Survey of Consumers (SC) for June 2012. Both include information about the ties between parents and adult offspring whether or not they live in the same household. The HRS is approximately representative of the U.S. population over age fifty.⁴ These data include information on the composition and characteristics of older persons' families. We use data from 2008 and combine public use files from the Institute for Social Research at the University of Michigan (National Institute on Aging 2007) with the Rand L file and the Rand Family B file (Chien et al. 2012; St. Clair et al. 2011).

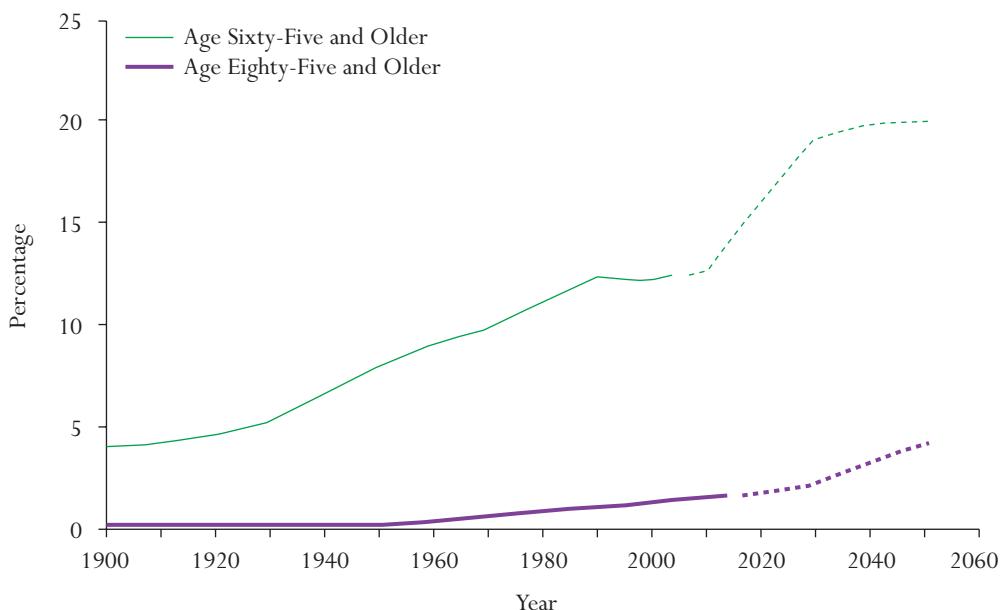
We combine these data with new information from the SC, a telephone survey of a small national probability sample of U.S. adults ages eighteen and older. The SC interviewed 495 respondents, of whom about two-thirds had adult offspring at least eighteen years old. We use information about the time and money that parents gave their adult offspring in 2011, the year before the survey, and about what we call long-term financial transfers since the child turned eighteen to help him or her with educational expenses, housing expenses (such as to purchase a home), and other long-term expenses. Although the sample is small, it provides new information about the significant help that adult offspring receive from their parents and about its potential contribution to inequality. More information about the data we use is in the appendix.

A DEMOGRAPHIC PORTRAIT OF THE ELDERLY

The Growing Racial, Ethnic, and Nativity Diversity of the Older Population

By the time individuals enter old age, they have accumulated a long history that informs how they behave and the resources available to them. This section briefly describes the individuals who make up the U.S. elderly population. Figure 9.1 shows the long-term increase in the percentage of the U.S. population who are ages sixty-five and older, and the percentage who are

FIGURE 9.1 *Actual and Projected Percentage of U.S. Population Ages Sixty-Five and Older and Ages Eighty-Five and Older, 1900–2050*



Source: U.S. Census Bureau (1996), table 2-1, 1900–1960. Authors' calculations based on IPUMS 1970–2000 and ACS 2007–2009 data and Vincent and Velkoff (2010), appendix table A-1.

ages eighty-five and older. Since 1970, there has been a striking increase in the percentage of the population in the older age group, whose numbers have increased in part because of improvements in life expectancy. A child born today can expect to live to be 78.1 years old, but in 1900 the life expectancy at birth was only 47.3 years (Arias 2012, table 19).

Growth in the old-age population masks considerable diversity by gender, race-ethnicity, and nativity. On average, women live five years longer than men (80.6 years versus 75.6 years), although life expectancy has increased for both women and men (Miniño et al. 2011, table 7). With women's greater life expectancy, the composition of the old-age population is much older for women than for men. Women make up 58 percent of the population ages sixty-five and older, but they account for 68 percent of the population ages eighty-five and older. Among those who are at least eighty-five years old, there are more than two women for each man among the "oldest old" (not shown). This is reflected in the gender differences in the marital status and living arrangements in later life that we describe.

The elderly are racially and ethnically diverse, but they are not as diverse as children. Today about one in five older persons are members of a racial or ethnic minority (table 9.1), but more than two in five children are minorities (data not shown). The greater racial and ethnic heterogeneity among children compared with older adults is sometimes invoked to explain the reluctance among the more racially homogeneous elderly to support public expenditures on children (Johnson and Lichter 2010; Lynch 2008; Preston 1984). There also is greater racial and ethnic diversity among prime-age workers than among the elderly; those workers are the labor pool who are, and will be, employed in caring for the burgeoning old-age population. The increased

TABLE 9.1 *Race-Ethnic Composition, Nativity, and Country of Origin of the Older Population (Ages Sixty-Five and Older), 1970 to 2007–2009*

	1970	1980	1990	2000	2007–2009
Race-ethnicity					
White	89.5	88.1	86.9	83.7	80.0
African American	7.9	8.0	7.9	7.9	8.3
Asian	0.5	0.9	1.4	2.3	3.6
Hispanic	1.9	2.6	3.4	4.9	7.0
Other/mixed/Native American	0.2	0.4	0.4	1.2	1.1
Foreign-born	15.9	11.9	8.9	9.8	13.0
Origin of foreign-born					
From Europe	77.6	66.1	51.4	39.1	30.4
From Asia	3.7	6.4	13.2	22.0	27.1
From Latin America	6.3	11.4	20.2	30.0	35.5
From Africa	0.1	0.4	0.5	1.1	1.5
From elsewhere	12.4	15.6	14.7	7.8	5.6

Source: Authors' calculations based on data from IPUMS 1970–2000, and ACS 2007–2009.

Note: Data include individuals living in group quarters. Hispanics include individuals of all races. Percentages are weighted.

heterogeneity in the younger age groups points to potential differences between the cultural orientations of caregivers and their clients (Olson 2003).

Since 1970, the race-ethnic composition of the elderly has become somewhat more diverse as the generations characterized by greater race-ethnic diversity grow into adulthood and then old age, as shown in table 9.1. Among those ages sixty-five and older in the three largest racial and ethnic groups, the percentage of non-Hispanic whites declined from 90 percent to 80 percent between 1970 and 2007–2009. At the same time, the percentage of Hispanics increased from 2 percent to 7 percent. The increase in Hispanics was due to their relatively high fertility and to immigration during and following World War II. Policies such as the bracero program sanctioned migration streams between Mexico and the United States and led entire communities in Mexico to send migrants to the United States. Increasing political and economic turmoil in Latin America and U.S. labor demand also contributed to the increased stream of Hispanic migrants (Rosenblum and Brick 2011). Consistent with the greater racial and ethnic diversity of children and prime-age adults compared to the elderly, whites are much older than African Americans, Hispanics, and those of other races and ethnicities. In 2009 the median age of non-Hispanic whites was 41.2 years old. For African Americans, the median age was ten years younger, at 31.3, and for Hispanics of any race the median age was only 27.4 (U.S. Census Bureau 2012, table 11). Whites are more than twice as likely as those in other racial and ethnic groups to fall in the category of the oldest old—that is, those ages eighty-five and older. In the coming decades, the elderly population will become more racially and ethnically diverse. Particularly notable will be the growth in the percentage of the elderly who are Hispanic, which projections place at 20 percent of those ages sixty-five and older in 2050 (Vincent and Velkoff 2010, figure 5).

Another important dimension of diversity among the elderly is the extent to which they either were born in the United States or came here as immigrants. Immigrants have fewer friends and family members available in the United States to help with everyday tasks, compared

with U.S. natives (Hao 2003). Immigrants also tend to have fewer social and economic resources than the native-born (Burr et al. 2008; Torres-Gil and Treas 2008). Perhaps as a result, Hispanic elderly report that many of their health and economic needs remain unmet even when they receive assistance from family members (Dietz 1995).

About 13 percent of the elderly were born outside the United States, as shown in table 9.1. Temporal variation in the percentage of immigrants reflects historical shifts in U.S. immigration policies and subsequent migration streams. These shifts have also contributed to change in the countries of origin of the foreign-born elderly. The influence of changes in migration streams over the past century on the old-age population can be seen in the bottom panel of table 9.1, which shows the distribution of regions of origin for elderly immigrants. In 1970 more than three-quarters of the foreign-born elderly were immigrants from Europe, owing to the large waves of migration from southern and eastern Europe early in the twentieth century. By 2007–2009, only 30 percent of all foreign-born elderly reported Europe as their place of origin, whereas 36 percent reported a country in Latin America as their birthplace. Immigrants from Asia also increased their share of the foreign-born elderly, from 4 percent in 1970 to 27 percent in 2007–2009. Decreases in the share of elderly immigrants from Europe and increases in the percentage of immigrants from Latin America and Asia were the result of dramatic increases in migration from Mexico following World War II, as well as changes to immigration policy that abolished national-origin quotas and increased migrant flows from Asia.

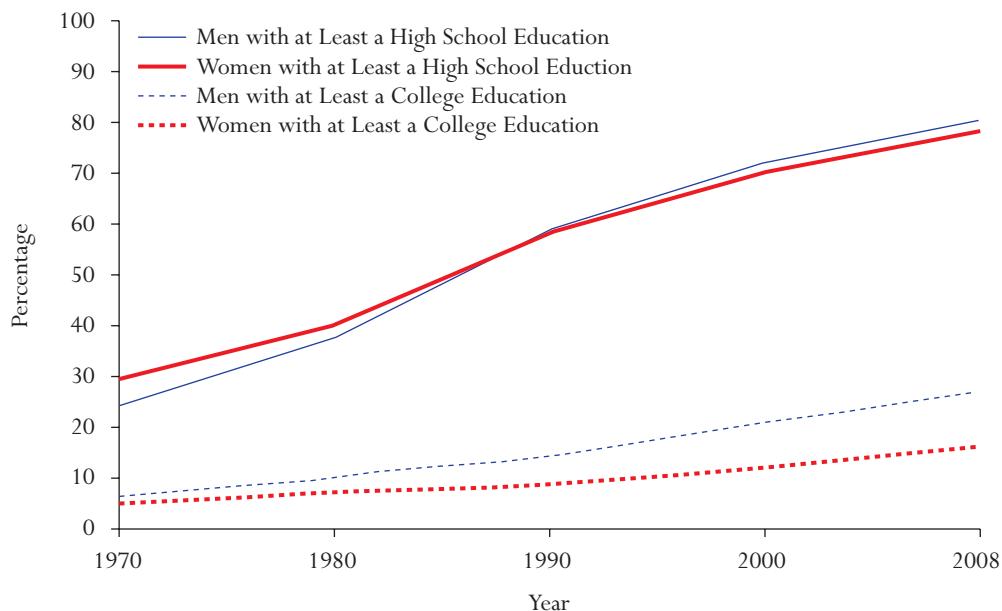
Gains in Education, Unequal Gains in Earnings, and Changing Employment Trends

Education provides the knowledge and skills that are rewarded in the labor market. The twentieth century was a time of rapid growth in the demand for education and in educational opportunities. These changes are beginning to play out in the characteristics of elderly Americans. At the start of the twentieth century, slightly fewer than one in five U.S.-born twenty-one-year-olds graduated from high school, but by the end of the century nearly nine out of ten were high school graduates (Fischer and Hout 2006). Growth in high school education is reflected many decades later in the educational attainment of the old-age population. Figure 9.2 shows trends in the percentages of elderly men and women who have at least a high school degree and the percentages who have at least a college degree. In 1970 fewer than one-third of elderly men and women were high school graduates. By the end of the first decade of the twenty-first century, about four out of five were high school graduates. Notably, by 2007–2009, similar proportions of women and men had at least a high school degree.

The twentieth-century story for college graduation begins in the same way as the high school graduation story. Increasing percentages of young adults received a college education, and over time the percentage of the elderly with a college degree rose as well. Figure 9.2 shows that 27 percent of men and 16 percent of women ages sixty-five and older had a college degree by 2007–2009, compared to 6 percent and 5 percent, respectively, in 1970.⁵

Although today's elderly tend to be more educated than those in previous years, differences in earnings continued to grow among those with a high school degree versus those with a college degree. The decline in U.S. manufacturing jobs affected a large segment of today's elderly by decreasing employment opportunities and reducing the value of job benefits for men with no more than a high school education. Since 1979, older men without a high school degree have experienced a small decline in mean annual earnings, from \$36,386 to \$35,200 in 2007. In contrast, the earnings of men with a college degree or higher have improved significantly over the same period, from \$61,938 to \$84,104. This time period also saw increases in older wom-

FIGURE 9.2 *High School Education and College Education Among U.S. Population Ages Sixty-Five and Older, by Gender, 1970 to 2007–2009*



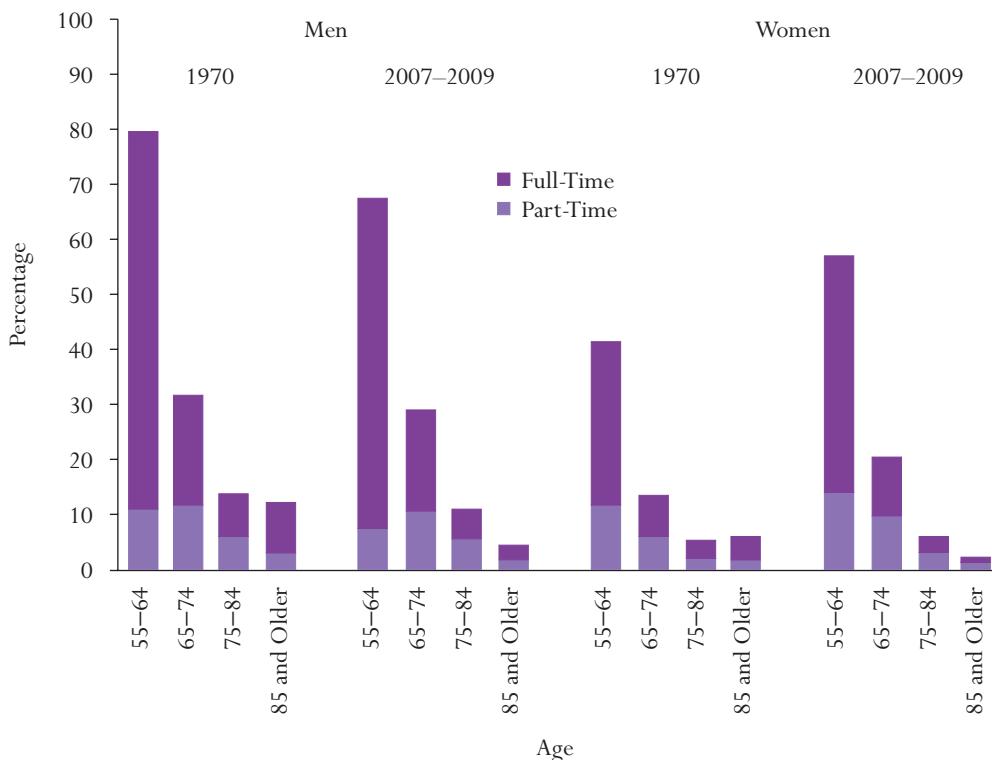
Source: Authors' calculations based on IPUMS 1970–2000, and ACS 2007–2009 data (referred to as 2008 in figure).

en's earnings, for both those with a college degree and those without a college degree, but women with a college degree have gained much more. Their earnings rose from \$30,616 to \$52,874 (see Holzer and Hlavac, this volume, table 2.1). These trends in earnings have contributed to a continued growth in household income inequality since the 1970s (Heathcote, Perri, and Violante 2010).

For many individuals, employment continues to provide significant financial resources even after they pass their prime working age. About 16 percent of the elderly are employed either full-time or part-time, despite media images of all elderly persons as retired. This image is more accurate for the oldest old (those eighty-five and older) than for the young old (those ages sixty-five to seventy-four). Men's employment declines with age (figure 9.3). In 2007–2009, two-thirds of men ages fifty-five- to sixty-four were employed. But among those ages sixty-five to seventy-four, just over 28 percent were employed. A comparison with 1970 shows that men in their fifties stop working earlier than they did previously. In 1970, 79 percent of men ages fifty-five to sixty-four were still employed. These figures mask diverse processes that depend on the types of jobs and career paths that men follow (Han and Moen 1999).

More fine-grained analyses show that men age sixty-five and older have increased their full-time employment (Gendell 2008), perhaps owing to concerns about higher health care costs, the deterioration of private retirement benefits, or the greater number of years individuals expect to live after their midsixties. Since the 1990s, changes to the social security system that

FIGURE 9.3 Full-Time or Part-Time Employment Among Those Ages Fifty-Five and Older in the U.S. Household Population, by Age and Gender, 1970 and 2007–2009



Source: Authors' calculations based on IPUMS 1970, and ACS 2007–2009 data.

increased the age at which individuals are eligible for full retirement benefits and raised the reward for delaying retirement until after the full retirement age have also contributed to the increase in labor force participation at older ages (Blau and Goodstein 2010).

Retirement, like many aspects of aging, is a transition rather than an instant reclassification in which a person is a worker one day and retired the next. Consistent with this view of retirement as a process rather than a clearly defined role change (Han and Moen 1999), only about half of older workers transition from full-time employment to retirement. Of the remainder, some workers choose partial retirement, during which they continue to work part-time, while others retire and then return to work, essentially "unretiring." Nicole Maestas (2010) uses longitudinal data from the Health and Retirement Study to estimate that between 26 and 40 percent of those who retire also subsequently unretire. The range of estimates is due to differences in the definition of retirement. Like full-time employment after age sixty-five, unretirement has increased in recent decades (Maestas 2010, 724–25). Returns to work after retiring appear to be planned rather than a response to unexpected financial crises.

For women the comparison between 1970 and the present tells a somewhat different story. Since 1970, women's labor force participation during prime working ages has continued to rise into old age. In 1970 only 41 percent of women ages fifty-five to sixty-four were employed, but by 2007–2009 nearly 57 percent of women this age were employed (figure 9.3). For both women and men, the percentage of those ages eighty-five and older who are employed is lower in the current period than in 1970. Whether employment at advanced ages is more likely to be full-time or part-time varies somewhat by age, time period, and gender. Among those who have retired, women who are divorced or separated are more likely to unretire—that is, to return to paid work—than married women (Pleau 2010). Working into old age is one way these women address the low economic standard of living associated with the loss of a husband's earnings or pension as well as the lasting disadvantages of single-motherhood. Older women, regardless of their marital status, may return to work or remain in the labor force even after they reach the previously magic age of sixty-five to defray the rising costs of health care incurred over a longer life than women expected to live in the past.

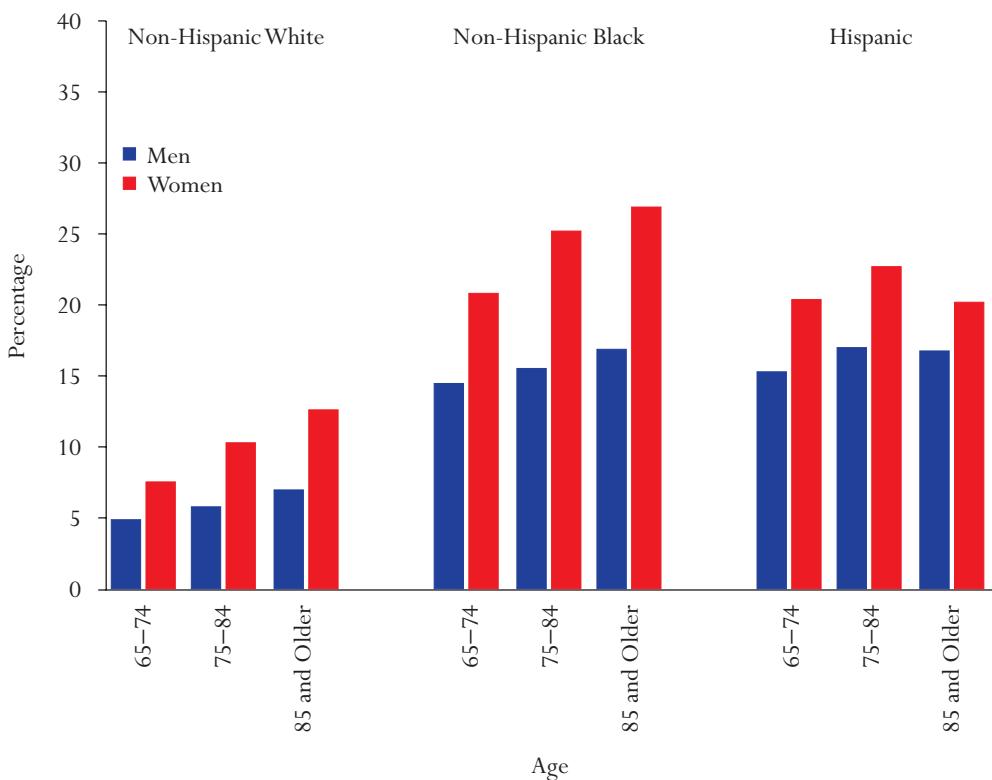
Although we have described changes in men's and women's retirement patterns as if they were individuals without family ties, husbands and wives may decide together when to retire so that they can enjoy more family and leisure time together. David Blau (1998, table 3) estimates that 11 to 15 percent of older husbands and wives retire in the same three-month period, and that 30 to 41 percent exit the labor force within twelve months of each other. Evidence from economic models suggests that husbands and wives do take into account the opportunity to spend more time together when they retire (Michaud and Vermeulen 2011). Other aspects of family life, such as caregiving responsibilities for older parents or young grandchildren, may hasten retirement, especially among women (Szinovacz et al. 2012). Little is known about whether or not and how spouses in remarriages or cohabiting unions consider each other in deciding when to retire.

Wealth and Poverty in Old Age

Older adults have made significant gains in their economic well-being compared to the younger population. Recent evidence illustrates a rise in wealth inequality between younger and older adults over a nearly thirty-year period. Between 1984 and 2009, the median net worth of households headed by an adult younger than age thirty-five decreased by 68 percent, whereas the median net worth of households headed by those ages sixty-five and older increased by 42 percent (Fry et al. 2011). At the same time, a growing share of households accumulated no wealth or even negative wealth. Young household heads were much more likely than elderly household heads to have no wealth or to be in debt even before the Great Recession (Fry et al. 2011). The growth in the wealth gap between the young and old is due to the interplay of the restructuring of the economy and increases in the ages at which young adults leave school, enter the work-force, and marry.

The generational disparity in wealth was made starker by the financial and housing crisis of the Great Recession. As other authors in this volume have detailed, the financial crisis hit young adults especially hard. Young people were more heavily invested in homes and more heavily in debt, whereas the portfolios of older households were much more diversified, thereby softening the blow of the crisis (see, for example, Wolff, this volume). Homeownership rates among younger adults plummeted between 2001 and 2011, although the Late Baby Boomers (ages forty-five to fifty-four) and Early Baby Boomers (ages fifty-five to sixty-four) also experienced a decrease in homeownership rates. Because housing wealth is one way in which parents finance

FIGURE 9.4 *Poverty Among Those Ages Sixty-Five and Older, in U.S. Households, by Age and Gender, for Selected Race-Ethnic Groups, 2007–2009*



Source: Authors' calculations based on ACS 2007–2009 data.

Note: Individuals are defined as poor based on the federally established threshold that takes into account family income and family size.

their children's college education, the deterioration of housing wealth among those who are older is likely to make it more difficult for parents to provide this financial assistance to their increasingly needy adult offspring (Lovenheim 2011).

Wealth portfolios among older adults are far from uniform. Among older adults, whites have nearly three times as much wealth as Hispanics and African Americans (McKernan et al. 2013). This disparity results from long-term trends in income and wealth inequalities that accumulate with age (Avery and Rendall 2002). Although racial and ethnic differences in homeownership narrowed in the 1990s, the housing crisis was more devastating for racial and ethnic minorities than for whites (Rosenbaum, this volume).

Racial and ethnic differences in wealth are the flip side of the substantial racial and ethnic differences in poverty. As shown in figure 9.4, non-Hispanic whites are less likely to be poor than are non-Hispanic blacks and Hispanics. This racial and ethnic difference characterizes the young old as well as the oldest old, although poverty increases with advanced age for both whites and

blacks. Among Hispanics, poverty rates are higher for seventy-five- to eighty-four-year-olds than for those ages sixty-five to seventy-four, but poverty rates decline for those who are eighty-five and older—almost to the level of those who are sixty-five to seventy-four.

Women are much more likely than men to be poor in old age. The gender difference in poverty rates among the elderly is evident for all three racial and ethnic groups in figure 9.4 and for all ages. This difference is due in part to differences in men's and women's marital status and living arrangements in old age, dimensions of the family experiences of the elderly that we will examine. A comparison of gender and racial and ethnic differences highlights the deep economic disadvantage of blacks and Hispanics. Minority men are much more likely to be poor than white women of any age.

Poverty in old age should be viewed in the context of the long-term improvements in the economic welfare of the elderly and the relative deterioration of the economic welfare of children. In 1970 the elderly were much more likely to be poor than were children, with about 16 percent of those under eighteen living in poverty compared to 27 percent of those who were at least sixty-five years old. By the end of the period, almost 19 percent of children were poor compared to slightly less than 10 percent of the elderly (not shown). Although both elderly men and women experienced a reduction in poverty, elderly women's higher poverty rates persisted across the decades from 1970 to 2007–2009 (figure 9.5). The poverty gap between older men and women may have declined slightly in the most recent period, perhaps owing to increases in older women's employment.

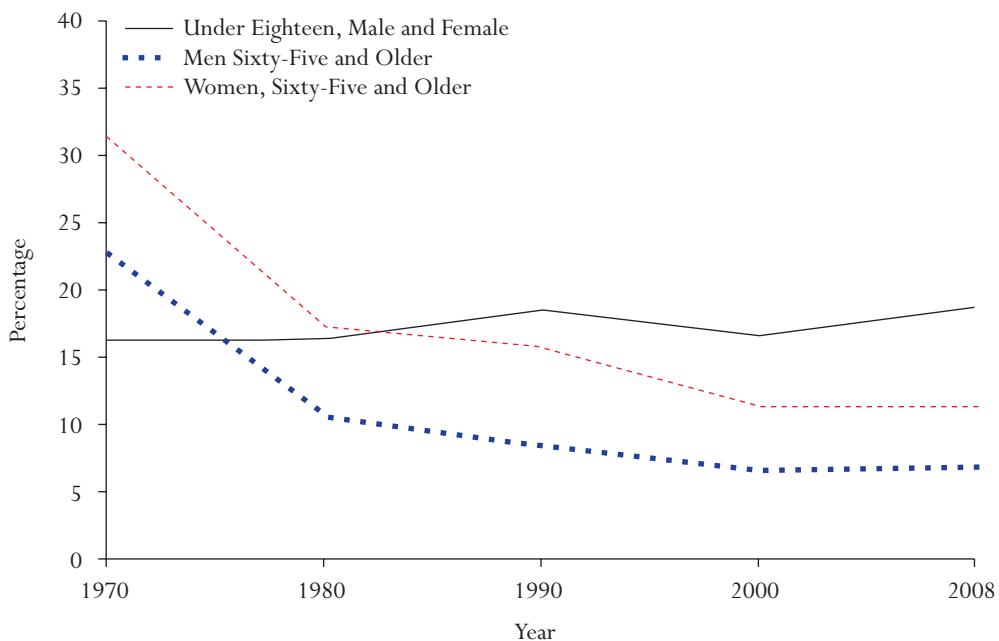
Healthy Aging and Disability

Along with improvements in the economic welfare of the elderly have come advances in health and physical well-being. A 2009 review concludes that, at least before age eighty-five, individuals are physically healthier and better able to cope with infirmities as a result of technological advances than ever before (Christensen et al. 2009). But even with these improvements in the health of the elderly, disabilities increase with age. Figure 9.6 shows the percentage of the elderly who have any disabilities, by age, race, and ethnicity.⁶ Disabilities include cognitive problems, ambulatory problems, difficulty living independently, difficulty caring for personal needs (such as bathing and dressing), vision problems, and hearing problems. Regardless of race and ethnicity, the percentage of those with disabilities increases with age. Over 70 percent of those ages eighty-five and older have at least one disability, roughly twice as high a percentage as among sixty-five- to seventy-four-year-olds. Hispanics and African Americans are more likely than whites to have at least one disability until the oldest age group, when the disability rates become very similar. This racial and ethnic similarity is consistent with racial and ethnic differences in life expectancy, which also tend to narrow with age (Pollard and Scommegna 2013).

FAMILY CONTEXTS AND LIVING ARRANGEMENTS

Individuals go through life as members of families—the families into which they are born and in which they are raised and the families they form as adults. Thus, it is essential to consider the U.S. elderly as family members as well as individuals. The family is a potential safety net in that family members can help each other to alleviate the problems of poverty and disability. The likely importance of living with family members for the welfare of the oldest old is evident in figure 9.7. As in figure 9.6, the percentage of people with a disability increases with age. Over half of

FIGURE 9.5 *Children and the Elderly Who Are Poor Among Those in U.S. Households, by Gender and Year, 1970 to 2007–2009*



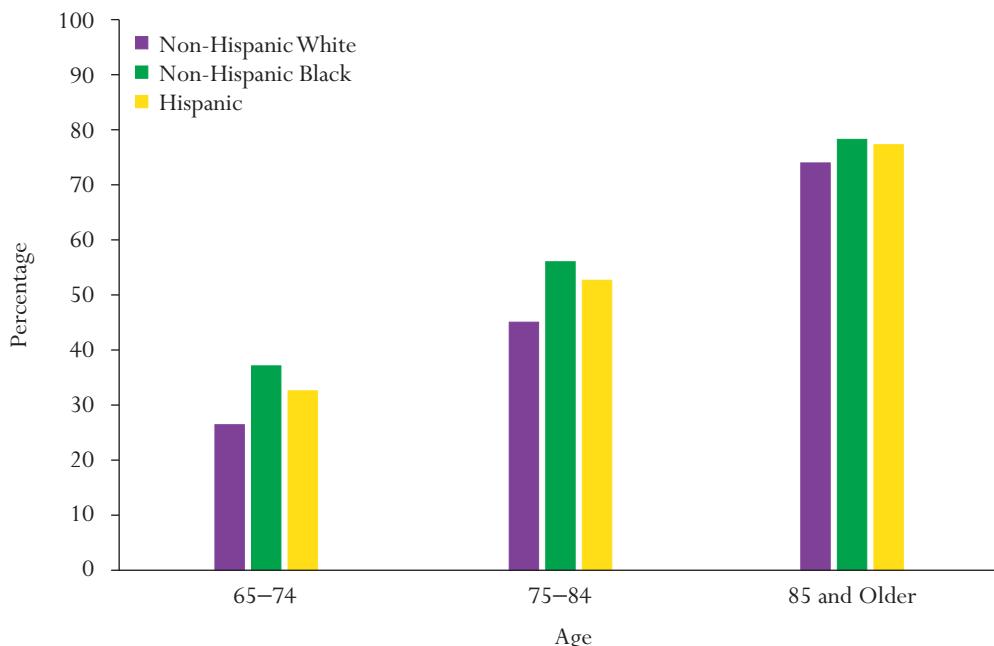
Source: Authors' calculations based on IPUMS 1970–2000, and ACS 2007–2009 data (referred to as 2008 in figure).
Note: Individuals are defined as poor based on the federally established threshold that takes into account family income and family size.

those eighty-five and older have difficulty living independently, and nearly one-third say they have trouble with personal care.

All but 5 percent of older Americans live in households rather than institutions or other group quarters.⁷ Just over one-quarter of those age sixty-five and older live alone (not shown). Disability increases the chance that an older person will live in an institution or other type of group quarters. (Most who live in group quarters are in institutions.) Eleven percent of those with a disability live in group quarters, compared to fewer than 1 percent of those with no disability (figure 9.8). The percentage of the elderly who live alone is very similar for those with a disability and those without any disabilities. Those with disabilities who live alone depend on family members, particularly adult children—usually daughters—for assistance (McGarry 1998). We consider intergenerational assistance later in this section.

Older women are much more likely to live in an institution or other group quarters than older men (not shown). Older women also are more likely to live alone than men, in part because women may survive their spouse, owing to women's generally younger age at marriage and their greater life expectancy. This gender difference in living arrangements suggests that, compared to older men, older women may have a greater need for help from their adult children.

FIGURE 9.6 U.S. Population with Any Disability, by Race-Ethnicity and Age, 2008–2009



Source: Authors' calculations based on ACS 2008–2009 data.

Notes: Data include group-quarters population. "Disability" is defined in text.

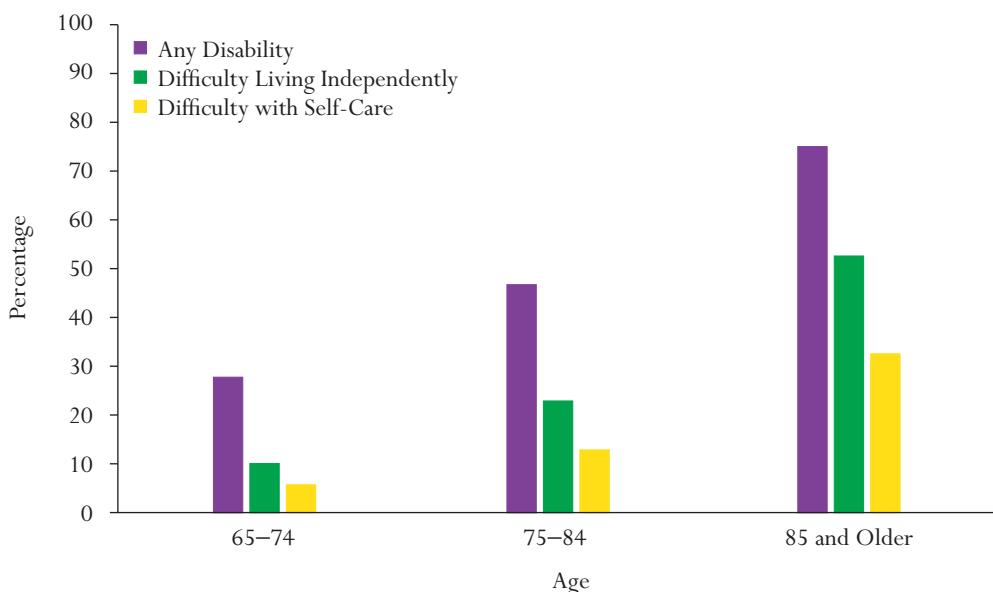
Table 9.2 shows the gender difference in marital status by age and year from 1970 to the present. In each year women were more likely than men to be widowed. By 2007–2009, 43 percent of older women were widowed compared to only 14 percent of older men. Among the oldest old, more than three-quarters of older women were widowed compared to just over one-third of men (not shown).

The aging of the cohorts that experienced the rise in separation and divorce rates during their prime adult years is reflected in the gradual increases in the percentage of older Americans who are currently separated or divorced. In 1970 about 4 percent of the elderly were separated or divorced. By 1990, 6 percent were separated or divorced, and by 2007–2009, almost 12 percent were separated or divorced (not shown). Table 9.2 shows that this increase occurred for both women and men. These current statuses understate the implications of the rise in divorce for older persons' family lives, however, because many of those who divorced subsequently remarried.

Compared to married parents, elderly parents who have lost a spouse are more vulnerable in that they need both time assistance and financial assistance from adult offspring. Spouses are usually the first line of defense and primary caregiving when an older person is disabled or experiences health problems (McGarry 1998). Marriage is also associated with greater wealth and higher income, both early and late in life (Zissimopoulos, Karney, and Rauer 2013).

When they lose their spouse, most widowed elderly persons live alone. Figure 9.9 shows that widows are more likely to live alone in their own household than with others or in group

FIGURE 9.7 U.S. Population with Any Disability, Difficulty Living Independently, or Difficulty with Self-Care, by Age, 2008–2009



Source: Authors' calculations based on ACS 2008–2009 data.

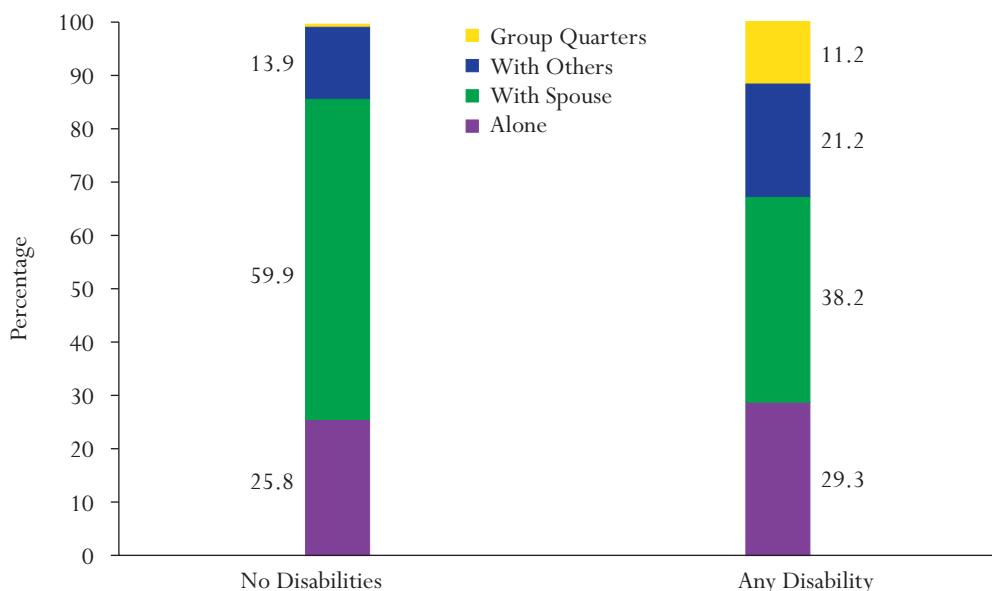
Notes: Data include group-quarters population. "Disability" is defined in text.

quarters or an institution. The apparent preference for living alone is evident regardless of how much education the widow has. However, among widows with some college or a college degree, a higher percentage live alone than is true for those with a high school education or less. Those without a high school degree are more likely to live with others (42 percent) than are widows with higher levels of schooling (27 to 32 percent). The education difference in coresidence is also evident among those who are divorced or separated (not shown).

There are racial and ethnic differences in living arrangements among widows that may be correlated with socioeconomic differences and cultural rules about intergenerational coresidence (Burr and Mutchler 1999). Close to 63 percent of white widows live alone compared to 45 percent of black widows and only 34 percent of Hispanic widows (figure 9.10).

Thus far we have focused on marital status as an indicator of whether an individual has a partner who can help share expenses and may provide care. This ignores the increasing incidence of cohabitation among the elderly, owing in part to cohort replacement (Bumpass and Sweet 1989, 1995) and in part to increases in cohabitation rates at all ages (Waite 1995). Members of the Baby Boom cohort, who experienced high rates of cohabitation in their earlier years, continue to cohabit at higher rates in old age than members of earlier cohorts. In 2009, 9 percent of those who were not currently married lived with a cohabiting partner (Lin and Brown 2012). Among cohabitators over age sixty-five, most are divorced rather than widowed (Manning and Brown 2011). Little is known about cohabitation in later life, compared to cohabitation in early and middle adulthood. It seems likely that cohabitation is even less of an economic partnership in old age, when partners have legal and financial reasons to keep their finances separate (Man-

FIGURE 9.8 *Living Arrangements, by Disability Status, Among Persons Ages Sixty-Five and Older, 2008–2009*



Source: Authors' calculations based on ACS 2008–2009 data.

Note: "Disability" is defined in text.

ning and Brown 2011). Consistent with the weaker commitment between cohabiting partners than that between spouses, elderly cohabiting partners also are less likely than elderly spouses to be caregivers for each other if they are frail or disabled (Noël-Miller 2011).

Living with others is a way to share the expenses and work of maintaining a household. For those who do not have a spouse or cohabiting partner, living with adult children also has the potential to reduce poverty because household members pool their income. For example, adult children who face a difficult labor market may delay their departure from their parents' household, or return there, to save money on rent (Kaplan 2012; Qian, 2012; Ruggles 2007). Or a divorced elderly mother may live with an adult child because the housing costs of living alone are too high for her to bear alone. Alternatively, intergenerational coresidence may reduce poverty if living with parents enables a single mother to work longer hours at her job and earn more money because her parents are providing child care.

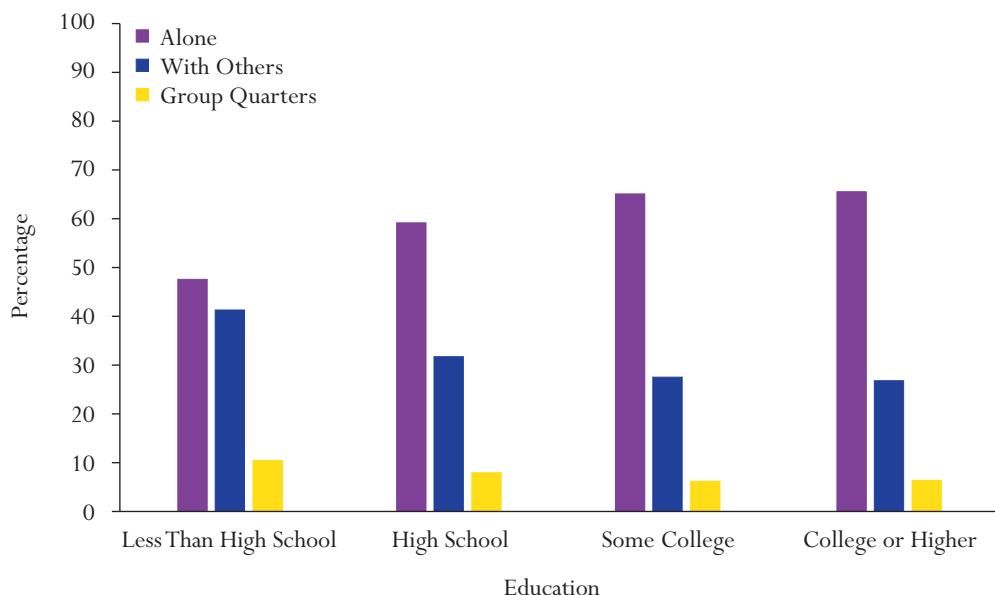
Whatever the causal process, shared households are associated with lower poverty rates. Figure 9.11 shows that, compared to those who live alone, the elderly who live with a spouse or with others are less likely to be poor.⁸ This is true for all four racial and ethnic groups shown. Those living with a spouse are least likely to be poor. Racial and ethnic differences in poverty levels are still evident when those in the same types of households are compared. Even though whites who live alone are more likely to be poor than whites in other living arrangements, whites who live alone are about as likely to be poor as blacks and Hispanics who live with others. Only when they are compared to Asians who live with others are whites who live alone more likely to be poor. If older people, like Americans of other ages, prefer to live alone (Klinenberg

TABLE 9.2 *Marital Status of the Older Population (Ages Sixty-Five and Older), by Gender, 1970 to 2007–2009*

	Men				Women				
	1970	1980	1990	2000	2007–2009	1970	1980	1990	
Married									
Spouse present	68.3%	72.8%	72.8%	70.0%	68.2%	33.6%	35.2%	37.1%	37.8%
Spouse absent	2.7	2.1	2.6	3.9	3.2	1.7	1.2	1.5	4.1
Unmarried									
Widowed	17.0	14.6	13.9	13.8	13.5	52.3	51.8	49.4	45.3
Separated/divorced	4.6	5.0	6.0	8.0	10.5	4.2	5.2	6.6	8.5
Never married	7.5	5.5	4.7	4.4	4.7	8.2	6.6	5.4	4.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Authors' calculations based on IPUMS 1970–2000, and ACS 2007–2009 data.

Note: Data include individuals living in group quarters. Percentages are weighted.

FIGURE 9.9 *Living Arrangements of Widows Ages Sixty-Five and Older, by Education, 2007–2009*

Source: Authors' calculations based on ACS 2007–2009 data.

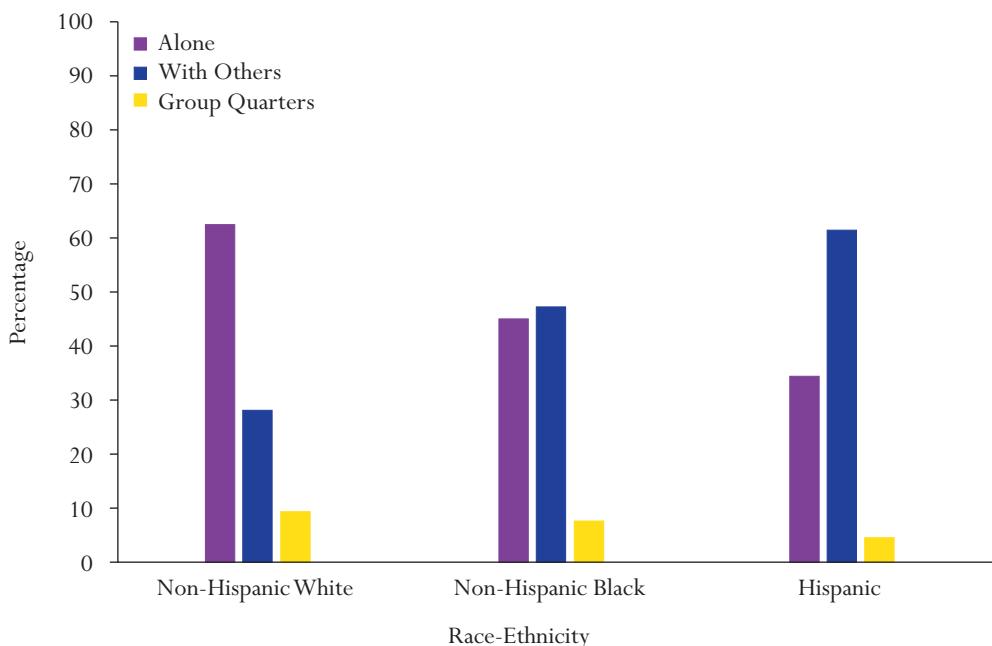
2012), these data suggest that the elderly may give up the privacy they value in exchange for a higher economic standard of living.

INTERGENERATIONAL TIES AND THE ELDERLY: ASSISTANCE THAT SPANS HOUSEHOLD BOUNDARIES

Parents and adult children maintain significant ties to each other even when they do not live together. They spend time together, provide each other with advice and emotional support, and share the scarce resources of time and money. Among parents who are at least fifty years old, nearly six out of ten saw one of their adult children (ages nineteen and older) at least weekly, according to Russell Ward's (2008) analysis of data from the 1987–1988 National Survey of Families and Households (NSFH). More recent data from the 2002 International Social Survey Programme (ISSP) show that an even higher percentage of U.S. parents have contact several times a week with the child they see most often (Murphy 2008, figure 3). Mothers are more likely to have frequent contact than fathers (Murphy 2008), a likely consequence of cultural expectations that women should manage family life as well as their greater attachment to adult children after divorce and remarriage.

Financial assistance and help that requires time are less common than other intergenerational ties (Fingerman et al. 2009). These transfers are a mechanism by which family members alleviate the hardships of life. In the United States, as in most developed countries, material assistance typically goes from parents to adult children rather than from children to parents (Eggebeen and Hogan 1990; McGarry and Schoeni 1995). In another study using NSFH data, adults were about four times as likely to have received \$200 or more from their parents in the past five years (17

FIGURE 9.10 *Living Arrangements of Widows Ages Sixty-Five and Older, by Race-Ethnicity, 2007–2009*

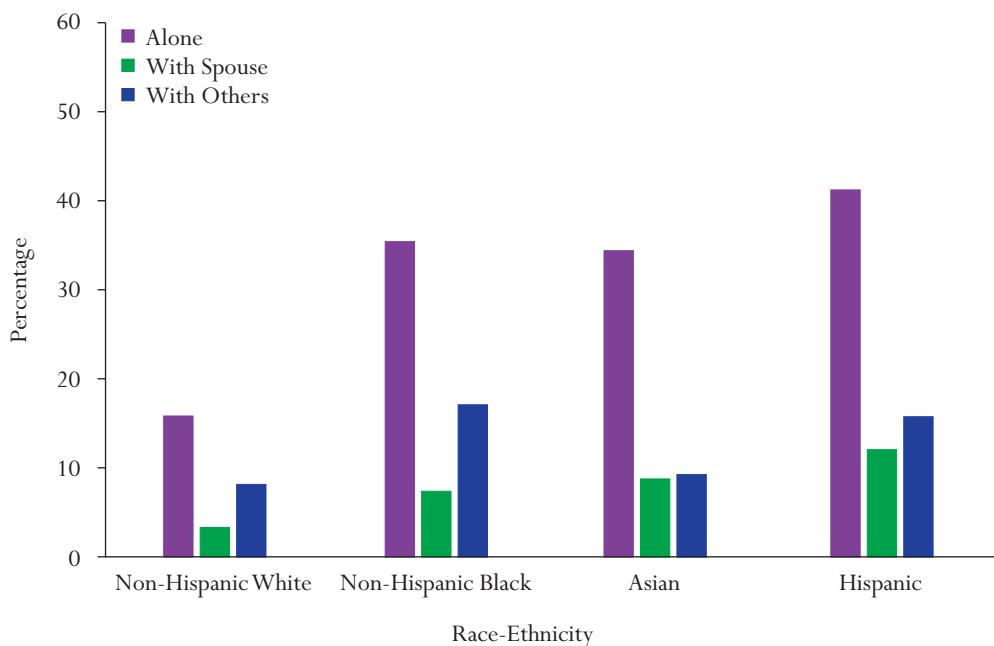


Source: Authors' calculations based on ACS 2007–2009 data.

percent) as to have given that amount to their parents in the same period (4 percent) (Eggebeen and Hogan 1990, table 1). In a 1988 special module of the Panel Study of Income Dynamics (PSID) conducted around the same time as the NSFH, 18 percent of adults reported that their parents had made a financial transfer to them of at least \$100 in the past year, compared with 3 percent who reported that they had made a financial transfer to their parents (Schoeni 1997, table 3). Although these data are from surveys conducted twenty-five years ago, they still provide useful evidence that the direction of financial transfers is largely from parents to adult children.

Table 9.3 shows more recent estimates of whether or not an adult child received financial support worth \$100 or more in 2011, based on data from the June 2012 Survey of Consumers (SC).⁹ In the SC, just over one-quarter of adult children who were at least twenty-five years old received a financial transfer from their parents in the previous year. Among those who received a transfer, the mean amount received was \$6,500. Adult children whose parents had a college education were more likely to receive money from their parents and, not surprisingly, the amount they received was higher than for those whose parents had a high school degree or less. This pattern is consistent with findings from other surveys, which show that parents with more education or higher incomes are more likely to help adult children by giving them money than parents whose socioeconomic status is lower (Killian 2004; McGarry and Schoeni 1995; Wightman et al. 2013; Zissimopoulos and Smith 2009). Within families, parents and children make financial transfers to alleviate relative economic hardship (Altonji, Hayashi, and Kotlikoff 1997; McGarry and Schoeni 1995). A child who has lost his or her job may receive more than siblings who have more secure employment.

FIGURE 9.11 *Adults Who Are Poor Among Those Ages Sixty-Five and Older, in U.S. Households, by Living Arrangement and Race-Ethnicity, 2007–2009*



Source: Authors' calculations based on ACS 2007–2009 data.

Note: Individuals are defined as poor based on the federally established threshold that takes into account family income and family size.

Divorce and remarriage reduce financial assistance. Compared to married parents, parents in stepfamilies and divorced fathers are less likely to make financial transfers to adult children. These differences cannot be explained by the greater economic disadvantage of parents who have experienced family disruption (Eggebeen 1992; Furstenberg, Hoffman, and Shrestha 1995; Killian 2004). Instead, they may signal a weakening of ties between generations as a consequence of family instability.

In addition to providing short-term transfers, parents also give children major gifts or financial help to achieve important milestones in life, such as acquiring a college education or purchasing a home, which are often considered parts of the American Dream. The bottom panel of table 9.3 shows the percentage of adult children ages twenty-five and older whose parents gave them long-term financial help, defined as “any loans, gifts, or other support worth five hundred dollars or more to help with educational expenses, including tuition, room and board, and books” since the adult child was age eighteen. The SC data indicate that 41 percent of adult children received help from parents for educational expenses. There are substantial educational differences in who received help, with 72 percent of those whose parents had a college education receiving educational help from parents, but only 21 percent of those whose parents had completed no more than high school. Housing help also is more likely among the offspring of college-educated parents. Remarried parents and single parents are less likely to contribute to children’s schooling than are still-married biological parents (Henretta et al. 2012; López-Turley and Desmond 2011).

TABLE 9.3 *Receipt by Adult Children Ages Twenty-Five and Older of Financial Help in 2011 and Whether Parents Helped with Major Expenses Since Child Was Age Eighteen, by Parents' Education*

	High School or Less	Some College	College Degree or More	All
Financial help in 2011				
Whether received \$100 or more from parents	20.7 ^b	21.2 ^c	36.6	25.6
Mean dollars received, if at least \$100	3,175 ^b	5,643	9,588	6,477
Standard deviation	4,982	17,527	20,240	16,256
Long-term financial help				
Educational expenses	21.0 ^{a,b}	36.2 ^c	71.9	41.4
Housing	12.6 ^b	12.8 ^c	24.0	16.1
Other	19.5 ^b	24.8	32.6	25.2
Unweighted N	243	201	231	675

Source: Authors' calculations based on June 2012 Survey of Consumers (SC) data.

Notes: Weighted data. Ns vary slightly by type of expense owing to missing data.

^aThe difference between high school and some college statistically significant $p \leq 0.05$.

^bThe difference between high school and college statistically significant at $p \leq 0.05$.

^cThe difference between some college and college or more is statistically significant at $p \leq 0.05$.

Time help between parents and adult offspring is more likely than financial support to flow in both directions, up and down the generational ladder. Adult offspring provide aging parents with practical assistance, such as help with errands, housework, and transportation. Mothers over age seventy-five are more likely to receive practical help from offspring than fathers, in part because mothers are more likely to be unpartnered (divorced or widowed) than fathers (Logan and Spitz 1996). In addition to the practical help that offspring provide to parents who are relatively healthy, adult offspring provide significant care when unmarried parents are ill or disabled (McGarry 1998). Daughters are more likely than sons to be caregivers to disabled elderly parents (McGarry 1998; Pillemer and Suitor 2013). The disruption of attachment associated with family instability contributes to another gender difference: adult children provide less help to frail divorced fathers compared to care they provide to mothers or widowed fathers (Fingerman et al. 2012; Lin 2008). Adult offspring who received financial transfers from parents earlier in adulthood are more likely to provide care to parents who later become disabled (Henretta et al. 1997).

Although adult children provide significant time assistance to parents when their parents reach advanced ages, time help—like financial help—is more likely to go from parents to adult children throughout most of life (Logan and Spitz 1996). Parents provide help with housework and yard work, but a major contribution to the next generation is the assistance with child care that the older parent provides to his or her grandchildren (Eggebeen 1992). The next section considers older persons as grandparents.

Older Persons as Grandparents and What Grandparents Do

The experience of grandparenthood today is very different than in the past. With improvements in life expectancy, parents are much more likely to see their children become adults and have

children of their own. In 1900 only one in five adults age thirty had at least one living grandparent, but by 2020 four in five will have at least one grandparent still alive (Uhlenberg 2005). Not only have grandparents become more likely to know their grandchildren as young adults, but the grandparent role has acquired a new meaning because it is an increasingly distinct life stage. When families were larger, older offspring married and had children while their parents were still raising their younger siblings. Parents today are very unlikely to still have young children at home when they have their first grandchild (Hagestad and Lang 1986). Thus, instead of combining the two roles—a parent caring for young offspring and a grandparent of young grandchildren—many of today's older adults have finished raising their own offspring and can shape their role as grandparent without balancing those roles.

As with a number of other aspects of U.S. family life, this broad-brush depiction of grandparenthood as a separate life stage fits those who are highly educated and white better than those who are educationally disadvantaged or nonwhite. Differences in the timing of when individuals become parents and the number of children they have affect when they become grandparents. People who become grandparents at younger ages are likely to be healthier and able to be more physically active in helping their adult offspring and playing with their grandchildren. On the other hand, those who become a grandparent at a young age are likely to still be employed, and thus time spent providing child care for grandchildren may compete with paid employment. Age at grandparenthood also may affect the type of help that grandparents provide. Compared to those who are younger when they become grandparents, older grandparents are likely to have more financial resources available to transfer to grandchildren (directly or indirectly through their parents) and to substitute financial help for the more physically demanding child care assistance that younger grandparents are better able to provide (Silverstein and Marenco 2001).

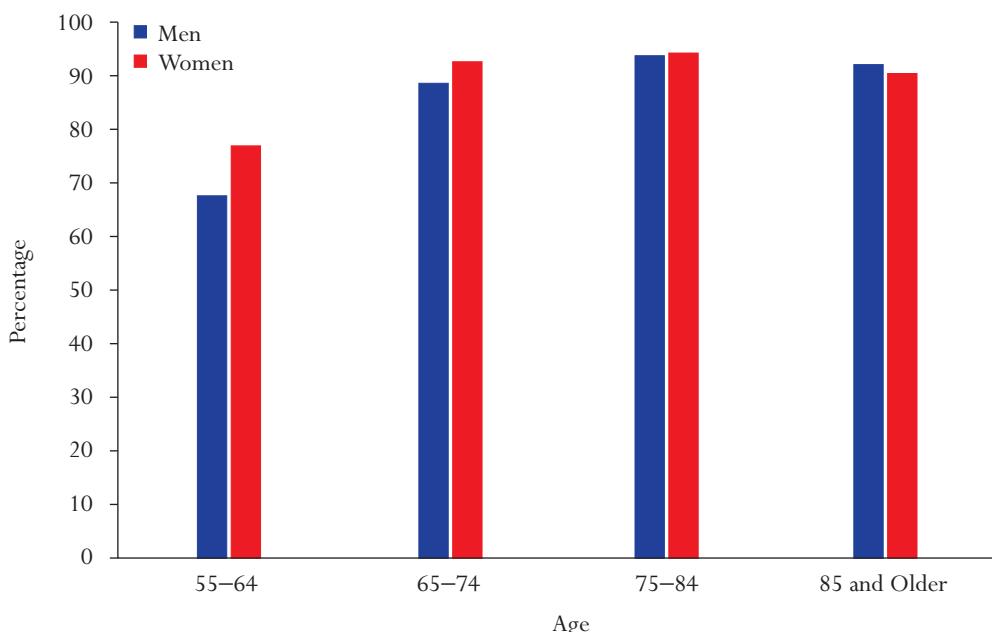
We first describe who is a grandparent using data from the Health and Retirement Study because census data on grandparents are restricted to grandparents who live with a grandchild or who provide significant child care to a grandchild. Knowing who is a grandparent sets the stage for our discussion of how grandparents are involved in the lives of their grandchildren.

By the time they are fifty-five to sixty-four years old, more than three-quarters of women and two-thirds of men have become grandparents (figure 9.12). Over 90 percent of those who are at least sixty-five years old are grandparents. The earlier timing of childbearing among blacks and Hispanics contributes to their earlier transitions to the status of grandparent. By ages fifty-five to sixty-four, 80 percent of non-Hispanic blacks and Hispanics have become grandparents, compared to only 70 percent of non-Hispanic whites. Among those who are at least eighty-five years old, there are only small racial and ethnic differences in who is a grandparent (not shown).

Another way to think about grandparenthood is to consider how many of a person's offspring have produced grandchildren, that is, how many sets of grandchildren a person has. Figure 9.13 shows the number of sets of grandchildren older adults have by race and ethnicity. Among those ages fifty-five or older, African Americans and Hispanics are much more likely than whites to have at least four sets of grandchildren. Approximately 30 percent of Hispanics have at least four sets of grandchildren, almost twice as high a percentage as for whites (16 percent). The racial and ethnic difference is also evident when we examine the distribution separately for women and men (not shown).

Not surprisingly given the education differences in family patterns early in life, there also are education differences in the number of sets of grandchildren older people have. Those who have the least formal schooling are the most likely to have at least four sets of grandchildren, as shown in figure 9.14. Although the younger ages at which less-educated people become grandparents contributes to this differential, the smaller family sizes of the well-educated account for more of the difference. By ages seventy-five and older, when most older persons have become

FIGURE 9.12 U.S. Adults Who Have Become a Grandparent, by Age and Gender, 2008



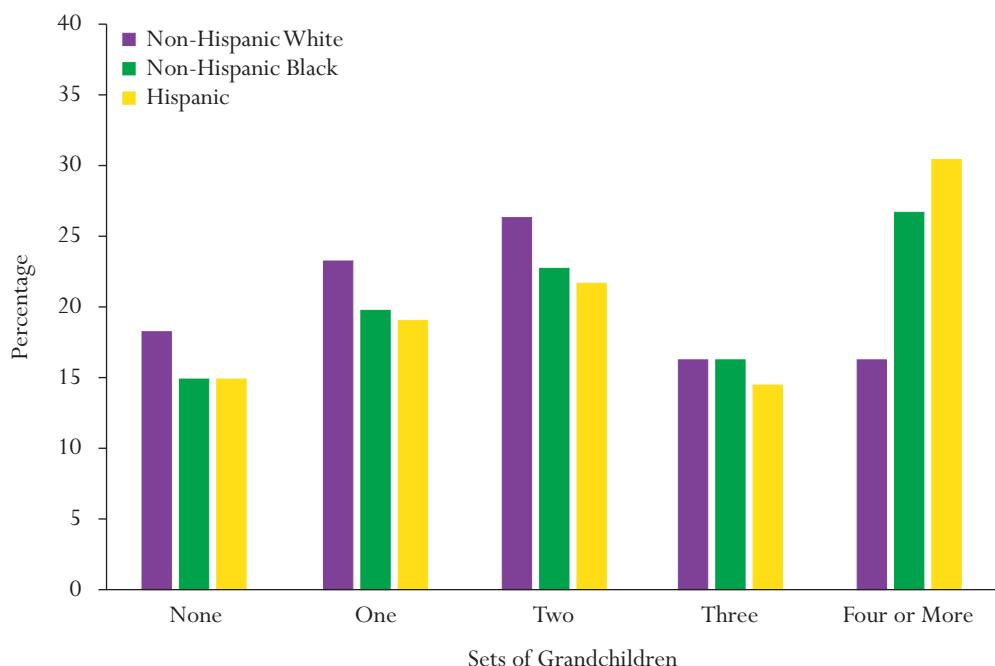
Source: Authors' calculations based on HRS data.

grandparents, 38 percent of those with less than a high school education have at least four sets of grandchildren, but only 19 percent of college-educated older adults have this many sets (not shown).¹⁰ Having more sets of grandchildren increases the chance that a grandparent will spend time with any grandchild, but it may diminish the amount of time the grandparent devotes to each grandchild (Uhlenberg and Hammill 1998). By the same token, grandparents with more grandchildren may invest less money in each grandchild compared to grandparents with fewer grandchildren.

For many families, grandparents are an important part of the family safety net. Grandparents affect their grandchildren's social mobility, even after taking into account the parents' own social class, according to evidence from the United Kingdom (Chan and Boliver 2013). Grandparents who provide financial assistance to their adult children enhance their grandchildren's financial well-being as well. Another important mechanism through which grandparents affect grandchildren's socioeconomic well-being is through wealth transfers—for instance, when grandparents help offspring with housing down payments (Cox and Stark 2005).

Grandparents also regularly provide child care for preschool-age grandchildren, as noted. In fact, some young couples decide where to live based partly on proximity to a grandmother who may provide child care (Compton and Pollak 2011). Recent estimates from a nationally representative sample of older adults found that 28 percent of grandparents provided at least fifty hours of care per year for grandchildren with whom they did not live (Luo et al. 2012, 1153). Approximately three out of ten preschoolers are in their grandparents' care when their parents are at work or in school (Laughlin 2010, table 2). Responding to in-depth interview

FIGURE 9.13 *Distribution of Number of Sets of Grandchildren Among U.S. Adults Ages Fifty-Five and Older, by Race-Ethnicity, 2008*



Source: Authors' calculations based on HRS data.

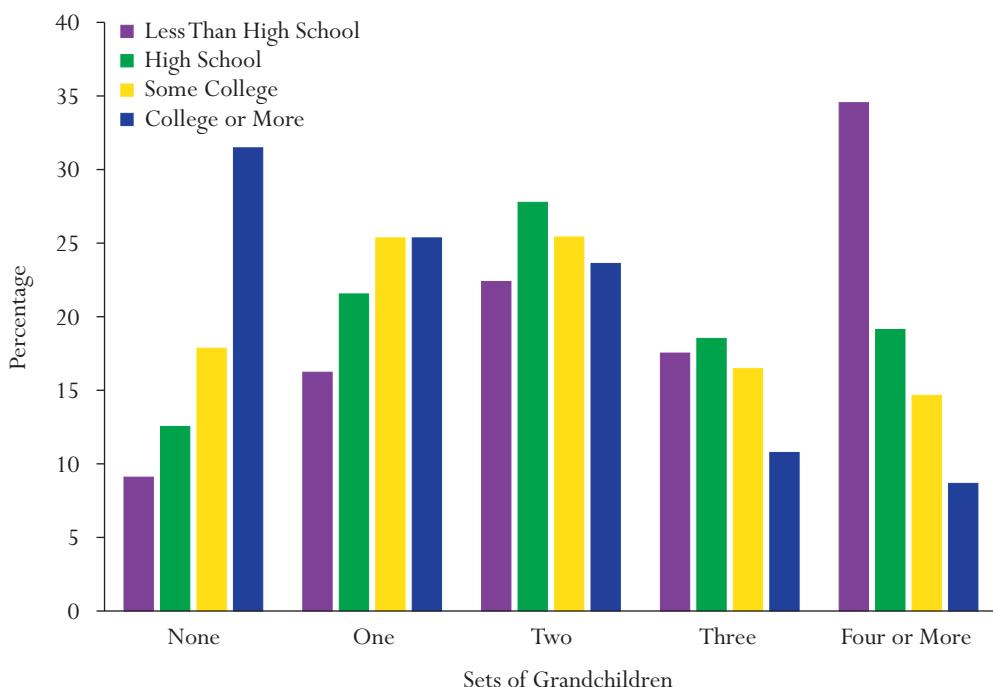
questions, grandparents say that they view helping with child care as an important family responsibility (Harrington Meyer 2012). Grandparents provide this service without charge (Harrington Meyer 2012), and substituting paid child care for the care that grandparents provide would be expensive for adult offspring.

Some grandparents provide even more assistance when they live in the same household as their grandchildren. We focus on grandmothers in this section because grandmothers have closer ties to grandchildren than grandfathers do (Uhlenberg and Hammill 1998). As a group, grandfathers' ties to grandchildren are weaker owing to some fathers' loss of contact with their offspring (the middle generation) after separation or divorce. In addition, grandmothers' greater life expectancy provides more potential for interaction with grandchildren.

Among women fifty-five years old or older, 7 percent were living in the same household as at least one of their grandchildren under age eighteen according to data from the 2007–2009 American Community Survey.¹¹ Sharing a home provides the generations with opportunities for frequent interaction. Almost one-third of grandmothers who live with a grandchild provide more than simple coresidence—they also bear primary responsibility for the grandchildren in their home (not shown).¹²

African American and Hispanic women are much more likely to live with a grandchild than are non-Hispanic white women, as shown in figure 9.15. Among non-Hispanic blacks, 13 percent of women ages fifty-five or older live with a grandchild under age eighteen, as do 18 percent of Hispanic women, compared to only 4 percent of non-Hispanic whites; these differences are

FIGURE 9.14 *Distribution of Number of Sets of Grandchildren Among U.S. Adults Ages Fifty-Five and Older, by Education, 2008*



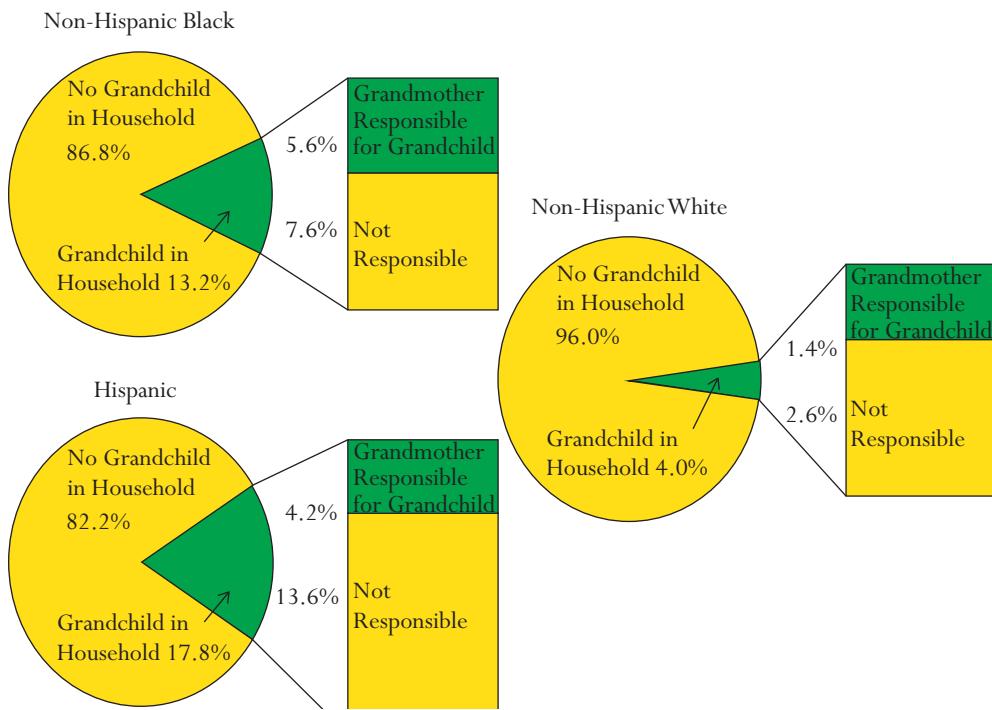
Source: Authors' calculations based on HRS data.

statistically significant. African American grandmothers who live with a grandchild are more likely to bear primary responsibility for that grandchild's care, compared to other grandmothers who live with a grandchild. Compared to Hispanics, the greater responsibilities of African American grandmothers stem from the fact that their home is less likely to include the grandchild's parents. Among African Americans, 27 percent of grandmother-grandchild households are two-generation households, and 11 percent of Hispanic grandmother-grandchild households include only two generations (not shown; for a similar result using HRS data, see Luo et al. 2012).

In later life, foreign-born women are more likely to live with a grandchild than are native-born women. Fifteen percent of foreign-born women ages fifty-five and older live with a grandchild, compared to 5 percent of the native-born (figure 9.16). Among those who live with a grandchild, foreign-born grandmothers are much less likely to have primary responsibility for the children in their households than native-born grandmothers. This is because native-born grandmothers are about three times as likely to live with a grandchild in a two-generation household (22 percent)—that is, to live in a household that “skips” the parent generation—compared to foreign-born grandmothers (7 percent) (not shown). This is consistent with research suggesting that grandmothers in immigrant families are brought to the United States to help with child care so that adult children can work outside the home (Treas and Mazumdar 2004).

Grandmothers who bear primary responsibility for the grandchildren in their households face the difficult challenge of acting as a parent at a time in life when they may feel that they have

FIGURE 9.15 *Women Ages Fifty-Five and Older Who Live with a Grandchild Under Age Eighteen, by Race-Ethnicity, 2007–2009*



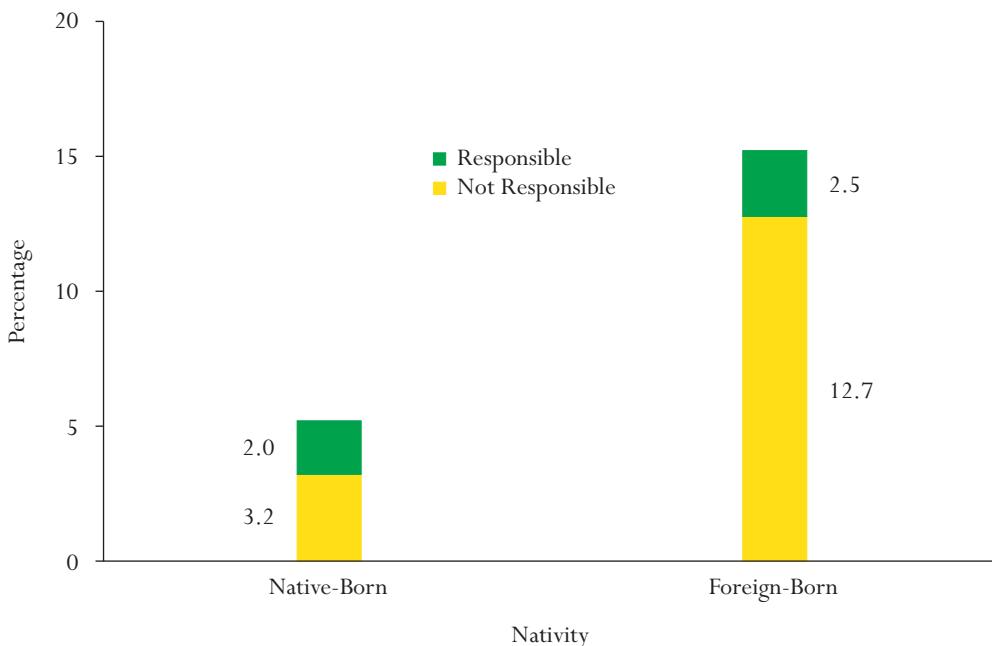
Source: Authors' calculations based on ACS 2007–2009 data.

Note: Data include only the U.S. household population.

already finished the tasks of hands-on child-rearing. The responsibilities of child-rearing also may limit their opportunities for paid work, contributing to financial hardship. Those who do step in often do so involuntarily (Pebbley and Rudkin 1999). Grandmothers who care for their grandchildren in skipped-generation households that exclude the middle parent generation are disadvantaged economically (Hughes et al. 2007). Grandmothers who have responsibility for grandchildren in their households have much higher poverty rates compared to grandmothers who do not have primary responsibility (figure 9.17). For each racial and ethnic group, those who have primary responsibility are about twice as likely to be poor. The difference in poverty rates for the foreign-born by whether the grandmother has primary responsibility is slightly less than for the other comparisons.

In addition to their economic disadvantages, grandmothers who have responsibility for grandchildren in skipped-generation households are in worse health than other grandparents. The difficulties of raising a grandchild may cause grandmothers to suffer further health problems (Hughes et al. 2007). In addition, grandparents who take on parental roles are more mentally stressed than those who do not (for a summary, see Lumpkin 2008). These problems of the oldest generation are associated with problems in the youngest generation. Grandchildren raised by grandparents have worse health and academic outcomes than children raised in other family types, and many of these family-type differences remain after adjusting for the socioeconomic

FIGURE 9.16 *Women Ages Fifty-Five and Older Who Live with a Grandchild and Responsibility for Grandchild, by Nativity, 2007–2009*



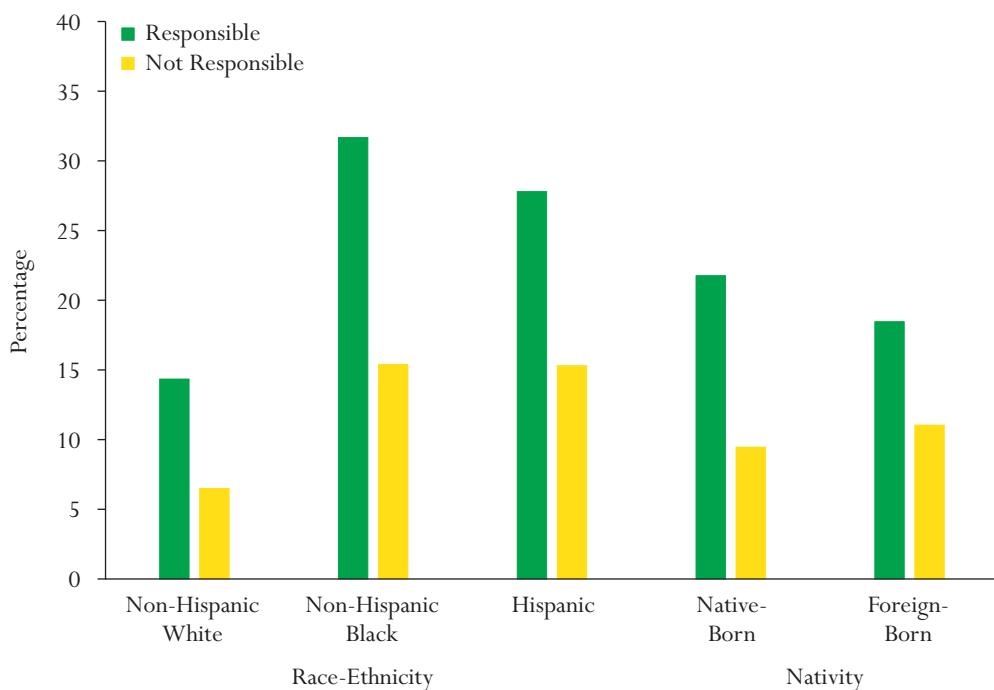
Source: Authors' calculations based on ACS 2007–2009 data.

Note: Data include only the U.S. household population.

disadvantages of grandparent-maintained families (Bramlett and Blumberg 2007). Although some of the grandchildren's negative outcomes may be attributable to the poor health or drug or alcohol problems of their parents that brought their grandparents in to rear them, it is troubling that the most vulnerable of the youngest generation are being raised by an oldest generation that is also vulnerable.

Although longer life spans have made it possible for older adults to develop greater ties across generations, high rates of family instability over the past several decades have contributed to great variability in how often this potential is reached. On the one hand, biological grandparents may play an especially important supportive role in the lives of their grandchildren when the parents divorce, at least among grandparents on the custodial parent's side of the family (Cherlin and Furstenberg 1986; Kennedy and Kennedy 1993). On the other hand, remarriage introduces step-grandparents who may be weakly connected to step-grandchildren. Step-grandparents enter the family when the eldest generation remarries or when the middle generation remarries and the stepparent in the middle generation brings his or her parents into the remarried family as new step-grandparents. Regardless of how the step-grandparent enters the family, the quality of the step-grandparent–grandchild relationship depends largely on how well the middle generation gets along with the youngest and oldest generations (Sanders and Trygstad 1989). Thus, grandparents' ability to play an important role in the lives of their grandchildren faces new challenges in light of family changes since the 1970s.

FIGURE 9.17 Poverty Among Grandmothers Who Live with a Grandchild, by Responsibility for Grandchild(ren), Among Grandmothers Ages Fifty-Five and Older, by Race-Ethnicity and Nativity, 2007–2009



Source: Authors' calculations based on ACS 2007–2009 data.

Note: Individuals are defined as poor based on the federally established threshold that takes into account family income and family size. Data include only the U.S. household population.

CONCLUSION

This chapter has provided a broad-brush view of the individual characteristics and family lives of the elderly in the United States. Today the U.S. elderly are more ethnically and racially diverse than they were in the past. Large shares of those who are nonwhite are also foreign-born, having originated from countries in Asia and Latin America, unlike the older European immigrants who preceded them. In the twenty-first century, the elderly are better positioned than they were in the past. Older persons are on average wiser (or at least better-educated), wealthier, and healthier than ever before. Older persons are more likely to have at least a high school education, and increasing percentages of the elderly are college-educated. The elderly also have more economic resources than in the past, and, as a result, they are less likely to live in poverty. Although men tend to leave the labor force earlier and women later than in previous decades, these labor force patterns are shifting in response to improvements in health and increased longevity as well as changes in marriage and expectations about joint leisure and social security eligibility rules. The old-age years are truly the golden years for large segments of the U.S. population.

For some, however, “the golden years” is a less apt description. Those without a college education have witnessed a drop in real earnings since the 1970s. This decline affected racial and ethnic minorities and the foreign-born in ways that are reflected in dramatic differences in pov-

erty rates across groups in later life. Nonwhites and immigrants are poorer than whites and the native-born at all ages. Disability also is more common for minorities until very late in life, when differences among groups are less apparent. Women are more likely to be poor than men are, owing in part to differences between women's and men's family roles.

A demographic portrait of the elderly would be incomplete without considering the broader family contexts in which they live. Their lives and the lives of their offspring have been affected by sweeping changes in family life due to high rates of divorce, cohabitation, nonmarital childbearing, and the formation of stepfamilies. The demographic changes of the past thirty to forty years are now only beginning to be reflected in the lives of the elderly. More older adults today are divorced or have experienced marital disruption at some point in their lives. Women are more likely than men to be unpartnered in old age, both because of divorce and because of widowhood. Still, most older Americans live either with a spouse, on their own, or with others. Very few are institutionalized. Older persons who are disabled are more likely to live in what the census calls "group quarters" or institutions, but even among those with disabilities, institutional living is uncommon.

Family members help each other alleviate economic hardship by combining households across generations (Anderson 1971; Hareven 1990; Pew Research Social & Demographic Trends 2010). Coresidence is a unique form of intergenerational transfer because it necessitates a loss of privacy. For those who have a history of family instability and repartnering, intergenerational coresidence may be a less appealing way for older parents and offspring to help each other because they lack the emotional closeness that makes the loss of privacy more tolerable (Seltzer, Yahirun, and Bianchi 2013).

Another demographic change has less ambivalent implications for intergenerational ties than the changes in marriage and partnerships. Increasing longevity creates greater possibilities for ties across generations, whether or not the generations live in the same household. Older parents and offspring see each other frequently. They also help each other with money and time, two scarce resources. These transfers between generations tend to flow downward to adult children and sometimes grandchildren. Parents who are highly educated are more likely than parents who are less well educated to give money to their adult offspring, both in the short term and for important long-term investments, such as education and housing.

The economic restructuring and the loss of manufacturing jobs have increased the younger generation's need for assistance from parents most among those whose parents are least equipped to provide it because they too have less education, income, and wealth than their age peers. At the same time, families who are educationally disadvantaged, blacks, and members of some Hispanic groups have experienced higher rates of family instability than their more-advantaged counterparts. Family disruption increases the need for financial and time help from parents but simultaneously weakens the bonds that connect parents and offspring to each other. As a consequence, those most in need of help may find their family safety net less durable than in the past.

That the family safety net is still functioning is evident in grandmothers' willingness to become primary caregivers to grandchildren whose parents cannot look after them. Even though custodial grandmothers have more health problems and experience higher rates of poverty than other grandmothers who live with a grandchild, they continue to care for the youngest generation. This is a dramatic example of the important role that older persons play in the family safety net. Yet diversity in the needs and family histories of the old-age population and their offspring points to places where the private family safety net—largely supported by older parents—may be fraying or getting stretched thin. As the U.S. population ages, policy debates about social security and Medicare, programs that support the elderly, should consider the changing characteristics of the old-age population and the family contexts in which they live.

APPENDIX

Several data files are used in this study, including the 1970, 1980, 1990, and 2000 decennial census data; 2007, 2008, and 2009 American Community Survey data; and data from the 2008 wave of the Health and Retirement Study. Here we describe the data and the issues we addressed in compiling and analyzing the data.

The Decennial Census

Decennial census data were extracted from the Public Use Microdata Series (PUMS) files via the Minnesota Population Center at the University of Minnesota (Ruggles et al. 2010). The 1970 data were derived from the 1 percent state FM2 file; the 1980 and 1990 data were extracted from the 5 percent state file; and the 2000 data were taken from the 5 percent sample.

The American Community Survey

American Community Survey data were also extracted from the PUMS files. We use ACS data for the period at the end of the decade because it includes significantly more information than the 2010 decennial census.

The Health and Retirement Study

Many of the sociodemographic trends that affect the experience of old age in the United States are trends that affect older persons' relationships with people outside their households. With high divorce rates and rates of partnering or repartnering through cohabitation and remarriage, individuals increasingly have step- and quasi-kin ties that connect them to people outside the household. Similarly, the decline in fertility has resulted in older persons having fewer children in whom to invest and who might provide care for them. The coresidence of parents and adult children is relatively uncommon in the United States (Ruggles 2007; McGarry and Schoeni 2000), but the parent-child relationship is still socially significant and is often marked by transfers of time and money.

Because census data do not include information about family relationships outside the household, we supplemented our analysis of census data with data from the Health and Retirement Study, a prospective longitudinal survey of the U.S. population over age fifty. The HRS was begun in 1992, and because it samples new individuals over age fifty every other year, the design enables cross-cohort comparisons. The sample includes oversamples of African Americans and some Hispanic ethnicities. The HRS includes information about the respondents' children whether or not they live with the respondent and about the existence of grandchildren. We did not distinguish between biological and step-grandchildren. We used data from 2008 and combined public use files from the HRS website (National Institute on Aging 2007) with the Rand L file and the Rand Family B file (Chien et al. 2012; St. Clair et al. 2011).

The Survey of Consumers

The June 2012 Survey of Consumers was a telephone survey of a national probability sample of U.S. adults age eighteen and older. It included a module that enumerated respondents' parents and biological and step offspring who were at least eighteen years old and obtained information about intergenerational transfers. The module was developed in collaboration with the Survey Research

Practicum and the Surveys of Consumers at the University of Michigan. The data were an independent survey, but also served as a full-scale pretest data collection that informed the design of the 2013 Panel Study of Income Dynamics Roster and Transfer Module (Bianchi et al. 2013).

The SC data include reports about short-term transfers of time and money (in 2011, the year before the interview), as well as about financial assistance that parents (or a parent and his or her spouse) gave adult children since the child turned age eighteen for educational expenses, help with housing expenses, and other large financial transfers. The question about time transfers asked about all time transfers, whereas the question about financial transfers asked about financial support worth at least \$100. Long-term financial transfer questions asked about loans, gifts, and other support worth at least \$500. We used these data to show differences by parents' education in transfers from the perspective of adult offspring ages twenty-five and older.

Cross-Topic Concerns

“Race” is a core concept in this chapter. Change over time and across census data sources in how this concept is measured has presented challenges for many researchers. By using the PUMS data, we harmonized variables for race across years, although many problems remained. In 1970 and later years, an individual’s race was reported by someone in the household or group quarters. In the 1990 and 2000 U.S. census, the respondents were specifically asked what race the person “considers himself/herself” to be. We used the variable RACE as harmonized by the PUMS files. The variable is comparable across 1970, 1980, and 1990. However, beginning in 2000, respondents were allowed to identify more than one race. For our analyses, those who identified more than one race were reclassified as “other” for 2000 and 2007–2009.

“Hispanic ethnicity” is defined in this study according to the HISPAN variable provided in the PUMS data. Before 1980, no question about Hispanic ethnicity was asked of respondents. Therefore, an imputation rule was developed by the Minnesota Population Center to extrapolate information based on Hispanic birthplace, parental birthplace, grandparental birthplace, Spanish surname, and/or family relationship to a person with one of these characteristics. For more details, see Gratton and Gutmann (2000).

For this project, information on “disability” was derived from several variables in the PUMS data for 2008 and 2009. We did not include data from 2007 because of discrepancies in the wording of the disability questions. The respondent was asked to identify whether she or he had any of the following problems: cognitive difficulties, ambulatory difficulty, independent living difficulty, self-care difficulty, vision difficulty, or hearing difficulty. Our classification for individuals with any disability represented those respondents who reported difficulty with any one of these items, which we also examined separately.

NOTES

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2. Charles Kenny, "An Aging Population May Be What the World Needs," *Bloomberg Business Week*, February 7, 2013.
3. We define the elderly as those who are sixty-five or older to build on Judith Treas and Ramon Torrecilha's 1990 decennial census report (1995). The 2000 census series did not include a separate chapter on the older population, although it did include a chapter on cohort differences and the aging of the Baby Boom cohort (Hughes and O'Rand 1995).
4. For information on the Health and Retirement Study, visit the website at: <http://hrsonline.isr.umich.edu/> (accessed March 20, 2014).
5. In younger cohorts, women have now surpassed men in their college graduation rates (DiPrete and Buchmann, this volume). As these cohorts reach old age, the gender gap in schooling among those ages sixty-five and older will close and eventually reverse.
6. We combine disability data from the 2008 and 2009 ACS. As noted, the 2007 ACS asked different questions about disability than were asked in 2008 and 2009.
7. According to the Census Bureau (2010): "A group quarters is a place where people live or stay, in a group living arrangement, that is owned or managed by an entity or organization providing housing and/or services for the residents. This is not a typical household-type living arrangement. These services may include custodial or medical care as well as other types of assistance, and residency is commonly restricted to those receiving these services. People living in group quarters are usually not related to each other. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories" (U.S. Bureau of the Census 2010; http://www.census.gov/acs/www/Downloads/data_documentation/GroupDefinitions/2010GQ_Definitions.pdf [accessed July 22, 2014]). Also see Marton and Voss (2010).
8. The elderly who live with a spouse include both individuals who live with a spouse only and those who live with a spouse and others.
9. The estimates in table 9.3 are for individual adult offspring. However, the reports come from parents who answered questions about transfers to each of their and their spouse's adult offspring. The data are converted to the child level for easier interpretation.
10. We compared the zero-order association between education and number of sets of grandchildren to the net association between education and number of sets of grandchildren, adjusting for number of offspring, in OLS regressions. For both age groups, those ages fifty-five and older and those ages seventy-five and older, including the number of offspring reduced the association between the older adult's education and the number of sets of grandchildren. The sizes of the coefficients for education were reduced more when we adjusted for the number of offspring for the seventy-five and older age group than when we did the same for the fifty-five and older age group (not shown). This supports the view that the number of offspring is a primary mechanism contributing to different numbers of sets of grandchildren by late in life. That other factors contribute to the number of sets of grandchildren is evident when one considers the subset of older persons who have not become grandparents by age seventy-five. Only 25 percent of these people are childless (not shown). The impact on older persons' well-being of never becoming a grandparent or of becoming a grandparent very late in life is an important topic for future research.
11. Census data do not identify individuals who are grandparents unless there is a grandchild in their household. Therefore, we describe the percentages of individuals, not the percentages of grandparents, who coreside.
12. The ACS asks if the grandparent is "currently responsible for most of the basic needs" of the grandchild(ren) under age eighteen who live in the household.

REFERENCES

- Altonji, Joseph G., Fumio Hayashi, and Laurence J. Kotlikoff. 1997. "Parental Altruism and Inter Vivos Transfers: Theory and Evidence." *Journal of Political Economy* 105(6): 1121–66.
- Anderson, Michael. 1971. *Family Structure in Nineteenth Century Lancashire*. Cambridge: Cambridge University Press.
- Arias, Elizabeth. 2012. "United States Life Tables, 2008." *National Vital Statistics Reports* 61(3). Hyattsville, Md.: National Center for Health Statistics.
- Avery, Robert B., and Michael S. Rendall. 2002. "Lifetime Inheritances of Three Generations of Whites and Blacks." *American Journal of Sociology* 107(5): 1300–46.

- Bengtson, Vern L. 2001. "Beyond the Nuclear Family: The Increasing Importance of Multigenerational Bonds." *Journal of Marriage and Family* 63(1): 1–16.
- Bianchi, Suzanne M., Judith A. Seltzer, Xi Song, and Robert F. Schoeni. 2013. "Money and Time Transfers from Parents to Adult Children in the United States: New Evidence from the June 2012 Survey of Consumers." Paper presented at the annual meeting of the Population Association of America, New Orleans (April).
- Blau, David M. 1998. "Labor Force Dynamics of Older Married Couples." *Journal of Labor Economics* 16(3): 595–629.
- Blau, David M., and Ryan M. Goodstein. 2010. "Can Social Security Explain Trends in Labor Force Participation of Older Men in the United States?" *Journal of Human Resources* 45(2): 328–63.
- Bramlett, Matthew D., and Stephen J. Blumberg. 2007. "Family Structure and Children's Physical and Mental Health." *Health Affairs* 26(2): 549–58. doi: 10.1377/hlthaff.26.2.549.
- Bumpass, Larry L., and James A. Sweet. 1989. "National Estimates of Cohabitation." *Demography* 26(4): 615–25.
- . 1995. "Cohabitation, Marriage, and Nonmarital Childbearing and Union Stability: Preliminary Findings from NSFH2." National Survey of Families and Households Working Paper 65. Madison: University of Wisconsin, Center for Demography and Ecology.
- Burr, Jeffrey A., Kerstin Gerst, Ngai Kwan, and Jan E. Mutchler. 2008. "Economic Well-Being and Welfare Program Participation Among Older Immigrants in the United States." *Generations: Journal of the American Society on Aging* 32(4): 53–60.
- Burr, Jeffrey A., and Jan E. Mutchler. 1999. "Race and Ethnic Variation in Norms of Filial Responsibility among Older Persons." *Journal of Marriage and the Family* 61(3): 674–87.
- Chan, Tak Wing, and Vikki Boliver. 2013. "The Grandparents Effect in Social Mobility: Evidence from British Birth Cohort Studies." *American Sociological Review* 78(4): 662–78.
- Cherlin, Andrew J. 2010. "Demographic Trends in the United States: A Review of Research in the 2000s." *Journal of Marriage and Family* 72(3): 403–19.
- Cherlin, Andrew J., and Frank F. Furstenberg. 1986. *The New American Grandparent: A Place in the Family, a Life Apart*. New York: Basic Books.
- Chien, Sandy, Patricia St. Clair, Nancy Campbell, Kathleen McGarry, Susann Rohwedder, Julie Zissimopoulos, Delia Bugliari, Drystan Philips, and Bernadette Benjamin. 2012. "RAND HRS Family Data Documentation, Version B." Santa Monica, Calif.: RAND Center for the Study of Aging, RAND Labor & Population Program.
- Christensen, Kaare, Gabriele Doblhammer, Roland Rau, and James W. Vaupel. 2009. "Ageing Populations: The Challenges Ahead." *Lancet* 374(9696): 1196–1208.
- Compton, Janice, and Robert A. Pollak. 2011. "Proximity, Childcare, and Women's Labor Force Attachment." Working Paper 17678. Cambridge, Mass.: National Bureau of Economic Research. Available at: <http://www.nber.org/papers/w17678> (accessed July 22, 2014).
- Cox, Donald, and Oded Stark. 2005. "On the Demand for Grandchildren: Tied Transfers and the Demonstration Effect." *Journal of Public Economics* 89(9–10): 1665–97.
- Dietz, Tracy L. 1995. "Patterns of Intergenerational Assistance Within the Mexican-American Family: Is the Family Taking Care of the Older Generation's Needs?" *Journal of Family Issues* 16(3): 344–56.
- Eggebeen, David J. 2005. "Cohabitation and Exchanges of Support." *Social Forces* 83(3): 1097–1110.
- . 1992. "Family Structure and Intergenerational Exchanges." *Research on Aging* 14(4): 427–47.
- Eggebeen, David J., and Dennis P. Hogan. 1990. "Giving Between Generations in American Families." *Human Nature* 1(3): 211–32.
- Fingerman, Karen, Laura Miller, Kira Birditt, and Steven Zarit. 2009. "Giving to the Good and the Needy: Parental Support of Grown Children." *Journal of Marriage and Family* 71(5): 1220–33.
- Fingerman, Karen L., Karl A. Pillemer, Merril Silverstein, and J. Jill Suitor. 2012. "The Baby Boomers' Intergenerational Relationships." *The Gerontologist* 52(2): 199–209. doi:10.1093/geront/gnr139.
- Fischer, Claude S., and Michael Hout. 2006. *Century of Difference: How America Changed in the Last One Hundred Years*. New York: Russell Sage Foundation.
- Fry, Richard, D'Vera Cohn, Gretchen Livingston, and Paul Taylor. 2011. "The Rising Age Gap in Economic Well-being." Washington, D.C.: Pew Research Social & Demographic Trends.
- Furstenberg, Frank F., Jr., Saul D. Hoffman, and Laura L. Shrestha. 1995. "The Effect of Divorce on Intergenerational Transfers: New Evidence." *Demography* 32(3): 319–33.

- Ganong, Lawrence H., and Marilyn Coleman. 1999. *Changing Families, Changing Responsibilities: Family Obligations Following Divorce and Remarriage*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Gendell, Murray. 2008. "Older Workers: Increasing Their Labor Force Participation and Hours of Work." *Monthly Labor Review* 131(1): 41–54.
- Glick, Paul C., and Graham B. Spanier. 1980. "Married and Unmarried Cohabitation in the United States." *Journal of Marriage and the Family* 42(1):19–30.
- Gratton, Brian, and Myron P. Gutmann. 2000. "Hispanics in the United States, 1850–1990: Estimates of Population Size and National Origin." *Historical Methods* 33(3): 137–53.
- Hagestad, Gunhild O., and Mary E. Lang. 1986. "The Transition to Grandparenthood: Unexplored Issues." *Journal of Family Issues* 7(2): 115–30.
- Han, Shin-Kap, and Phyllis Moen. 1999. "Clocking Out: Temporal Patterning of Retirement." *American Journal of Sociology* 105(1): 191–236.
- Hao, Lingxin. 2003. "Private Support and Public Assistance for Immigrant Families." *Journal of Marriage and Family* 65(1): 36–51.
- Hareven, Tamara K. 1990. "A Complex Relationship: Family Strategies and the Processes of Economic and Social Change." In *Beyond the Marketplace: Rethinking Economy and Society*, ed. Roger Friedland and A. F. Robertson. New York: Aldine de Gruyter.
- Harrington Meyer, Madonna. 2012. "Grandmothers Juggling Work and Grandchildren in the United States." In *Contemporary Grandparenting: Changing Family Relationships in a Global Context*, ed. Sara Arber and Virpi Timonen. Bristol, U.K.: Policy Press.
- Heathcote, Jonathan, Fabrizio Perri, and Giovanni L. Violante. 2010. "Unequal We Stand: An Empirical Analysis of Economic Inequality in the United States, 1967–2006." *Review of Economic Dynamics* 13(1): 15–51.
- Henretta, John C., Martha S. Hill, Wei Li, Beth J. Soldo, and Douglas A. Wolf. 1997. "Selection of Children to Provide Care: The Effect of Earlier Parental Transfers." *Journals of Gerontology, Series B: Social Sciences* (52B): 110–19.
- Henretta, John C., Douglas A. Wolf, Matthew F. Van Voorhis, and Beth J. Soldo. 2012. "Family Structure and the Reproduction of Inequality: Parents' Contribution to Children's College Costs." *Social Science Research* 41(4): 876–87.
- Howden, Lindsay M., and Julie A. Meyer. 2011. "Age and Sex Composition 2010: Census Briefs." C2010BR-03. Washington: U.S. Census Bureau (May). Available at: <http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf> (accessed July 22, 2014).
- Hughes, Mary Elizabeth, and Angela O'Rand. 2005. "The Lives and Times of the Baby Boomers." In *The American People: Census 2000*, ed. Reynolds Farley and John Haaga. New York: Russell Sage Foundation.
- Hughes, Mary Elizabeth, Linda J. Waite, Tracey A. LaPierre, and Ye Luo. 2007. "All in the Family: The Impact of Caring for Grandchildren on Grandparents' Health." *Journals of Gerontology, Series B: Social Sciences* 62(2): S108–19.
- Johnson, Kenneth M., and Daniel T. Lichter. 2010. "Growing Diversity Among America's Children and Youth: Spatial and Temporal Dimensions." *Population and Development Review* 36(1): 151–76.
- Kaplan, Greg. 2012. "Moving Back Home: Insurance Against Labor Market Risk." *Journal of Political Economy* 120(3): 446–512.
- Kennedy, Gregory E., and C. E. Kennedy. 1993. "Grandparents: A Special Resource for Children in Stepfamilies." *Journal of Divorce & Remarriage* 19(3-4): 45–68.
- Kennedy, Sheela, and Steven Ruggles. 2013. "Breaking Up Is Hard to Count: The Rise of Divorce and Cohabitation Instability in the United States, 1980–2010." Working Paper 2013-01. Minneapolis: University of Minnesota, Minnesota Population Center.
- Killian, Timothy S. 2004. "Intergenerational Monetary Transfers to Adult Children and Stepchildren: A Household-Level Analysis." *Journal of Divorce & Remarriage* 42(1-2): 105–30.
- Klinenberg, Eric. 2012. *Going Solo: The Extraordinary Rise and Surprising Appeal of Living Alone*. New York: Penguin.
- Laughlin, Lynda. 2010. "Who's Minding the Kids? Child Care Arrangements: Spring 2005 and Summer 2006." *Current Population Reports* P70-121. Washington: U.S. Census Bureau.
- Lin, I-Fen. 2008. "Consequences of Parental Divorce for Adult Children's Support of Their Frail Parents." *Journal of Marriage and Family* 70(1): 113–28.
- Lin, I-Fen, and Susan L. Brown. 2012. "Unmarried Boomers Confront Old Age: A National Portrait." *The Gerontologist* 52(2): 153–65.

- Logan, John R., and Glenna D. Spitze. 1996. *Family Ties: Enduring Relations Between Parents and Their Grown Children*. Philadelphia: Temple University Press.
- López-Turley, Ruth N., and Matthew Desmond. 2011. "Contributions to College Costs by Married, Divorced, and Remarried Parents." *Journal of Family Issues* 32(6): 767–90.
- Lovenheim, Michael F. 2011. "The Effect of Liquid Housing Wealth on College Enrollment." *Journal of Labor Economics* 29(4): 741–71.
- Lumpkin, James R. 2008. "Grandparents in a Parental or Near-Parental Role: Sources of Stress and Coping Mechanisms." *Journal of Family Issues* 29(3): 357–72.
- Luo, Ye, Tracey A. LaPierre, Mary Elizabeth Hughes, and Linda J. Waite. 2012. "Grandparents Providing Care to Grandchildren: A Population-Based Study of Continuity and Change." *Journal of Family Issues* 33(9): 1143–67.
- Lynch, Frederick R. 2008. "Immigrants and the Politics of Aging Boomers: Renewed Reciprocity or 'Blade Runner' Society?" *Generations: Journal of the American Society on Aging* 32(4): 64–72.
- Maestas, Nicole. 2010. "Back to Work Expectations and Realizations of Work After Retirement." *Journal of Human Resources* 45(3): 718–48.
- Manning, Wendy D., and Susan L. Brown. 2011. "The Demography of Unions Among Older Americans, 1980–Present: A Family Change Approach." In *Handbooks of Sociology and Social Research*, ed. Richard A. Settersten and Jacqueline L. Angel. New York: Springer Verlag.
- Marton, Kriztina, and Paul R. Voss, eds. 2010. *Measuring the Group Quarters Population in the American Community Survey: Interim Report*. Washington, D.C.: National Research Council.
- McGarry, Kathleen. 1998. "Caring for the Elderly: The Role of Adult Children." In *Inquiries in the Economics of Aging*, ed. David A. Wise. Chicago: University of Chicago Press.
- McGarry, Kathleen, and Robert F. Schoeni. 1995. "Transfer Behavior in the Health and Retirement Study: Measurement and the Redistribution of Resources Within the Family." *Journal of Human Resources* 30: S184–226.
- . 2000. "Social Security, Economic Growth, and the Rise in Elderly Widows' Independence in the Twentieth Century." *Demography* 37(2): 221–36.
- McKernan, Signe-Mary, Caroline Ratcliffe, Eugene Steuerle, and Sisi Zhang. 2013. "Less Than Equal: Racial Disparities in Wealth Accumulation." Washington, D.C.: Urban Institute.
- Michaud, Pierre-Carl, and Frederic Vermeulen. 2011. "A Collective Labor Supply Model with Complementarities in Leisure: Identification and Estimation by Means of Panel Data." *Labour Economics* 18(2): 159–67.
- Minino, Ariadl M., Sherry L. Murphy, Jiaquan Xu, and Kenneth D. Kochanek. 2011. "Deaths: Final Data for 2008." *National Vital Statistics Reports* 2(10). Hyattsville, Md.: National Center for Health Statistics.
- Murphy, Michael. 2008. "Variations in Kinship Networks Across Geographic and Social Space." *Population and Development Review* 34(1): 19–49.
- National Institute on Aging. 2007. "Growing Older in America: The Health and Retirement Study (HRS databook)." Available at: http://hrsonline.isr.umich.edu/sitedocs/databook/HRS_Text_WEB_intro.pdf (accessed July 22, 2014).
- Noël-Miller, Claire M. 2011. "Partner Caregiving in Older Cohabiting Couples." *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* 66(3): 341–53.
- Olson, Laura Katz. 2003. *The Not-So-Golden Years: Caregiving, the Frail Elderly, and the Long-Term Care Establishment*. Lanham, Md.: Rowman & Littlefield.
- Pebley, Anne R., and Laura L. Rudkin. 1999. "Grandparents Caring for Grandchildren: What Do We Know?" *Journal of Family Issues* 20(2): 218–42.
- Pew Research Social & Demographic Trends. 2009. "Getting Old in America: Expectations vs. Reality." Washington, D.C.: Pew Research Center (June 29). Available at: <http://www.pewsocialtrends.org/2009/06/29/growing-old-in-america-expectations-vs-reality/> (accessed July 22, 2014).
- . 2010. "The Return of the Multi-Generational Family Household." Washington, D.C.: Pew Research Center (March 18). Available at: <http://pewsocialtrends.org/2010/03/18/the-return-of-the-multi-generational-family-household/> (accessed July 22, 2014).
- Pillemer, Karl, and J. Jill Suitor. 2013. "Who Provides Care? A Prospective Study of Caregiving Among Adult Siblings." *The Gerontologist* (July 9). doi:10.1093/geront/gnt066.
- Pleau, Robin L. 2010. "Gender Differences in Postretirement Employment." *Research on Aging* 32(3): 267–303.
- Pollard, Kelvin, and Paola Scommegna. 2013. "The Health and Life Expectancy of Older Blacks and Hispanics in the

- United States." In *Today's Research on Aging: Program and Policy Implications*. Washington, D.C.: Population Reference Bureau.
- Preston, Samuel H. 1984. "Children and the Elderly: Divergent Paths for America's Dependents." *Demography* 21(4): 435–57.
- Qian, Zhenchao. 2012. "During the Great Recession, More Young Adults Lived with Parents." US-2010 Project (August). Available at: <http://www.s4.brown.edu/us2010/Data/Report/report08012012.pdf> (accessed July 22, 2014).
- Rosenblum, Marc R., and Kate Brick. 2011. "U.S. Immigration Policy and Mexican/Central American Migration Flows: Then and Now." Washington, D.C.: Migration Policy Institute.
- Rossi, Alice S., and Peter H. Rossi. 1990. *The Structure of Kinship Norms*. New York: Aldine de Gruyter.
- Ruggles, Steven. 2007. "The Decline of Intergenerational Coresidence in the United States, 1850 to 2000." *American Sociological Review* 72(6): 964–89.
- Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. *Integrated Public Use Microdata Series: Version 5.0* (machine-readable database). Minneapolis: University of Minnesota.
- Sanders, Gregory F., and Debra W. Trygstad. 1989. "Stepgrandparents and Grandparents: The View from Young-Adults." *Family Relations* 38(1): 71–75.
- Schoeni, Robert F. 1997. "Private Interhousehold Transfers of Money and Time: New Empirical Evidence." *Review of Income and Wealth* 43(4): 423–48.
- Seltzer, Judith A. 2004. "Cohabitation and Family Change." In *Handbook of Contemporary Families: Considering the Past, Contemplating the Future*, ed. Marilyn Coleman and Lawrence Ganong. Thousand Oaks, Calif.: Sage Publications.
- Seltzer, Judith A., and Suzanne M. Bianchi. 2013. "Demographic Change and Parent-Child Relationships in Adulthood." *Annual Review of Sociology* 39: 275–90.
- Seltzer, Judith A., Charles Q. Lau, and Suzanne M. Bianchi. 2012. "Doubling Up When Times Are Tough: A Study of Obligations to Share a Home in Response to Economic Hardship." *Social Science Research* 41(5): 1307–19.
- Seltzer, Judith A., Jenjira J. Yahirun, and Suzanne M. Bianchi. 2013. "Coresidence and Geographic Proximity of Mothers and Adult Children in Stepfamilies." *Journal of Marriage and Family* 75(5): 1164–80.
- Silverstein, Merrill, and Anne Mareenco. 2001. "How Americans Enact the Grandparent Role Across the Family Life Course." *Journal of Family Issues* 22(4): 493–522.
- St. Clair, Patricia, Delia Bugliari, Nancy Campbell, Sandy Chien, Orla Hayden, Michael Hurd, Regan Main, Angela Miu, Mike Moldoff, Constantijn Panis, Philip Pantoja, Afshin Rastegar, Susann Rohwedder, Marian Oshiro, and Julie Zissimopoulos. 2011. "RAND HRS Data Documentation, Version L." Santa Monica, Calif.: RAND Center for the Study of Aging, RAND Labor and Population Program.
- Szinovacz, Maximiliane E., David J. Eckerdt, Abigail Butt, Kelli Barton, and Corina R. Oala. 2012. "Families and Retirement." In *Handbook of Families and Aging*, 2nd ed., ed. Rosemary Blieszner and Victoria Hilkevitch Bedford. Santa Barbara, Calif.: Praeger.
- Torres-Gil, Fernando, and Judith Treas. 2008. "Immigration and Aging: The Nexus of Complexity and Promise." *Generations: Journal of the American Society on Aging* 32(4): 6–10.
- Treas, Judith, and Shampa Mazumdar. 2004. "Kinkeeping and Caregiving: Contributions of Older People in Immigrant Families." *Journal of Comparative Family Studies* 35(1): 105–22.
- Treas, Judith, and Ramon Torrecilha. 1995. "The Older Population." In *State of the Union: America in the 1990s*, ed. Reynolds Farley. New York: Russell Sage Foundation.
- Uhlenberg, Peter. 2005. "Historical Forces Shaping Grandparent-Grandchild Relationships: Demography and Beyond." *Annual Review of Gerontology and Geriatrics* 24: 77–97.
- Uhlenberg, Peter, and Bradley G. Hammill. 1998. "Frequency of Grandparent Contact with Grandchild Sets: Six Factors That Make a Difference." *The Gerontologist* 38(3): 276–85.
- U.S. Census Bureau. 1996. "65+ in the United States." In *Current Population Reports: Special Studies*, P23-190, ed. Frank B. Hobbs and Bonnie L. Damon. Washington: U.S. Government Printing Office.
- . 2010. "2010 American Community Survey/Puerto Rico Community Survey Group Quarters Definitions." Washington, D.C. Available at: http://www.census.gov/acs/www/data_documentation/documentation_main/ (accessed July 22, 2014).
- . 2012. *Statistical Abstract of the United States: 2012*. 131st ed. Washington: U.S. Government Printing Office. Available at: <http://www.census.gov/compendia/statab/> (accessed July 22, 2014).

- Vincent, Grayson K., and Victoria A. Velkoff. 2010. "The Next Four Decades: The Older Population in the United States: 2010 to 2050: Population Estimates and Projections." *Current Population Reports*, P25-1138. Washington: U.S. Census Bureau (May). Available at: www.census.gov/prod/2010pubs/p25-1138.pdf (accessed July 22, 2014).
- Waite, Linda J. 1995. "Does Marriage Matter?" *Demography* 32(4): 483–507.
- Ward, Russell A. 2008. "Multiple Parent-Adult Child Relations and Well Being in Middle and Later Life." *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* 63(4): S239–47.
- Wightman, Patrick, Megan Patrick, Robert F. Schoeni, and John E. Schulenberg. 2013. "Historical Trends in Parental Financial Support of Young Adults." Research Report 13-801. Ann Arbor: University of Michigan, Population Studies Center.
- Zissimopoulos, Julie M., Benjamin R. Karney, and Amy J. Rauer. 2013. "Marriage and Economic Well Being at Older Ages." *Review of Economics of the Household* (published online June 16). Available at: <http://link.springer.com/article/10.1007/s11150-013-9205-x#page-1> (accessed August 25, 2013). [Author's note: User must have subscription rights to access this url.]
- Zissimopoulos, Julie, and James P. Smith. 2009. "Unequal Giving: Monetary Gifts to Children Across Countries and over Time." RAND Labor and Population Working Paper WR-723. Santa Monica, Calif.: Rand Corporation. Available at: http://www.rand.org/pubs/working_papers/WR723.html (accessed July 22, 2014).

Chapter 10

U.S. High-Skill Immigration

John Bound and Sarah Turner

Immigration in the United States is characterized by “twin peaks” (Johnson and Slaughter 2001): disproportionately high concentrations of immigrants among very low-skill and very high-skill workers. Researchers and policymakers have focused on the incidence of low-skill immigration, particularly among undocumented workers, and the impact of this immigration on labor force outcomes for workers with minimal levels of education (Borjas 1987, 2003; Card 2005, 2009). However, research on the growth of high-skill immigration and the changing pathways to entry into the U.S. labor market has been more limited.¹

From a purely theoretical perspective, the underlying economic model of immigration points to some similarities between high-skill and low-skill immigration. The most basic economic arguments suggest that both high-skill and low-skill immigrants (1) impart benefits to employers, to owners of other inputs used in production such as capital, and to consumers; and (2) impose some costs on workers who are close substitutes (Borjas 1999). The groups potentially in competition with high-skill versus low-skill immigrants are quite different—workers trained in science and engineering, on the one hand, and workers with low levels of education, on the other. Their potential employers are quite different as well. These differences contribute to the current lack of consensus on immigration reform.

The welfare effects of high-skill immigration are perceived to be positive in two regards. First, it is likely that high-skill immigrants make substantial tax payments at the local and federal levels, creating a fiscal surplus rather than imposing a burden on public services, which often is associated with low-skill immigration (Camarota 2004). Second, high-skill immigrants contribute to the generation of knowledge and productivity through patents and innovation (Kerr and Lincoln 2010). The costs and benefits associated with training foreign-born students at U.S. universities are difficult to quantify, depending on the extent of public subsidies to universities, the stay-rate of foreign-born degree recipients in the United States, and the extent to which native citizens fail to attain degrees because they have been crowded out of science and engineering fields by foreign-born degree recipients.

This analysis documents changing patterns in the educational and labor force trajectories of college-educated immigrants.² A central theme in our analysis is that immigration policy combines with supply and demand to determine the representation of high-skill immigrants in the U.S. population. Changes in both the United States and abroad have affected the impact of immigration on U.S. labor markets. For example, the dramatic expansion of postsecondary attainment abroad has led to changes in the skills that immigrants bring with them to the United States, and many high-skill immigrants enter the U.S. labor market by way of U.S. colleges and universities. Because the vast majority of high-skill immigrants are employed in the formal sec-

tor, the availability of work visas, primarily the H-1B classification, and the opportunities for postsecondary study in the United States through F1 student visas have substantial implications for the entry and continued residence of foreign high-skill workers.

Our analysis begins by presenting basic information on trends in the immigration of high-skill workers derived from census enumerations and the American Community Survey (ACS). We examine educational attainment, occupation, industry, earnings, citizenship, country of birth, and year of immigration. Although we make some use of the census enumerations before 1990, we focus on more recent patterns. Even with the large sample sizes of the census and ACS, we face limitations in the possible level of disaggregation. For example, outcomes for small countries of origin, very specialized subfields, and narrow geographic areas are subject to substantial sampling variation. We complement these data with the 1993 and 2003 cohorts of the National Survey of College Graduates (NSCG), which provides additional information on educational and labor market experiences for college graduates.³

In the next section, we present broad trends in immigration by skill level (using education as the indicator of skill), highlighting the very different origins of high-skill versus low-skill immigrants. We then place high-skill immigration in the context of changes in the U.S. labor market, emphasizing the role of immigration in accommodating “demand shocks” in the science and engineering fields. We examine the pathways to the U.S. labor market, identifying country-specific trends and the role of visa policy. Finally, we address the demographic characteristics and family circumstances of high-skill immigrants and their modes of entry into the United States.

THE VOLUME OF IMMIGRATION

Overall Trends in Immigration by Skill Level

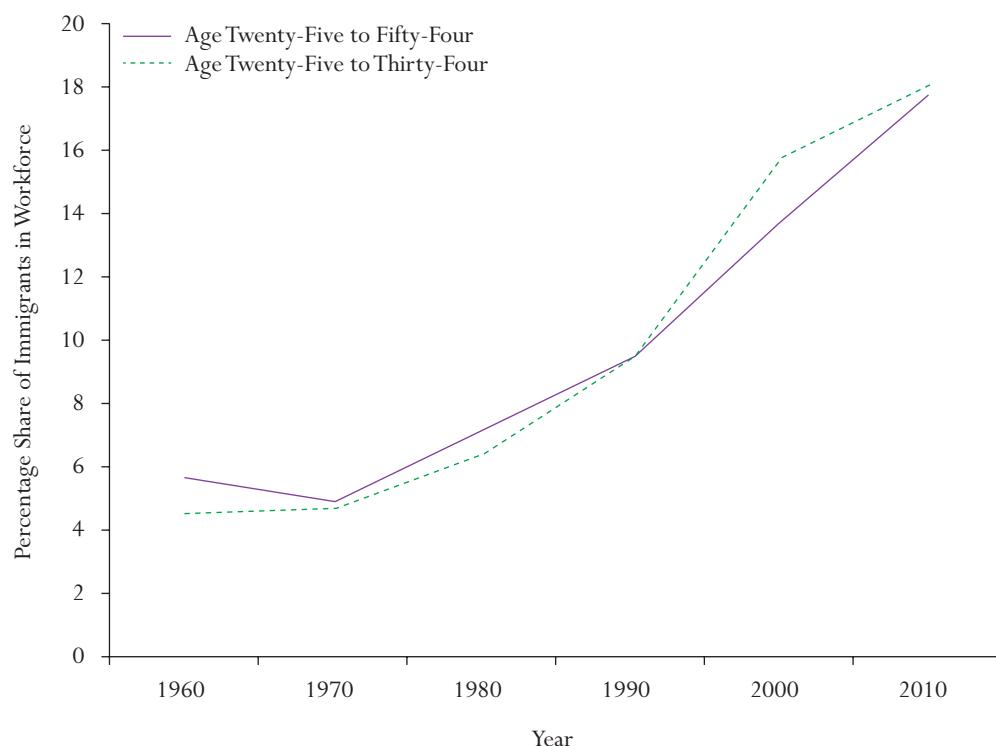
From 1960 to 2010, the overall share of foreign-born among the working-age U.S. population increased from 7 percent to 17.3 percent (figure 10.1), with 75 percent of this growth occurring in the last two decades. Growth among younger age groups (ages twenty-five to thirty-four) was somewhat more pronounced in recent years.

From 1990 to 2011, increases in immigration have occurred at every level of education, and these increases have been even more marked among the employed (see table 10.1). This distribution is a recent change. In 1990 immigrants accounted for only 22 percent of workers with less than a high school degree and 20 percent of doctorate-holding workers.

For workers with less than a high school degree, the immigrant share more than doubled, from 25 to 56 percent, in this period. In the middle education groups, the immigrant share increased from 7 to 13 percent for high school graduates and those with some college. Among the college-educated, immigrant share increased from 8 to 14 percent for college graduates, from 10 to 18 percent for master’s degree holders, from 11 to 18 percent for professional degree holders, and from 19 to 33 percent for PhDs. Table 10.2 presents these data from a different angle, showing a much higher fraction of workers with less than a high school education among foreign-born (23.9 percent) than native-born workers (4.0 percent). On the other end of the education spectrum, foreign-born workers are also more concentrated at the master’s level and above, making up more than twice the share of workers with a PhD.

These data indicate that immigrants are disproportionately found at the very low-skill and very high-skill levels. As shown in figure 10.2, the geographic origins of these two types of immigrant workers are quite different. In 2010 about 78 percent of low-skill immigrants (high school or less) arrived in the United States from Latin American countries, while about half of

FIGURE 10.1 *Share of Immigrants Ages Twenty-Five to Fifty-Four in the U.S. Workforce in the Previous Year, by Age, 1960–2010*



Source: U.S. Census data, 1960–2000, and ACS, 2010 data.

high-skill immigrants (BA or higher) came from Asian countries. Although the distribution of countries of origin is more dispersed among high-skill than low-skill immigrants, representation shifted toward China and other Asian countries between 1990 and 2010. In 2010 about 15 percent of high-skill immigrants were from India, 10 percent were from China, and about 25 percent were from other Asian countries. These differences by country of origin are affected by the supply of potential immigrants at each education level and also by the cost of immigration. Latin America has a large supply of workers with low education who can travel to the United States relatively inexpensively; however, it is more difficult and costly for low-skill workers in Asia to manage the passage.

Fields of Concentration

High-skill immigrants to the United States tend to work in science and engineering fields. Panel A of figure 10.3 shows the share of immigrants among all college-graduate workers compared to those in science and engineering fields.⁴ The immigrant share in science and engineering fields has increased markedly over the last two decades, from about 14 percent of working adults in 1990 to nearly 24 percent in 2010. Among younger U.S. workers (panel B), the immigrant share

TABLE 10.1 *The Foreign-Born, Ages Twenty-Five to Fifty-Four, by Education Level, 1900, 2000, and 2009–2011*

Year	High School		MA Degree	Professional Degree	PhD Degree
	Less Than High School	and Some College			
All foreign-born					
1990	22.24%	7.00%	8.55%	10.68%	12.28%
2000	37.59	9.99	11.74	14.75	17.93
2009–2011	45.20	13.36	15.27	19.32	19.67
Foreign-born workers					
1990	24.60	6.62	7.87	9.75	11.32
2000	39.25	8.82	10.42	13.42	15.48
2009–2011	55.68	13.38	14.01	17.99	18.38
All workers					
1990	58.72	79.23	87.47	91.18	92.84
2000	53.91	77.00	85.49	88.96	89.30
2009–2011	54.30	73.33	83.93	87.94	89.83

Source: U.S. census 1990, 2000, and ACS, 2009–2011 (combined).

Note: “Foreign-born” is defined as a naturalized citizen or a noncitizen.

in science and engineering fields increased slightly from 1990 to 2010, rising from 15 percent to over 26 percent.

Examination of the immigrant share by degree and occupational classification shown in figure 10.4 illustrates the significant and growing concentration of high-skill immigrants in all post-BA occupations, including BA-, MA-, and PhD-level engineering jobs, other PhD-level science jobs, and health professions. At the extreme, immigrants accounted for 64 percent of PhD-level engineers in 2010, up from 42 percent in 1990. Immigrants are also overrepresented in health fields, accounting for about 29 percent of physicians and 19 percent of nurses.⁵

IMMIGRATION AND VISA POLICIES FOR HIGH-SKILL WORKERS

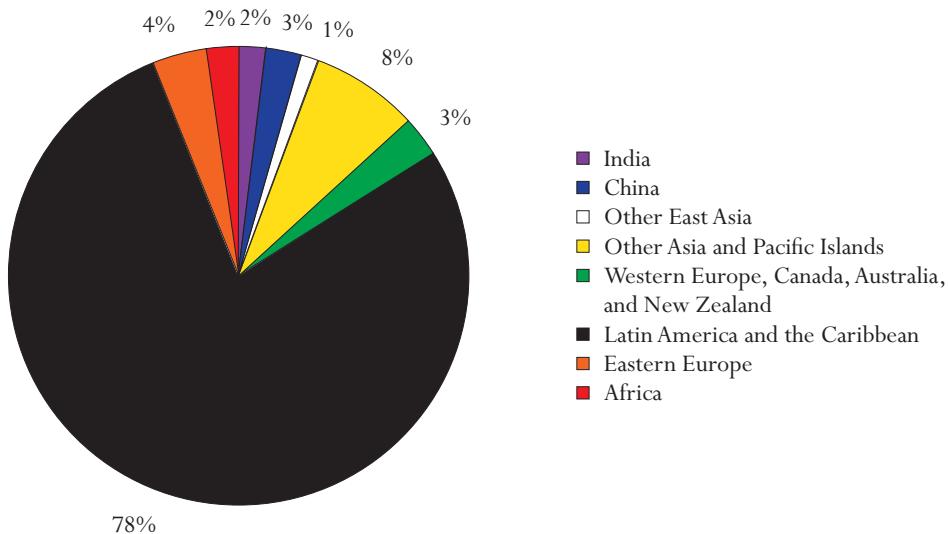
The dynamics of high-skill immigrant flows to the United States follow from U.S. immigration policy. Visa policies determine when potential immigrants can enter the U.S. labor market and also influence whether they obtain their education at home or abroad, how long they are likely to stay in the United States, and whether they are able to attain permanent residency.

Most employers in the “formal” sector require citizenship, permanent residence, or an appropriate visa permitting work, and this requirement is most likely to be enforced for high-skill immigrants. While nearly 75 percent of unauthorized immigrants are estimated to hold a high school degree or less (compared to about 26 percent of all immigrants, as shown in table 10.2), only about 15 percent are estimated to hold a BA degree or higher (Passel and Cohn 2009).⁶

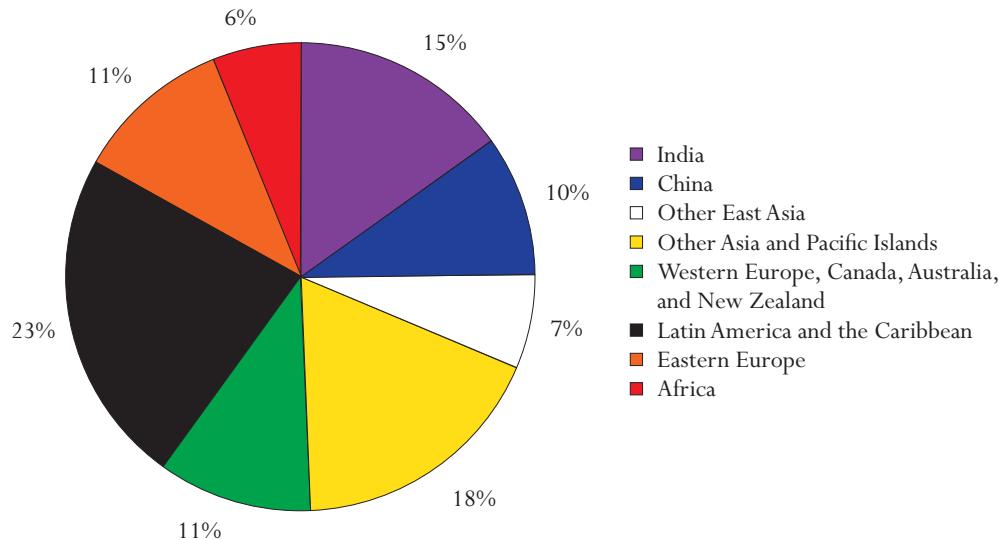
The costs to a firm of hiring a foreign-born worker and the administrative restrictions and financial costs to a high-skill foreign-born worker of coming to the United States have varied markedly over time. They also differ by skill set and country of origin. The immigrant’s access to the labor market may be permanent or temporary, depending on the time of entry, the country of origin, and his or her expertise. Because these factors have such important impacts, we review them here in some detail.

FIGURE 10.2 *Geographic Origins of Immigrants, by Continent and Education Level, 2010*

High School or Less



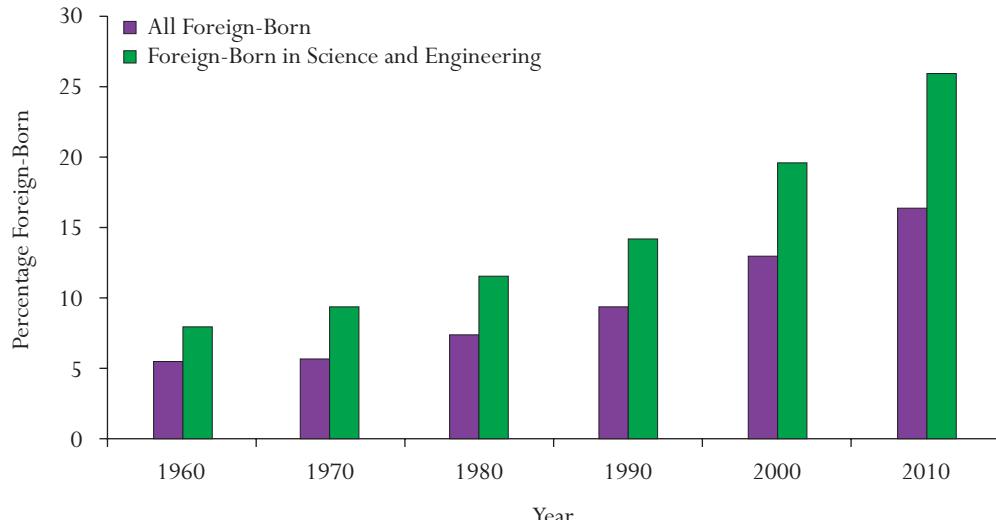
BA Degree or Higher



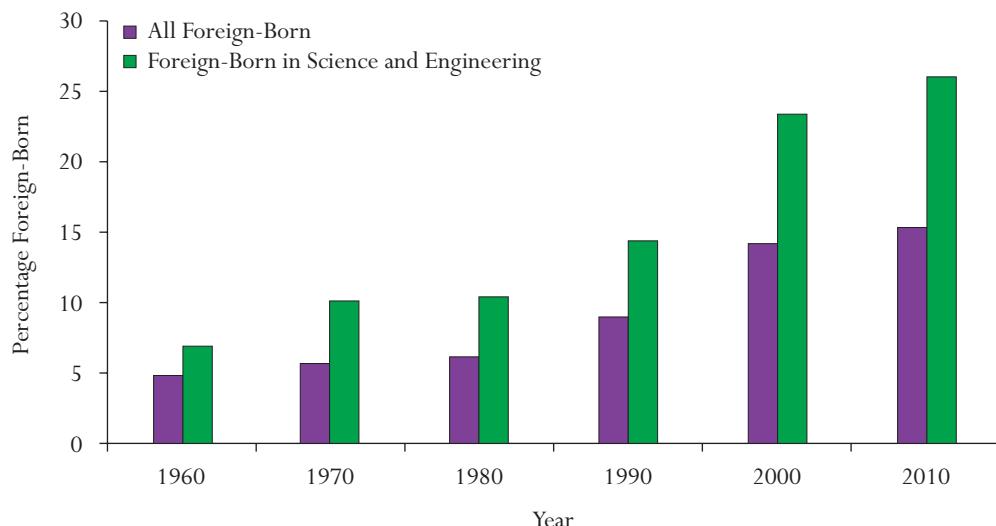
Source: ACS, 2009–2011 (combined samples).

FIGURE 10.3 *The Foreign-Born Among Employed Twenty-Five- to Fifty-Four-Year-Olds with a BA Degree or Higher, by Year and Employment in Science and Engineering, 1960–2010*

Panel A. Ages Twenty-Five to Fifty-Four



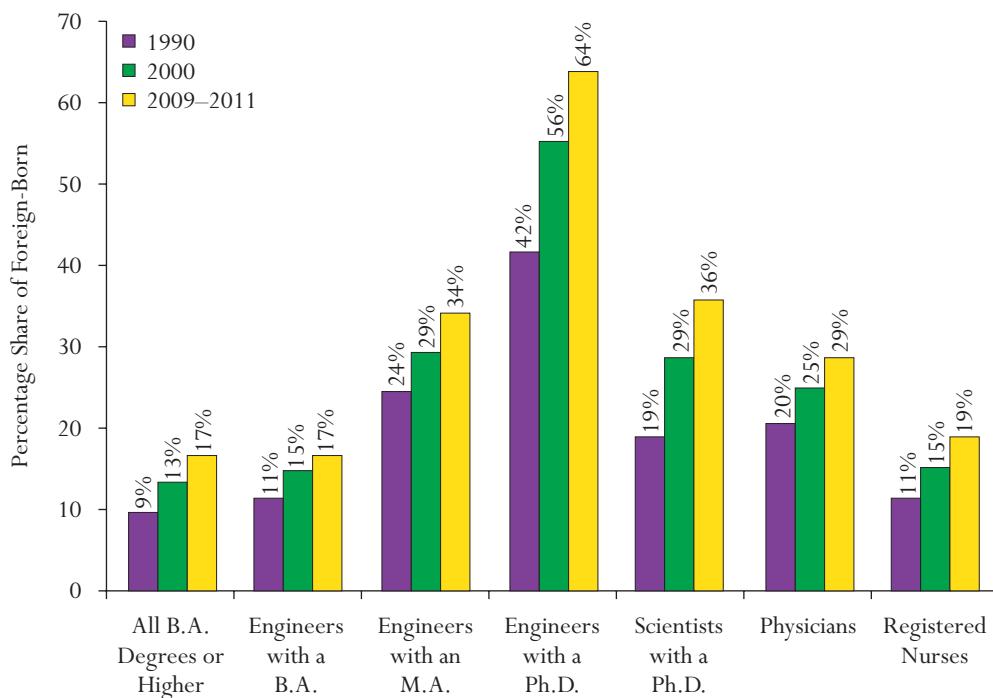
Panel B. Ages Twenty-Five to Thirty-Four



Source: U.S. census, 1960–2000, and ACS, 2001–2010.

Note: "Foreign-born" is defined as a naturalized citizen or a noncitizen.

FIGURE 10.4 *The Foreign-Born Among Employed Twenty-Five- to Fifty-Four-Year-Olds with a BA Degree or Higher, by Age Group and Skill Group, 1990, 2000, and 2009–2011*



Source: Authors' tabulations from IPUMS, U.S. census 1990 and 2000, and ACS, 2009–2011 (average values).

Note: "Foreign-born" is defined as a naturalized citizen or a noncitizen.

Permanent Residents

The Displaced Persons Act of 1948 established a pathway to permanent residency for high-skill immigrants. This act gave priority to displaced persons “possessing special educational, scientific and technological or professional qualifications” (Tichenor 2012). The Immigration and Nationality Act of 1952 set national quotas, but reserved 50 percent of each nation’s quota for high-skill immigrants.⁷

The Immigration and Nationality Act of 1965 (Hart-Celler Act) replaced the quotas with a preference system tied to four main avenues for permanent residency: family reunification, employment, humanitarian/refugee interests, and diversity (Martin 2012). Family-based immigration is the largest channel for immigration (see table 10.3). Immediate relatives (parents, spouses, minor children) are admitted without limit, while there is a cap of 480,000 for other family-based immigration. We expect that some high-skill immigrants were admitted as children via this channel, then completed their precollege and postsecondary training in the United States.⁸

While family-based immigration of children and high-skill relatives often occurs directly from the country of origin, employment-based immigration generally follows a transition from another visa type. The capacity to enter the United States as a permanent resident through an

TABLE 10.2 *Distribution of Education, by Immigration Status, Among Employed Twenty-Five- to Fifty-Four-Year-Olds, 1990, 2000, and 2009–2011*

Education	1990		2000		2009–2011	
	U.S.-Born	Foreign-Born	U.S.-Born	Foreign-Born	U.S.-Born	Foreign-Born
Less than high school	0.081	0.265	0.051	0.239	0.040	0.239
High school and some college	0.645	0.461	0.633	0.444	0.605	0.441
BA degree	0.180	0.155	0.210	0.177	0.235	0.181
MA degree	0.064	0.070	0.074	0.083	0.087	0.090
Professional degree	0.022	0.028	0.024	0.032	0.023	0.024
PhD degree	0.009	0.021	0.009	0.025	0.011	0.025

Source: U.S. census, 1990, 2000, and ACS, 2009–2011.

Note: "Foreign-born" is defined as a naturalized citizen or a noncitizen.

employment-based green card is quite limited: only 140,000 such visas are offered each year.⁹ For an employment-based green card, an employer must certify that it has not been able to hire a qualified citizen or permanent resident for the position and must file an immigration petition (form I-140) on the employee's behalf.

Within the set of visas allocated for employment, preference groupings determine visa priority. The highest priority is reserved for those with extraordinary capabilities, including researchers, professors, and multinational executives. Next in line are aliens who have advanced degrees or whose abilities benefit U.S. interests (for example, physicians practicing in designated underserved areas). Third in priority are the foreign-born in three categories: skilled workers, college-educated professionals, and unskilled workers.¹⁰ Fourth priority is given to individuals

TABLE 10.3 *Transitions to Legal Permanent Resident Status, 2002 and 2011*

	2002		2011	
	Total	Adjustment of Status	Total	Adjustment of Status
Total	1,059,356	675,067	1,062,040	580,092
Family-sponsored preferences	186,880	63,363	234,931	28,346
Immediate relatives of U.S. citizens	483,676	305,304	453,158	243,174
Employment-based preferences	173,777	133,755	139,339	124,384
First: Priority workers	34,168	24,587	25,251	23,605
Second: Professionals with advanced degrees or aliens of exceptional ability	44,316	38,993	66,831	65,140
Third: Skilled workers, professionals, and unskilled workers	88,002	64,554	37,216	29,757
Fourth: Certain special immigrants	7,149	5,530	6,701	5,306
Fifth: Employment creation (investors)	142	91	3,340	576
Diversity	42,820	1,986	50,103	1,617
Refugees	115,601	115,601	113,045	113,045
Other	56,602	55,058	71,464	69,526

Source: U.S. Department of State, *Yearbook of Immigration Statistics*, 2011.

who have specialized jobs, such as physicians, religious workers, and international organization employees. (This residual category includes many subgroups, such as fifty visas for former interpreters from Afghanistan or Iraq.) Last priority goes to entrepreneurs who invest at least \$500,000 to create and sustain at least ten permanent jobs. (Transitions to legal permanent residency by immigration channel and preference category are summarized in appendix tables 10A.3 and 10A.4.)

Adding to the complexity of this system, visas for any given country are capped at 7 percent of the annual U.S. limit for family- and employment-based immigration. This rule, intended to allow immigration from a variety of places, causes considerable lags for those coming from China, India, Mexico, and the Philippines who are not in the highest-priority category.¹¹ For example, in June 2013, Indian professionals falling into the second- or third-priority categories were granted visas after a wait of nine to ten years.¹²

In addition to these long-standing pathways to permanent residency for high-skill immigrants, Congress has on two occasions given special treatment to foreign groups that probably included a disproportionate share of high-skill immigrants. The Chinese Student Protection Act (CSPA) of 1992 allowed Chinese nationals (including students) who were present in the United States at the time of the Tiananmen Square violence in 1989 to apply for legal permanent resident status.¹³ Of the nearly 50,000 individuals making the transition to legal permanent resident status under CSPA, at least 30,000 had initial visa classifications indicating high-skill characteristics (Orrenius, Zavodny, and Kerr 2012). Similarly (though more modestly), the Soviet Scientists Immigration Act (1992) allowed permanent visa status to 750 scientists from the former Soviet Union and former Baltic states.

Although it is possible to enter the United States directly with permanent residency status, Lindsay Lowell (2010) estimates that 90 percent of employment-based and 55 percent of family-based visa holders move up from temporary visa status or from family-sponsored preferences.¹⁴

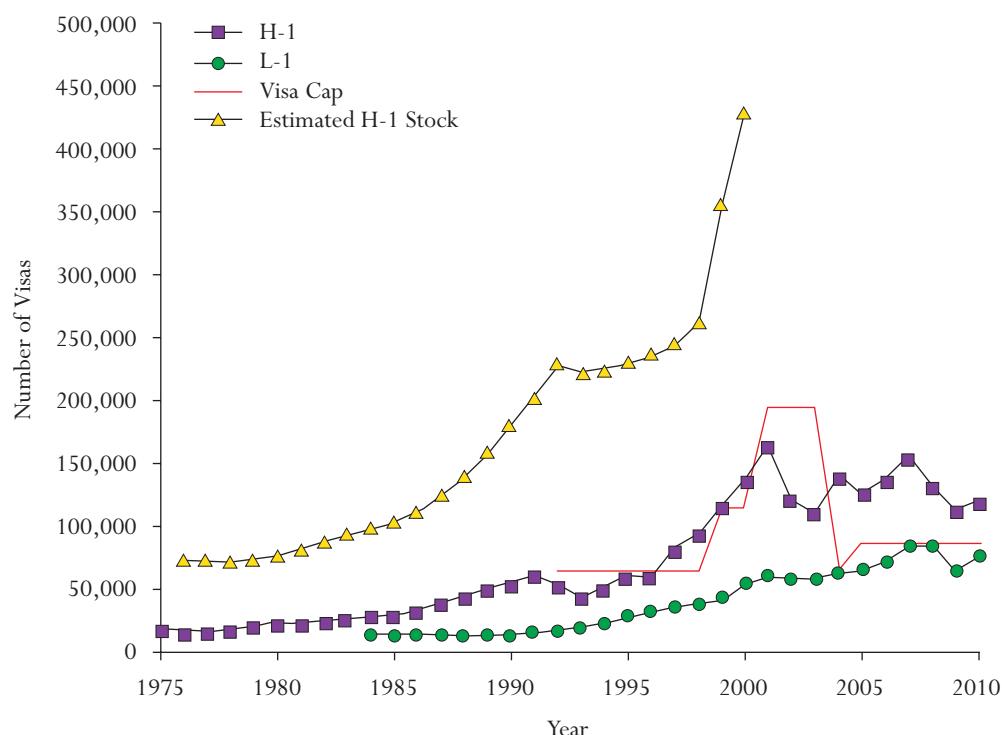
Temporary Work Visas

Since the passage of the 1952 Immigration and Nationality Act, the H-1 designation has provided an employment window for aliens of “distinguished merit and ability.” The original expectation of this designation was that U.S. residency would be temporary. This provision was altered as part of the policy reform in 1990.

The Immigration and Naturalization Act of 1990 transformed the H-1 visa program into what is now known as the H-1B visa program, along with the companion H-1A program for nurses.¹⁵ H-1B visas are by definition reserved for high-skill workers. They require that the employee be in a specialty occupation, defined as one that requires “theoretical and practical application of a body of highly specialized knowledge and attainment of a bachelor’s [degree] or higher, or its equivalent.” H-1B visas are employer-specific and require the employer to post a substantial application fee and certify that the foreign employee will be paid the prevailing wage.¹⁶ H-1B visas are valid for three years, with the potential for a three-year extension.¹⁷ Workers may enter the United States directly on an H-1B visa or may transfer to an H-1B from another visa classification, such as an F student visa. H-1B visa holders may pursue permanent residency while working in temporary jobs in the United States.

Additionally, unlike the original H-1 visa, which did not have a cap, the Immigration Act of 1990 caps H-1B visas annually at 65,000, though visas issued to individuals at nonprofit organizations such as colleges and universities (researchers and faculty, for example) are exempt from the cap. During the early 1990s, the cap was not reached, but the cap became binding in the mid-1990s and was subsequently raised to 115,000 in 1999 and then to 195,000 in 2001. This limit was maintained until 2004, when the H-1B cap reverted to 65,000 once again, although in

FIGURE 10.5 Trends in the Flow and Stock of Skill-Based Visas, 1975–2010



Source: Data from 1972–1980 are from Lowell (2000); for 1987 and later are from the U.S. Department of State, Bureau of Consular Affairs, “Nonimmigrant Visa Statistics,” available at: http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html (accessed September 19, 2014). Estimates of the H-1 visa stock are from Lowell (2000).

Note: H-1 visas include H-1A (nursing) and H-1B visas after 1990; in addition to the stated visa cap, H visas assigned to those employed by academic institutions are exempt from the cap and, beginning in 2004, an additional 20,000 H-1B visas were offered to foreign graduates of U.S. universities.

the same year Congress authorized an extra 20,000 H-1B visas for foreign workers holding advanced degrees from U.S. universities through the Visa Reform Act. This cap has been binding every year since 2004 (U.S. Government Accountability Office 2011). In addition, country-specific free trade agreements designate 1,400 H-1B1 visas for Chilean nationals and 5,400 H-1B1 visas for Singapore nationals. In 2000 the sociologist Lindsay Lowell estimated the total number of individuals working on all H-1 visas in the United States to be close to half a million. Figure 10.5 shows trends regarding H-1 visas since 1975.

While the H-1B is the most widely recognized temporary visa, there is a substantial portfolio—a veritable alphabet soup—of other temporary work visa options that can connect foreign-born high-skill workers to the U.S. labor market. Appendix table 10A.1 provides a summary of these alternative types, which include country-specific opportunities for temporary employment along with field-specific options.

Other temporary visa categories include the L-1 visa for intracompany transferees, the O-1 visa for “workers with extraordinary ability or achievement,” the TN visa for NAFTA-related professional workers, and the E-1 visa for treaty traders and treaty investors. After H-1B issuances, L-1 intracompany transferee visas are the most frequently issued temporary worker visa

categories. As shown in figure 10.5, the number of L-1s issued climbed from 14,342 in 1990 to 84,532 in 2007, then decreased to 70,728 in 2011. Upon the introduction of the O-1 visa in 1992, 462 were issued, a number that rose to 9,368 in 2009 and declined to 8,828 in 2011. The number of E-1 treaty trader visas issued fell from 20,100 in 1989 to 6,807 in 2011.

Other visa categories, although not officially categorized as “temporary worker” visas, allow non-immigrants to enter the workforce. For example, the J-1 exchange visitor visa, issued to non-immigrant individuals participating in Department of State–approved cultural exchange programs, allows some visa holders to work during their time in this country.¹⁸ The number of exchange visitor visas issued is typically more than double that of H-1B workers, but since not all J-1 visa holders are authorized to work, it is difficult to compare the two types. Over the past two decades, the number of J-1 visas issued has risen fairly steadily, from 146,549 in 1990 to 324,294 in 2011.

The limits on and costs of the H-1B work visas provide incentives for firms and employers to use other visa options to employ high-skill workers. There is some evidence that research universities increasingly use the J-1 category for foreign postdocs and visiting research scientists rather than the more costly H-1B visa. Although the occupations that typically use J-1 visas are physicians (including medical residents), teachers, and visiting scholars, the largest single group of J-1 visa recipients (31 percent of the 2012 total) is foreign nationals traveling to the United States for summer work or travel.¹⁹ Historically, Europe has been the largest source country for J-1 visas (representing 52 percent of visas issued in 2012), although the number of J-1 visitors from Asian countries has increased in the past decade.

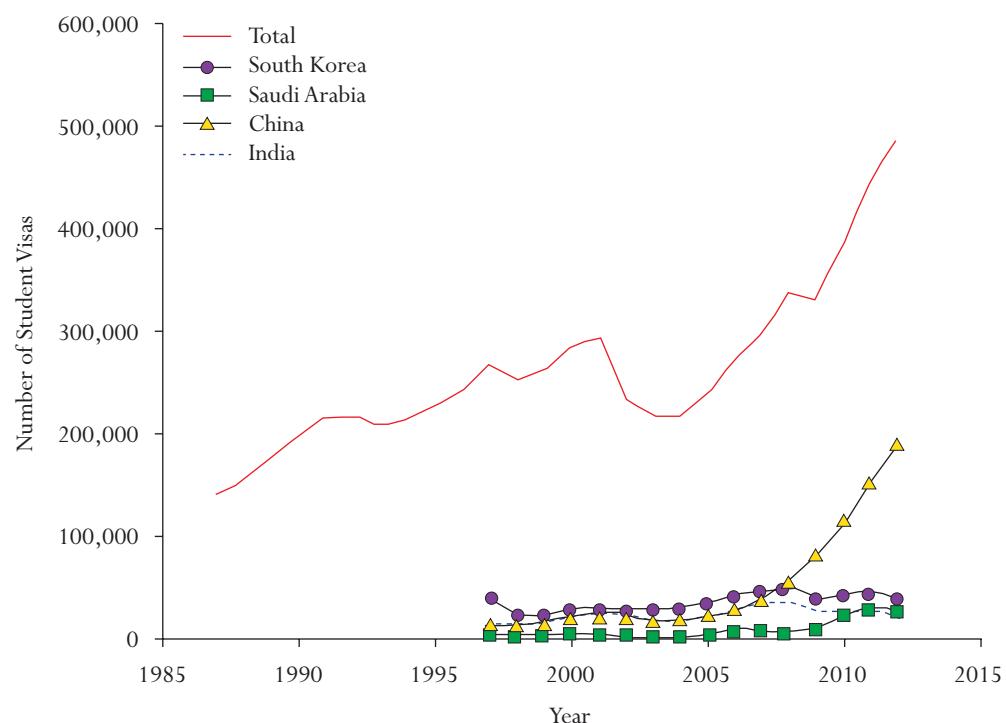
Student Visas

Unlike H-1B employment visas, which are subject to a numerical cap and require a costly petition from an employer, there is effectively no limit on visas for postsecondary study in the United States. Demand for U.S. higher education among foreign students is driven by two main aims: to acquire skills and training that may be in short supply in their home countries or to obtain work in the United States. Employment prospects for foreign-born individuals with a degree from a U.S. institution may be considerably better than for foreign degree–holding individuals; as such, the former face relatively modest barriers to connecting with U.S. firms. Compared to foreign degree–holding students, U.S. degree recipients may be favored by employers because employers are better able to assess the quality of their degree.

To enroll in a U.S. degree program, a student needs a visa, the prerequisite skills, and the capacity to finance the course of study. For most degree programs, the F-1 visa, or full-time student visa, is the primary vehicle for entry.²⁰ There is no cap on the number of F-1 visas issued; these are issued automatically with the certification of U.S. higher education institutions. As shown in figure 10.6, the number of annual F-1 visas rose by nearly 60 percent, from 241,003 in 1996 to 385,210 in 2010, with a nontrivial decline following both the contraction in the information technology (IT) sector and the events of September 11, 2001, which generated greater administrative hurdles. Students from Asia contribute the majority of students on F-1 visas, with the number from China increasing very dramatically over the last decade.

Foreign students studying at U.S. institutions on an F-type visa may also seek another type of visa, such as an H-1B. Additionally, a student can extend the F visa for one year through participation in optional practical training (OPT) related to his or her major area of study. In 2008 Congress extended the duration of OPT from twelve to twenty-nine months for those in science, technology, engineering, and mathematics (STEM) fields.²¹

FIGURE 10.6 Trends in Student Visas, 1985–2012



Source: U.S. Department of State, “Nonimmigrant Visa Issuances by Visa Class and by Nationality,” and “Nonimmigrant Visas by Individual Class of Admission,” available at: http://travel.state.gov/visa/statistics/nivstats/nivstats_4582.html (accessed September 19, 2014).

LABOR MARKET DETERMINANTS OF HIGH-SKILL IMMIGRATION

Besides these institutional policies, the flow of foreign-born professionals is determined by economic conditions. Changes in the supply of high-skilled workers from abroad, changes in demand for skilled labor in the United States, and the availability of temporary and permanent visas all have an impact on the level of immigration, as well as on the earnings of immigrants and non-immigrants alike.

Demand-Side Determinants of High-Skill Immigration

One of the most notable features of the U.S. economy over the last three decades is the increase in the earnings premium to college graduates (Goldin and Katz 2008). Demand for college-educated workers has grown at a far greater pace than changes in supply. Specifically, the expansion of computer use in the workplace and of skill-intensive jobs in manufacturing and other industries has increased demand for workers in computer science and engineering occupations (Acemoglu and Autor 2011; Autor, Katz, and Krueger 1998; Katz and Murphy 1992).

The economy has also seen unambiguous and differentiated demand shocks in specific science disciplines that have affected both labor and college enrollment. Defense investments and

federal funding for the physical sciences spiked in the 1980s, reversed in the 1990s, and then rebounded in recent years. In the life sciences, the National Institutes of Health (NIH) budget doubled between the late 1990s and 2000. For computer sciences, the high-tech market has expanded and contracted over the past two decades—including a precipitous decline following the dot-com bubble of the late 1990s.

Yet college-educated professionals in the science and engineering fields have not received disproportionate wage gains over this period (Katz and Autor 1999; Card and DiNardo 2002). Figure 10.7, which illustrates trends since 1970 in earnings for holders of BA degrees in some science and engineering occupations, shows that real wages, though they have fluctuated over the period, were at about the same level in 2010 as in 1973. Not surprisingly, PhDs in these fields earned more than BA degree recipients, as shown in figure 10.8. In 1974 median earnings for PhDs in math and computer science and in the physical sciences who were in the first ten years of their careers matched the eighty-fifth percentile of all BAs in the first ten years of their careers. PhDs in the biological sciences matched at the eighty-first percentile. In the top panel of figure 10.8, we compare the evolution of the median earnings of PhD scientists and engineers to the earnings of BAs at the eighty-fifth percentile (which represents the baseline point of comparison at the start of the period), as well as at the eighty-first and ninety-second percentiles of the BA earnings distributions. As the figure shows, in all four cases relative earnings fell. The relative fall was the least for those with math and computer science PhDs (roughly 10 percent) and the most for those in the biological sciences (roughly 33 percent).

Taking a close look at the IT sector, John Bound, Breno Braga, Joseph Golden, and Sarah Turner (2013) compare labor market adjustments to demand shocks generated by technological changes, first during the adoption of microprocessor technology in the late 1970s and then during the Internet boom in the late 1990s. Entry-level wages of those with a BA in computer science or electrical engineering relative to all BAs were greater in the 1970s and 1980s than in the 1990s and beyond.²² It is plausible that this relative decline in wages is linked to increases in high-skill immigration during this period. Notably, the share of H-1B visa holders employed in IT fields rose from 11 percent in 1989 to more than 60 percent in 1999.²³

In short, while science and engineering wage trends show short-term response to specific changes in demand, the growing demand for high-skill workers in these fields has been accommodated. We believe high-skill immigration is one factor contributing to the economy's adjustment to labor demand shocks in science and engineering fields.

The Supply of High-Skill Potential Immigrants

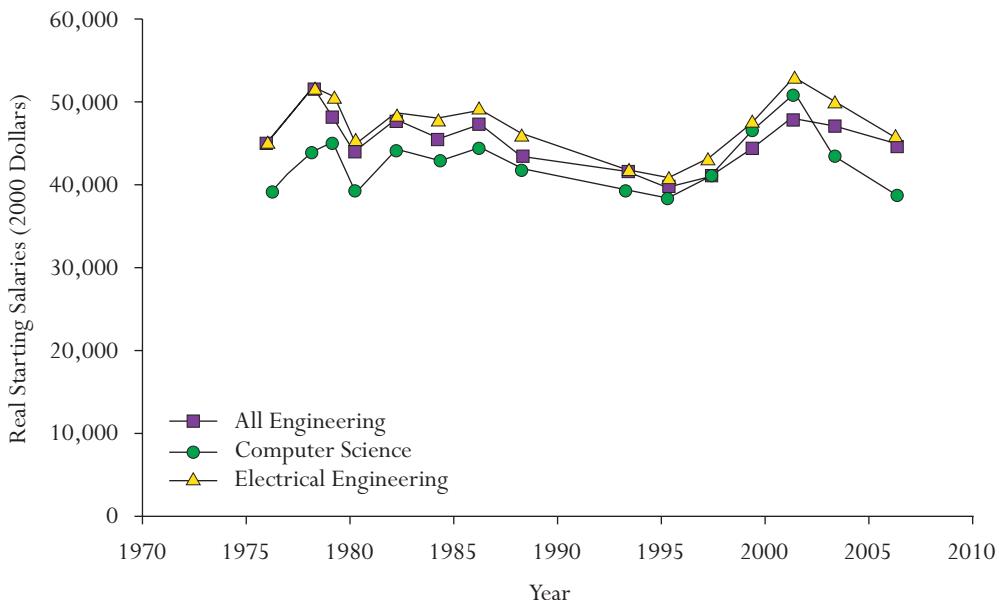
Growth in postsecondary enrollment in countries outside the United States has been extraordinary in the last three decades, increasing from 55.3 million to 141.5 million, with enrollment growth concentrated in developing countries and especially in Asia (Freeman 2010, table 1).

These marked increases in secondary and postsecondary educational attainment abroad increase the pool of potential high-skill immigrants to the United States. In China, growth in postsecondary enrollment has been astounding, increasing from barely 1 million students in 1980 to nearly 29 million students in 2009. In India, postsecondary enrollment increased from 3.2 million in 1980 to 18.6 million students in 2009. Together, the combination of extraordinary rates of growth and large population bases has dramatically expanded the global supply of college-educated workers. (Some illustrative country-specific trends across Asia, North America, and Europe are reported in table 10.4.)

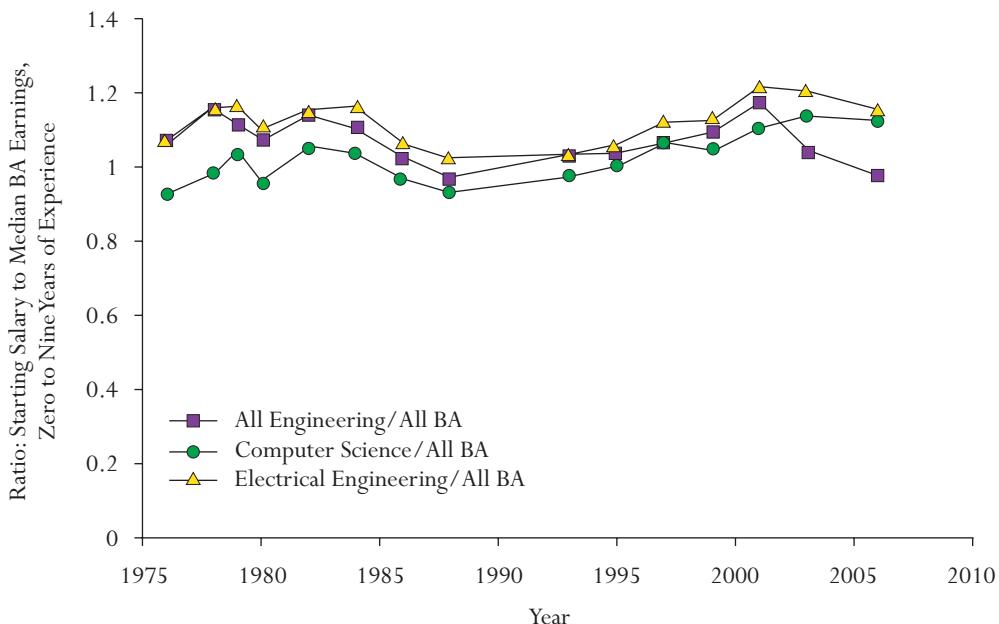
Changes in postsecondary enrollment have translated to changes in degree receipt at the BA, MA, and PhD levels. A significant distinction between the United States and many Asian

FIGURE 10.7 Trends in Wages for BA-Level Scientists and Engineers Working Full-Time, Relative to All BA Recipients, 1970–2006

Real Starting Salaries in Engineering and Computer Science

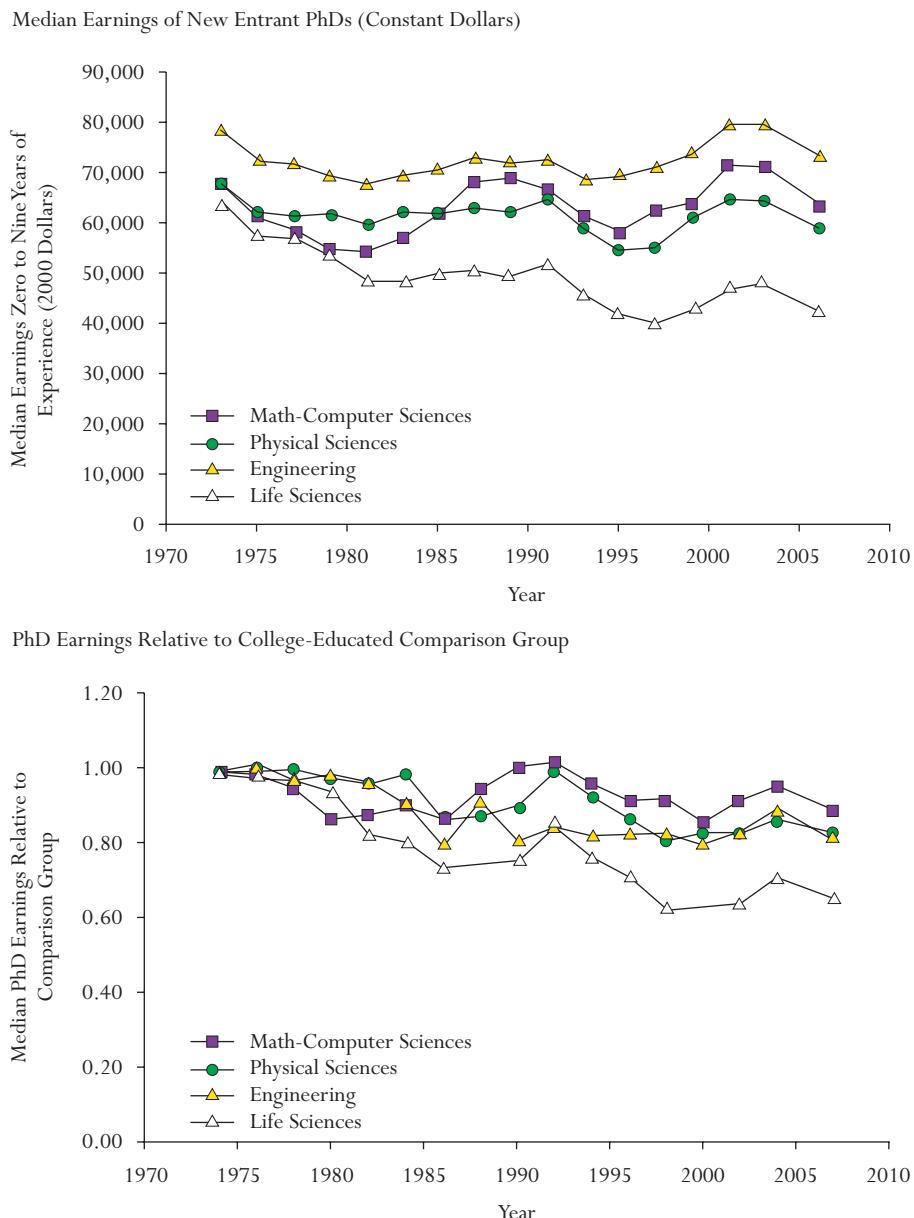


Starting Salaries Relative to Median BA Earnings



Source: New Entrants Surveys (NES), 1976–1988, and Survey of Recent College Graduates (SRCG), 1992–2006.

FIGURE 10.8 *Trends in Wages for PhD-Level, Male Scientists and Engineers with Zero to Nine Years of Experience, Relative to BA Recipients, 1970–2006*



Source: Data on the median earnings of doctorate recipients by field are for “new entrants” (zero to nine years of experience) from the Survey of Doctorate Recipients and include only men. The bottom panel presents PhD earnings relative to a comparison group defined as the matching percentile from the Current Population Survey of the overall BA wage distribution observed in the baseline year (1974) for men with zero to nine years of experience; these matched percentiles are the eighty-fifth for math-computer science, the eighty-fifth for physical sciences, the ninety-second for engineers, and the eighty-first for the life sciences.

TABLE 10.4 *Tertiary Enrollment in Selected Countries, 1980–2009*

	1980	1985	1990	1995	2000	2005	2009	Percentage Change	
								1985–2009	1995–2009
Australia	323,716	370,048	485,075	964,998	845,132	1,024,589	1,199,845	224.2%	24.3%
Brazil	1,409,243	—	1,540,080	—	2,781,328	4,572,297	6,115,138	—	—
China	1,019,950	2,746,124	3,924,546	5,278,935	7,364,111	20,601,219	29,295,841	966.8	455.0
France	1,060,412	1,255,538	1,587,202	2,072,552	2,015,344	2,187,383	2,172,855	73.1	4.8
India	3,278,793	4,271,618	4,780,181	4,932,669	9,404,460	11,777,296	18,648,923	336.6	278.1
Indonesia	—	980,162	1,515,689	2,229,796	—	3,660,270	4,859,409	395.8	117.9
Israel	97,624	—	122,568	182,836	255,891	310,937	342,707	—	87.4
Republic of Korea	538,726	1,345,114	1,630,374	2,065,579	3,003,498	3,210,184	3,219,216	139.3	55.9
United Kingdom	795,985	1,006,969	1,177,792	1,813,280	2,024,138	2,287,541	2,415,222	139.9	33.2
United States	11,569,899	12,241,940	13,538,000	14,278,799	13,202,880	17,272,044	19,102,814	56.0	33.8
Vietnam	133,558	—	185,788	203,300	732,187	1,354,543	1,774,321	—	772.8

Source: UNESCO, “Enrollment in Tertiary Education,” available at <http://datauis.unesco.org/>.

countries is in the proportion of college degrees awarded in science and engineering fields. Of the BA degrees awarded in 2006, nearly 53 percent of those in China and more than 40 percent of those in South Korea and Taiwan were in science and engineering fields, compared to only about 32 percent in the United States. China, India, South Korea, and some other Asian countries have also invested in the production of advanced degrees, breaking the near-monopoly previously held by the United States, the United Kingdom, Germany, and Japan.

The rapid expansion in the number of college-educated workers abroad not only dramatically increases the potential pool of high-skill workers who may seek to join the U.S. labor force but may also increase demand for advanced degree programs offered in the United States. These trends reinforce our view that immigration is the likely explanation for much of the labor market adjustment to demand shocks.

The basic supply-demand model suggests that while immigration brings gains in output, the availability of foreign high-skill workers lowers wages and crowds out U.S.-born workers as long as the demand for labor slopes down (Borjas 2003). However, direct evidence on the magnitude of such crowding out is difficult to obtain, and research on this question has often found no effects. For example, Kerr and Lincoln (2010) find that variation in immigrant flows at the local level related to national changes in H-1B flows does not appear to depress native wages or employment, which would imply a very large elasticity of demand. A central challenge to interpretation of the evidence is that changes in supply and demand for workers may occur concurrently, complicating the capacity to infer the net effect of immigration on wages.

PATHWAYS TO ENTRY

We now trace the pathways to immigrant entry into the U.S. labor market and the persistence of high-skill foreign-born workers in this market. Of particular interest is the timing of immigrant entry in relation to educational attainment and the role of colleges and universities in giving immigrants access to the U.S. labor market. There is potentially a large intergenerational component to immigration if today's high-skill immigrants arrived as young children. Further, immigration may interact with educational attainment because many immigrants enter the United States as students and then enter the labor force.

Our analysis covers immigrants currently in the country. It would be preferable to provide more detail about retention rates or the likelihood of becoming permanent residents or naturalized citizens among all foreign-born students entering the United States on either work or student visas, but such information is not available.

Age and Education Level at Immigration

The age distribution of older working-age immigrants (thirty-five to fifty-four) at entry to the United States provides an indicator of their pathway to entry. Among these immigrants at every educational level, more than half did not arrive in the United States until they were at least twenty-five years old (table 10.5).²⁴ This share is highest (rising to about two-thirds) among professional degree and PhD recipients, suggesting that many of the latter entered the United States via graduate training or a high-skill job. Few of these older working-age immigrants arrived in the United States between the ages of eighteen and twenty-one, the typical age of undergraduate enrollment.²⁵ Low-skill immigrants are the group most likely to enter the United States between the ages of eighteen and twenty-one (about 18.1 percent). (We suspect that 18 percent is an underestimate because this group is likely to enter and then return to their home countries.)

TABLE 10.5 *Distribution of the Age of Entry of Immigrants Ages Thirty-Five to Fifty-Four, 2000*

Age of Entry	Less Than High School	High School and Some College	BA Degree	MA Degree	Professional Degree	PhD Degree
Zero to Seventeen	0.18	0.26	0.21	0.18	0.19	0.10
Eighteen to twenty-one	0.18	0.14	0.10	0.10	0.06	0.08
Twenty-two to twenty-four	0.13	0.12	0.12	0.14	0.09	0.14
Twenty-five to thirty-four	0.32	0.31	0.36	0.38	0.43	0.45
Thirty-five and older	0.20	0.17	0.21	0.20	0.24	0.23

Source: U.S. census, 2000.

For high-skill immigrants, we can examine the interplay between the timing of educational attainment and arrival in the United States by using the 1993 and 2003 cohorts of the National Survey of College Graduates. The NSCG provides detailed information for high-skill immigrants who were in the United States for both the decennial census years (1990 and 2000) and the point of observation three years later. (A disadvantage is that it is a follow-up survey three years after the initial survey; hence, it omits the non-immigrant foreign-born who stay in the United States only a short time.)

A very high proportion of immigrants, particularly those with advanced degrees, received their highest credential in the United States, not in their home country. Table 10.6 presents data on the location of the highest degree among immigrants with BAs, MAs, and PhDs working in science and engineering occupations in 2003. For those with graduate degrees, a strikingly high proportion received this degree in the United States, with these shares somewhat higher among those employed in engineering and computer science fields. At the master's degree level, nearly 45 percent of engineers and 50 percent of those in computer science received their MA in the

TABLE 10.6 *Location of Degrees Attained by Foreign-Born Workers, by Occupation, 2003*

	American High School	High School Abroad and American BA	High School and BA Abroad	High School and BA Abroad and American Highest Degree	High School, BA, and Highest Degree Abroad
All BA degrees	0.30	0.15	0.55		
Engineers, BA	0.30	0.22	0.48		
Computer science and math, BA	0.31	0.16	0.53		
RN, pharmacists, dietitians	0.29	0.17	0.55		
Diagnosing and treating health	0.44	0.12	0.44		
All MA degrees	0.24	0.18		0.35	0.23
Engineers, MA	0.19	0.19		0.45	0.17
Computer science and math, MA	0.13	0.12		0.51	0.24
All PhD degrees	0.12	0.13		0.47	0.28
Engineers and scientists, PhD	0.11	0.10		0.51	0.29
Engineers, PhD	0.09	0.08		0.63	0.20.00
Computer science and math, PhD	0.06	0.07		0.62	0.24.73

Source: NSCG, 2003.

United States after completing prior studies abroad. At the PhD level, more than 60 percent of engineers and computer scientists studied abroad and then received a U.S. PhD.

Although U.S. higher education remains an important gateway to immigrant labor market participation in engineering and computer science fields, there has been a modest increase in the share of high-skill immigrants who received all of their education abroad. In particular, between 1993 and 2003 (not shown here), the share of computer science immigrants educated entirely abroad increased from 36 to 52 percent at the BA level, from 11 to 24 percent at the MA level, and from 17.6 to 24.7 percent at the PhD level. We hypothesize that this shift reflects the increased demand for computer science expertise over this period, the growth of international networks linking U.S. employers and potential immigrants, and the expanded capacity of foreign tertiary education to award degrees in high-demand areas.

U.S. Higher Education and Foreign Degree Attainment

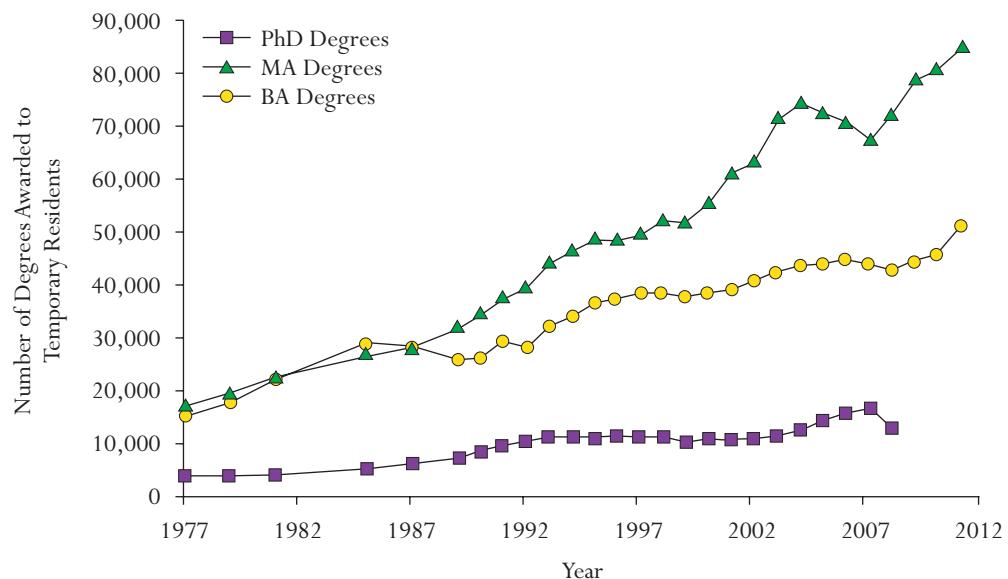
Demand for U.S. higher education among foreign students reflects both their desire to acquire skills and training that may be in short supply in their home countries and an option on employment in the U.S. labor market. As noted earlier, foreign-born recipients of U.S. degrees hold an advantage over those holding only foreign degrees. The impact on demand for higher education at both the undergraduate and graduate levels in the United States is substantial. At least in recent history, U.S. institutions have held a strong advantage in degree production at the highest levels. Thus, even as countries expand the capacity of their postsecondary institutions, it is unlikely that this growth will be reflected in degree programs that can compete with the most highly ranked programs in the United States. Mark Rosenzweig, Douglas Irwin, and Jaffrey Williamson (2006) examine the extent to which home-country degree production is a substitute or a complement for foreign degree production. They find that in emerging economies, an increase in a country's postsecondary enrollment will increase the pool of students seeking to study abroad.

The capacity to finance study in the United States is likely to be a primary determinant of foreign demand. U.S. institutions rarely provide need-based financial aid to foreign students at the undergraduate level, making four years of either private or out-of-state public tuition out of reach for all but the most affluent foreign students. At the other extreme, PhD programs can often provide financial aid through teaching assistant (TA), resident assistant (RA), and fellowship support. Fewer than 5 percent of foreign students support themselves as self-payers (Blanchard, Bound, and Turner 2009). In the middle ground, master's programs are more likely to be an option than BA programs given their shorter duration, and some foreign students gain admittance to PhD programs with full financial aid, only to depart with a master's degree.

Hence, three factors explain the large number of foreign students enrolled in U.S. graduate programs and the high immigrant representation among postbaccalaureate degree recipients: (1) substitutes for U.S. graduate education and elite undergraduate education are not likely to be available in their home countries; (2) advanced degree attainment increases the likelihood that a firm can satisfy H-1B requirements; and (3) the foreign-born are more likely to be able to finance graduate study than undergraduate study because MA programs are of short duration and PhD programs often provide financial aid.

Figure 10.9 plots the number of degrees awarded to foreign students by education level from 1977 to 2011. The number of BA degrees awarded to temporary residents increased by 328 percent, from 15,744 to 51,703, during this thirty-four-year period. The increases in the number of MA and PhD degrees awarded to temporary residents were even more dramatic, with the number of MAs rising by a factor of 4.8 and PhD degrees by a factor of 4.7. The increase

FIGURE 10.9 *Trends in Degrees Awarded to Temporary Residents by U.S. Colleges and Universities, 1977–2012*



Source: Authors' tabulations from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), "Degrees and Certificates Conferred."

in MA degrees includes those earned on the path to a PhD degree as well as terminal MA degrees. We suspect that terminal MA degrees in which students pay full tuition have increased as a share of all master's degrees in recent years.

Country of Origin and Degree Attainment

We now examine the relationship between country of origin, degree level, and occupational specialization. Table 10.7 shows the five largest source countries for immigrants ages twenty-five to fifty-four, by education level and field, in 2009–2011. As shown, nearly 23 percent of science and engineering PhDs were from China, 31 percent of nurses were from the Philippines, and almost 40 percent of MA-degree recipients working in math and computer science were from India. The rise in the representation of immigrants from China is noteworthy. In each field the share of immigrants from China in 2010 was more than twice the level observed in 1990 (not shown).

To examine the link between visa status on entry to the United States and current visa status, we look to the 2003 National Survey of College Graduates, which included foreign-born individuals in the United States as of the 2000 census. In effect, these estimates were conditional on retention in the United States for three years. The proportion of the current immigrant population who had entered on a student visa varied with education and specialization (see appendix table 10A.3). Among foreign-born workers in engineering and computer science, about 30 percent of those with a BA or MA degree had entered the United States on a student visa, while more than 70 percent of those with a PhD degree had entered this way. In contrast, im-

TABLE 10.7 *Country of Origin and Occupational Specialization of Foreign-Born Workers Ages Twenty-Five to Fifty-Four, 2009–2011*

All BA Degrees (no MA or PhD)	BA—Engineers	BA—Computer Science and Math
Philippines 0.11	Vietnam 0.12	India 0.25
India 0.09	India 0.10	Philippines 0.07
Mexico 0.08	Philippines 0.08	Vietnam 0.06
Korea 0.05	Mexico 0.05	China 0.04
Vietnam 0.04	China 0.05	Korea 0.03
MA—Engineers	MA—Computer Science and Math	PhD—Engineering and Science
India 0.27	India 0.38	China 0.23
China 0.13	China 0.13	India 0.12
Taiwan 0.05	Taiwan 0.05	Korea 0.05
Vietnam 0.04	Germany 0.03	Canada 0.04
Iran 0.03	Pakistan 0.02	Germany 0.04
Registered Nurses	Physicians	
Philippines 0.31	India 0.20	
India 0.06	China 0.05	
Canada 0.04	Pakistan 0.05	
Jamaica 0.04	Philippines 0.05	
Nigeria 0.04	Canada 0.04	

Source: ACS, 2009–2011.

migrants in nursing were much more likely to enter directly as permanent residents than on student visas. Temporary work visas were the entry pathway for 17 percent of engineers and 26 percent of computer science professionals with BA and MA degrees, respectively, while only 9 percent of doctorate-level scientists and engineers used this path.

For immigrants entering the United States via temporary visas, the likelihood of becoming a naturalized citizen or gaining a green card was high. More than 72 percent of science and engineering PhDs who had entered on a temporary visa transitioned to permanent residency or citizenship. Among engineers and computer scientists at the BA or MA level, those who had entered on a student visa were somewhat more likely to hold permanent residency or citizenship than those entering on a temporary work visa.

Persistence and Stay Rates

Understanding what fraction of those entering the United States under temporary visa arrangements remain in the United States and what fraction eventually return home is of considerable interest from both the social science and policy perspectives. One often hears concern that after training the world's best and brightest, the United States does not let them stay. Indeed, high-skill immigrants usually enter the United States under visas that are explicitly temporary—the F, J, H, and L visas—although individuals holding the F and the H visas are not prohibited from moving directly from their temporary status to the status of a permanent resident. In theory, it should be possible to follow legal immigrants from their initial entry into the United States through the visa system and through possible exit using administrative data to determine what fraction of those who enter the United States on a student visa eventually end up with either a work visa or a green card and what fraction of those who enter on an H-1B eventually end up

with a green card. Such data are not publicly available, however, and as far as we know, the federal government has not integrated administrative information in this way.

The best information we have on persistence comes from tabulations done by the Social Security Administration (SSA) for the economist Michael Finn (2012), who used the National Science Foundation's Survey of Earned Doctorates (SED), a census of those receiving PhDs from U.S. institutions, to identify recent PhDs. He then sent this information to the SSA to identify which of the foreign-born who were on temporary or permanent visas at the time they received their PhD have continued to work in the United States at intervals of one, two, five, and ten years after degree receipt. He estimates that, as of 2009, 64 percent of those who received their PhD five years earlier continued to live in the United States, while 66 percent of those who received their PhD ten years earlier did so.

Stay rates for doctorate recipients tend to be somewhat higher in the STEM fields and have been trending up. Stay rates also vary by country of origin. Focusing on just those with temporary visas who received a PhD in a STEM field, Finn finds that 89 percent of those from China and 79 percent of those from India remain in the United States five years after receiving their PhD. In contrast, he finds that five-year stay rates for those from Japan, South Korea, and Taiwan are all under 50 percent. More generally, those from Latin America, Canada, and western Europe have below-average (62 percent) five-year stay rates. These patterns, while not definitive, suggest that persistence rates reflect not only visa availability but market forces. Doctorate recipients from high-income countries with well-established universities may face better home-country options than those from low-income countries. As a result, those from western Europe and Canada may not choose to stay permanently in the United States unless they obtain employment in top research universities or labs (Bound, Turner, and Walsh 2009).

In closely related work, Jeff Grogger and Gordon Hanson (2013) use the data within the SED on intentions to stay in the United States to study patterns across individual characteristics, countries, and decades. Historically, the SED data on intentions closely tracks the data on actual stay patterns calculated by Finn (2012). Grogger and Hanson find that over the period 1960 to 2008 the likelihood of reporting intentions to stay in the United States was high among science and engineering PhDs: 77 percent of those students with stronger academic ability (measured by parental educational attainment and success in obtaining graduate fellowships) planned to stay. Students were less likely to report an intention to stay if they came from a high-income country or a country that had recently democratized. Grogger and Hanson also find that foreign PhDs were more likely to intend to stay in the United States during periods of strong U.S. GDP growth.

Researchers have used various indirect approaches to estimate persistence rates. One method is to construct synthetic cohorts of foreigners using repeated cross-sectional data. For example, one can use the 1990 and 2000 U.S. census enumerations and the 2010 ACS to identify the foreign-born who immigrated to the United States between 1985 and 1990 and who were twenty-five to twenty-nine years old as of 1990, thirty-five to thirty-nine in 2000, and forty-five to forty-nine in 2010. Comparisons of the size of these three populations give an estimate of net ten- and twenty-year persistence rates. We have done this kind of calculation, restricting ourselves to individuals identified as having at least a BA degree. Of course, someone who had no BA degree in 1990 might have had one by 2000, but restricting our attention to those age twenty-five and older should minimize this issue. Strikingly, this method yields estimates of ten- and twenty-year net persistence rates very close to 100 percent.²⁶

The 1993 National Survey of College Graduates allows us to calculate three-year stay rates. The sampling frame for the 1993 NSCG was drawn from the 1990 census. It is possible to link the sampling frame to the 1993 NSCG and then calculate loss to follow-up. Not all of this loss

will have been due to emigration, but a comparison between the foreign- and U.S.-born can give a crude estimate of the fraction who left. Recall that the sampling frame for the 1993 NSCG was those with a bachelor's degree in 1990. We calculated loss to follow-up separately for age groups: those who were minors when they immigrated, those who were age eighteen to twenty-four, and those who were twenty-five or older. The fractions lost to follow-up were 19 percent of those who immigrated as minors, 25 percent of those who immigrated when they were eighteen to twenty-four, and 28 percent of those who immigrated after they were twenty-five. These fractions represent upper bounds on three-year emigration rates. For the same sample period, 16 percent of the U.S.-born were lost to follow-up, suggesting that many of the immigrants lost to follow-up may not have emigrated. Indeed, the difference-in-difference estimate suggests that very few of those who arrived as minors subsequently emigrated, but that roughly 10 percent of those who immigrated as adults did. The implied stay rate is substantially higher than the 49 percent two-year stay rate that Finn (2012) calculated for the 1989 PhD cohort.

In another study, Lowell (2010) used administrative data to calculate emigration among those who initially obtained an H-1B visa between 1992 and 1996. Aggregating across these five years, he estimates that just over 50 percent of these individuals ultimately emigrated.

SOCIODEMOGRAPHIC OUTCOMES

Possibly related to retention is immigrant assimilation: the extent to which these foreign-born individuals make similar location choices and have similar family outcomes as natives.

Geography

In the United States, some states (largely those in the Northeast) have relatively high concentrations of college-educated workers, which can be attributed to the structure of local industry as well as relatively widespread availability of college and university opportunities. Indeed, we expect the location choices of the native-born to adjust relatively rapidly to changes in product demand. To the extent that high-skill immigration responds to demand shocks in the labor market, we would expect the distribution of immigrants to approach the distribution of those born in the United States. Alternatively, if immigrant networks are an important draw, we might expect to see a very different concentration of natives and foreign-born by state for different levels of education.

Table 10.8 shows the concentration ratio (CR5, or percentage who live in the most common five states) and the index of dissimilarity to describe the distribution of natives and immigrants by state for different levels of S&E education and for RNs and MDs. As the table indicates, less well-educated immigrants and immigrant RNs are much more highly concentrated in a small set of states (notably California) than are their native-born counterparts. While better-educated immigrants are also more concentrated than their native-born counterparts, the differences are much less dramatic for these groups, while indices of dissimilarity fall by roughly 50%.

Marriage and Family Formation

Immigrants are much more likely to be married than non-immigrants at low levels of educational attainment, but not at high levels (see appendix table 10A.2). Most married immigrants select spouses from their country of birth. This pattern is somewhat more dramatic for the least well educated (roughly three-quarters marry someone from their country of birth) but is true across all education groups.

TABLE 10.8 *Measures of Distribution Across States of U.S.-Born and Foreign-Born Twenty-Five-to Fifty-Four-Year-Olds, 2009–2011*

	Concentration Index (CR5)	Index of Dissimilarity
Less than high school		
U.S.-born	0.32	0.39
Foreign-born	0.64	—
High school and some college		0.35
U.S.-born	0.32	0.35
Foreign-born	0.61	—
BA degree		
U.S.-born	0.33	0.29
Foreign-born	0.60	—
MA degree		
U.S.-born	0.34	0.23
Foreign-born	0.53	—
PhD degree		
U.S.-born	0.34	0.17
Foreign-born	0.46	—
BA degree—science and engineering		
U.S.-born	0.30	0.31
Foreign-born	0.57	—
MA degree—science and engineering		
U.S.-born	0.32	0.21
Foreign-born	0.50	—
PhD degree—science and engineering		
U.S.-born	0.33	0.16
Foreign-born	0.45	—
Registered nurses		
U.S.-born	0.29	0.41
Foreign-born	0.63	—
Physicians		
U.S.-born	0.33	0.19
Foreign-born	0.46	—

Source: ACS, 2009–2011 (combined).

Note: "Foreign-born" is defined as a naturalized citizen or a noncitizen. The concentration index (CR5) is the total employment share of the five states with the highest employment. The index of dissimilarity is defined as $1/2 \sum_{i=1}^{50} |f_i - a_i|$ where i is a state index, f_i is the share of foreigners, and a_i is the share of Americans in state i .

Among high-skill workers, foreign-born men are only slightly more likely than native-born men to be married, while foreign-born women are seven to nine percentage points more likely to be married than native-born women. High-skill men are more likely than high-skill women to have the same country of origin as their spouse.

There is a high degree of intergenerational transmission of educational attainment. There is substantial evidence that the children of college-educated parents are much more likely to be college-educated than are children of those without a college education. The same is true of the children of those with advanced degrees. Thus, it seems likely that if we were able to identify not

only first- but second-generation immigrants using census data, we would find an even greater overrepresentation of immigrants among the highly skilled.

CONCLUSION AND THOUGHTS ON THE FUTURE

The evidence presented in this chapter highlights the importance of the growing high-skill immigrant population in the United States. Both visa policies and labor market incentives have shaped the pattern of immigration. Without question, gains in educational attainment abroad at both the secondary and postsecondary levels have dramatically increased the potential supply of high-skill immigrants coming to the United States. Furthermore, the concentration of foreign students in science and engineering alters relative supplies even more. In turn, increased demand for science and engineering skills in the U.S. economy in recent decades appears to have been accommodated in part by expansion in labor supplies through the entry of foreign-born high-skill workers (Bound, Braga, Golden, and Turner 2013).

The substantial representation of foreign-born workers in the U.S. science and engineering workforce and the growth in the global pool of workers with science and engineering training underscores the need to move away from “closed economy” models of high-skill labor markets in the United States. Yet the adjustment to any change in technology or policy affecting the demand and supply for high-skill workers from abroad is likely to be complex, with effects extending far beyond the metrics of U.S. wages and employment. For example:

- Education and career decisions of U.S. natives are likely to be highly intertwined with patterns of high-skill immigration.
- Incentives for the foreign-born to study in the United States are closely coupled with potential labor force participation in the United States. Universities may actively recruit foreign students to fill doctorate programs and to provide additional tuition revenue at the undergraduate level, while preference for H-1B visas and opportunities for optional practical training via the F visa may increase foreign student demand for U.S. programs.
- High-skill workers from abroad may have an impact on innovation and science in the U.S. economy; as such, the full welfare implications of immigration are not captured in analyses of employment and earnings.
- The flow of high-skill foreign-born workers to the United States also has substantial effects on source countries, raising questions about the level of wages and employment abroad in the absence of flows to the United States.²⁷

The long wait times for green cards and the quick exhaustion of caps for H-1B and other temporary visa types imply that policy has generated disequilibrium conditions in the flow of high-skill workers to the U.S. labor market. Available evidence suggests that skilled workers from low-income countries gain substantially from migration to the United States (Clemens 2013), resulting in excess demand for employment visas, both permanent and temporary. In addition, the counterfactual to reductions in the flow of high-skill foreign-born workers to the U.S. economy need not be greater employment of natives: firms may respond to limitations in the supply of high-skill workers by “offshoring.”²⁸ Changes in U.S. policy with respect to the availability and cost of visas for education and employment could greatly affect high-skill immigration and retention.

Although employment-based immigration and temporary work opportunities for high-skill workers are widely discussed topics, the limited nature of relevant data remains a huge con-

straint on the research that could inform public policy. Neither survey data nor administrative data currently accessible to researchers provide the information needed to measure employment and earnings by visa status, analyze transitions among different visa classifications, or examine the timing and location of postsecondary investments in U.S. universities among the foreign-born. Available longitudinal surveys with information on immigrants (including the New Immigrant Survey [NIS]) are often limited to immigrants with permanent visas or those who have shown high rates of persistence in the United States. Because of the retrospective frame of these surveys and the selection built into them, researchers are unable to make substantial progress in understanding the determinants of retention in the United States (as well as return migration) or the wage and employment changes that come with the transition to permanent residency.

Measures of persistence in the U.S. labor market, along with educational investments and the associated transitions from temporary visa classifications to permanent residency, are critical indicators of the welfare benefits and costs of high-skill immigration. However, without better indicators of outcomes for temporary visa recipients—including those with short employment spells—and of transition from student visas to work and other visas, it is difficult to measure the overall welfare benefits and costs of high-skill immigration. To a large degree, constraints in access to the administrative data that would inform these questions are organizational and bureaucratic, not technical. In effect, the government collects the relevant data, but has no mechanism that would provide researchers with access to that data.

APPENDIX**TABLE 10A.1 *Descriptions of Temporary Visas***

Visa Type	Description	Countries of Eligibility	Duration of Visa
H-1B: Temporary workers in specialty occupations	Requires the theoretical and practical application of a body of highly specialized knowledge requiring completion of a specific course of higher education. Capped at 65,000. This category also includes fashion models and government-to-government research and development or coproduction projects administered by the Department of Defense.	All countries	Three years, with three-year possible extension
O-1: Workers with extraordinary ability or achievement	To qualify for an O-1 visa, the beneficiary must demonstrate extraordinary ability by sustained national or international acclaim and must be coming temporarily to the United States to continue work in the area of extraordinary ability. Extraordinary ability in the fields of science, education, business, or athletics means a level of expertise indicating that the person is one of the small percentage who have risen to the very top of the field of endeavor. Extraordinary ability in the field of the arts means distinction.	All countries	Up to three years, with one-year incremental extensions approved by U.S. Citizenship and Immigration Services (USCIS)
TN: North American Free Trade Agreement (NAFTA) professional workers	NAFTA created special economic and trade relationships for the United States, Canada, and Mexico. The TN non-immigrant classification Permanentts qualified Canadian and Mexican citizens to seek temporary entry into the United States to engage in business activities at a professional level. Among the types of professionals who are eligible to seek admission as TN non-immigrants are accountants, engineers, lawyers, pharmacists, scientists, and teachers.	Citizens of Canada and Mexico	Up to three years

TABLE 10A.1 *Continued*

Visa Type	Description	Countries of Eligibility	Duration of Visa
L-1: Intracompany transferees	<p>L-1A: Enables a U.S. employer to transfer an executive or manager from one of its affiliated foreign offices to one of its offices in the United States. This classification also enables a foreign company that does not yet have an affiliated U.S. office to send an executive or manager to the United States with the purpose of establishing one.</p> <p>L-1B: Enables a U.S. employer to transfer a professional employee with specialized knowledge relating to the organization's interests from one of its affiliated foreign offices to one of its offices in the United States. This classification also enables a foreign company that does not yet have an affiliated U.S. office to send an employee with specialized knowledge to the United States to help establish one.</p>	All Countries	Those entering the United States to establish a new office are allowed to stay one year. All others are given a maximum stay of three years. Can request two-year increments. Maximum of seven years total.
E-1: Treaty traders and their spouses and children	Allows a national of a treaty country (a country with which the United States maintains a treaty of commerce and navigation) to be admitted to the United States solely to engage in international trade on his or her own behalf. Certain employees of such a person or of a qualifying organization may also be eligible for this classification.	U.S. treaty countries	Two-year maximum initial stay plus two-year approved increments. No limit on total stay.
J-1: Exchange visitors	Authorized for those who intend to participate in an approved program for the purpose of teaching, instructing, or lecturing, studying, observing, conducting research, consulting, demonstrating special skills, receiving training, or to receive graduate medical education or training. J-1 non-immigrants are therefore sponsored by an exchange program that is designated as such by the U.S. Department of State.	All countries	Duration of the exchange program plus thirty-day grace period

Source: Description for H-1B, O-1, TN, L-1, and E-1 are from the visa-specific pages on the USCIS website: <http://www.uscis.gov/portal/site/uscis>. Description for J-1 is from the U.S. Department of State J-1 Visa Exchange Visitor Program website: <http://j1visa.state.gov/>. Both sites accessed September 19, 2014.

TABLE 10A.2 *Marital Status of Twenty-Five- to Fifty-Four-Year-Olds, by Citizenship, 2008–2010*

	U.S.-Born Men	Foreign-Born Men	U.S.-Born Women	Foreign- Born Women
Less than high school (percentage)				
Not married	0.65	0.42	0.65	0.39
Married to native	0.31	0.07	0.30	0.07
Married to immigrant, same country	0.00	0.44	0.00	0.47
Married to immigrant, different country	0.04	0.07	0.06	0.07
Total (N)	4,392,020	2,893,602	3,196,957	2,466,476
High school and some college (percentage)				
Not married	0.50	0.41	0.48	0.38
Married to native	0.44	0.13	0.45	0.16
Married to immigrant, same country	0.00	0.38	0.00	0.37
Married to immigrant, different country	0.06	0.08	0.06	0.08
Total (N)	27,451,324	3,315,555	27,045,605	3,423,455
BA degree (percentage)				
Not married	0.40	0.35	0.40	0.32
Married to native	0.52	0.13	0.52	0.19
Married to immigrant, same country	0.00	0.43	0.00	0.40
Married to immigrant, different country	0.08	0.09	0.08	0.09
Total (N)	8,639,378	1,258,949	9,698,148	1,512,199
MA degree (percentage)				
Not married	0.30	0.27	0.38	0.28
Married to native	0.59	0.12	0.54	0.17
Married to immigrant, same country	0.00	0.52	0.00	0.45
Married to immigrant, different country	0.11	0.09	0.09	0.09
Total (N)	2,611,738	676,101	3,682,657	630,194
Professional or PhD degree (percentage)				
Not married	0.28	0.24	0.38	0.31
Married to native	0.61	0.13	0.52	0.18
Married to immigrant, same country	0.00	0.53	0.00	0.40
Married to immigrant, different country	0.12	0.10	0.10	0.10
Total (N)	1,290,322	373,170	1,062,521	278,866

Source: ACS, 2008–2010 (average values).

Note: All imputed values are dropped (own and spouse's).

TABLE 10A.3 *Entry Visa Status and Current Visa Status of All Foreign-Born Workers in the United States, 2003*

Entry Visa	Percentage Distribution	Current Visa Status				
		Naturalized	Permanent Resident	Temporary: Work	Temporary: Student	Temporary: Other
BA and MA, no PhD						
Permanent U.S. resident	44.4%	0.789	0.208	0.000	0.000	0.002
Temporary resident: work	13.1	0.262	0.490	0.225	0.002	0.021
Temporary resident: student	20.2	0.514	0.330	0.118	0.013	0.025
Temporary resident: other	22.2	0.605	0.298	0.047	0.002	0.048
BA and MA, no PhD—engineers						
Permanent U.S. resident	39.7	0.880	0.120	0.000	0.000	0.000
Temporary resident: work	17.3	0.151	0.415	0.397	0.000	0.037
Temporary resident: student	30.3	0.548	0.284	0.143	0.013	0.013
Temporary resident: other	12.6	0.690	0.205	0.093	0.000	0.012
BA and MA, no PhD—computer science and math scientists						
Permanent U.S. resident	29.1	0.811	0.185	0.001	0.002	0.000
Temporary resident: work	25.6	0.107	0.539	0.328	0.000	0.025
Temporary resident: student	29.5	0.404	0.370	0.213	0.003	0.009
Temporary resident: other	15.9	0.585	0.342	0.061	0.000	0.011
PhD						
Permanent U.S. resident	12.1	0.758	0.233	0.009	0.000	0.000
Temporary resident: work	9.3	0.245	0.553	0.189	0.000	0.014
Temporary resident: student	67.3	0.423	0.342	0.180	0.035	0.021
Temporary resident: other	11.3	0.585	0.313	0.061	0.013	0.027
PhD—engineers and scientists						
Permanent U.S. resident	10.3	0.787	0.199	0.014	0.000	0.000
Temporary resident: work	8.8	0.225	0.589	0.166	0.000	0.020
Temporary resident: student	71.1	0.377	0.360	0.212	0.035	0.016
Temporary resident: other	9.8	0.588	0.294	0.098	0.011	0.010
RN—pharmacists, dietitians						
Permanent U.S. resident	46.3	0.848	0.152	0.000	0.000	0.000
Temporary resident: work	27.3	0.566	0.324	0.111	0.000	0.000
Temporary resident: student	12.6	0.818	0.167	0.015	0.000	0.000
Temporary resident: other	13.8	0.721	0.279	0.000	0.000	0.000
Diagnosing and treating health						
Permanent U.S. resident	43.5	0.883	0.117	0.000	0.000	0.000
Temporary resident: work	7.4	0.325	0.511	0.156	0.000	0.008
Temporary resident: student	28.6	0.591	0.209	0.169	0.020	0.010
Temporary resident: other	20.5	0.792	0.109	0.064	0.018	0.016

Source: Author's tabulations from NSCG, 2003.

TABLE 10A.4 *Entry Visa Status and Current Visa Status of Foreign-Born Workers, Ages Twenty-Five to Fifty-Four, Who Did Not Attend High School in the United States, 2003*

Entry Visa	Percentage Distribution	Current Visa Status				
		Naturalized	Permanent Resident	Temporary Work	Temporary: Student	Temporary: Other
BA and MA, no PhD						
Permanent U.S. resident	35.3%	0.679	0.315	0.001	0.000	0.004
Temporary resident: work	17.5	0.235	0.506	0.235	0.002	0.022
Temporary resident: student	25.7	0.493	0.338	0.127	0.015	0.027
Temporary resident: other	21.4	0.485	0.377	0.065	0.004	0.070
BA and MA, no PhD—engineers						
Permanent U.S. resident	28.6	0.809	0.191	0.000	0.000	0.000
Temporary resident: work	22.3	0.103	0.436	0.422	0.000	0.039
Temporary resident: student	37.8	0.532	0.299	0.140	0.014	0.014
Temporary resident: other	11.3	0.587	0.256	0.138	0.000	0.018
BA and MA, no PhD—computer science and math scientists						
Permanent U.S. resident	17.9	0.658	0.335	0.003	0.005	0.000
Temporary resident: work	32.3	0.097	0.546	0.332	0.000	0.026
Temporary resident: student	36.1	0.389	0.377	0.221	0.003	0.009
Temporary resident: other	13.6	0.442	0.457	0.083	0.000	0.017
PhD						
Permanent U.S. resident	8.6	0.651	0.335	0.014	0.000	0.000
Temporary resident: work	10.2	0.232	0.562	0.192	0.000	0.014
Temporary resident: student	72.7	0.418	0.347	0.181	0.035	0.019
Temporary resident: other	8.5	0.420	0.430	0.090	0.019	0.040
PhD—engineers and scientists						
Permanent U.S. resident	6.3	0.647	0.328	0.026	0.000	0.000
Temporary resident: work	9.5	0.211	0.599	0.169	0.000	0.021
Temporary resident: student	76.5	0.374	0.364	0.212	0.035	0.014
Temporary resident: other	7.7	0.461	0.373	0.138	0.015	0.014
RN—pharmacists, dietitians						
Permanent U.S. resident	34.4	0.772	0.228	0.000	0.000	0.000
Temporary resident: work	38.7	0.559	0.328	0.112	0.000	0.000
Temporary resident: student	14.4	0.838	0.143	0.019	0.000	0.000
Temporary resident: other	12.4	0.742	0.258	0.000	0.000	0.000
Diagnosing and treating health						
Permanent U.S. resident	34.5	0.812	0.188	0.000	0.000	0.000
Temporary resident: work	10.7	0.292	0.536	0.163	0.000	0.009
Temporary resident: student	38.7	0.547	0.230	0.189	0.023	0.012
Temporary resident: other	16.1	0.644	0.165	0.124	0.035	0.032

Source: Author's tabulations from NSCG, 2003.

Note: "Foreign-born" is defined as a naturalized citizen or noncitizen.

NOTES

1. That is not to say the topic has been completely unaddressed. Recent work by William Kerr and William Lincoln (2010), Pia Orrenius and Madeline Zavodny (2010), and others has expanded research in this area.
2. In this chapter, we use the terms “immigrant” and “immigration” to refer to anyone designated as foreign-born in counts such as the census. We are unable to distinguish between immigrants who intend to stay in the United States and those in the United States on a temporary basis. In government statistics that distinguish the foreign-born by type of visa, those with temporary visas are described as “nonresidents” rather than as immigrants.
3. Beyond the standard publicly available microdata, we access a range of supplementary sources to complete the portrait of high-skill workers in the science and engineering fields. Data from the Survey of Earned Doctorates (SED), which is essentially a census of recipients of doctorates from U.S. universities maintained by the National Science Foundation (NSF), provide indicators of doctorate production by university, field of study, age, and country of citizenship over the last nearly four decades. The SED provides an explicit picture of the total PhD output of U.S. universities, as well as the transition to initial employment.
4. Science fields include mathematics and computer science, natural and life sciences, social science, and postsecondary teaching.
5. We are reluctant to overinterpret the data for those in the twenty-five- to thirty-four-year-old age range because degree receipt, particularly among the native-born, is likely to persist well into the thirties.
6. Jeffrey Passel and D’Vera Cohn (2011) estimate that there were more than 11 million unauthorized immigrants in the United States in 2010, up from 8.4 million in 2000 and down slightly from the peak of 12 million in 2007.
7. National quotas on immigration were first imposed in 1921. Under the Immigration Restriction Act of 1921, quotas were set proportional to the number of individuals living in the United States as of 1990. The intent of this law was to restrict immigration flows from eastern and southern Europe. Earlier, during the latter part of the nineteenth century, Congress had enacted laws (such as the Page Act of 1875 and the Chinese Exclusion Act of 1882) that put restrictions on the immigration of Asians to the United States.
8. Additional channels of immigration include the humanitarian/refugee provision (about 168,000) and diversity visas (about 50,000). The Diversity Immigrant Visa Program provides up to 55,000 diversity visas annually, drawn from random selection among all entries, to persons who meet eligibility requirements from countries with low rates of immigration to the United States; see U.S. Department of State, Bureau of Consular Affairs, “The Diversity Visa Process,” available at: http://travel.state.gov/visa/immigrants/types/types_1322.html (accessed September 19, 2014).
9. Less than half of the employment-based visas have gone to workers themselves, as this total includes dependents of these immigrants in the employment-based visa cap (Orrenius and Zavodny 2010).
10. For details, see U.S. Department of State, Bureau of Consular Affairs, “Employment-Based Immigrant Visa,” available at: http://travel.state.gov/visa/immigrants/types/types_1323.html (accessed September 19, 2014).
11. U.S. Department of State, “The Operation of the Immigrant Numerical Control System,” available at: http://www.travel.state.gov/pdf/Immigrant%20Visa%20Control%20System_operation%20of.pdf (accessed September 19, 2014).
12. U.S. Department of State, Bureau of Consular Affairs, “Visa Bulletin for June 2013,” vol. 9, no. 57, available at: <http://travel.state.gov/content/visas/english/law-and-policy/bulletin/2013/visa-bulletin-for-june-2013.html> (accessed September 19, 2014).
13. Slightly earlier, in April 1990, an executive order deferred deportations and granted employment authorization to Chinese nationals who were in the United States at the time of the Tiananmen Square events (Orrenius, Zavodny, and Kerr 2012).
14. Permanent residents may also become naturalized citizens; typically, permanent residents may apply for citizenship five years after attaining permanent residency.
15. The H-1A visa category was created exclusively for the temporary employment of foreign-born nurses under the 1989 Immigration Nursing Relief Act, which expired in 1995. In 1995, 7,261 nurses were admitted under this program. A second program, the H-1C visa program, was established through the Nursing Relief for Disadvantaged Areas Act of 1999 and opened visa opportunities for those employed in designated “health professional shortage areas” that served a minimum share of Medicaid and Medicare patients. This program was discontinued in 2009. Nursing professionals continue to receive priority in green card applications as a field of national interest.

16. The minimum application fees totaled \$3,575 in the most recent year. These fees are somewhat higher for firms with more than twenty-five employees (an additional \$750 per employee) and in cases requesting expedited processing (\$1,225 per employee).
17. An H-1B visa holder who has applied for a green card or permanent resident status may receive a three-year H-1B extension, following from the American Competitiveness in the Twenty-First Century Act of 2000, if he/she is awaiting green card consideration based on date of application and preference category.
18. U.S. Citizenship and Immigration Services (USCIS), “Exchange Visitors,” available at: <http://www.uscis.gov/working-united-states/students-and-exchange-visitors/exchange-visitors> (accessed September 19, 2014).
19. U.S. Department of State, J-1 Visa Exchange Visitor Program, “Facts and Figures,” available at: <http://j1visa.state.gov/basics/facts-and-figures/> (accessed September 19, 2014).
20. Foreign students who wish to study in the United States must first apply to and be accepted by a Student and Exchange Visitors Program (SEVP)-certified school. The school then provides “Form I-20A-B, Certificate of Eligibility for Nonimmigrant (F-1) Student Status—For Academic and Language Students.” The student’s information given on this form is recorded in the Student and Exchange Visitor Information System (SEVIS) database. After submitting the I-20 form, students are required to submit the SEVIS I-901 fee, which currently, for F-1 visas, is \$200; see U.S. Immigration and Customs Enforcement (ICE), “I-901 Student and Exchange Visitor Information System (SEVIS) Fee,” available at: <http://www.ice.dhs.gov/sevis/i901/> (accessed September 19, 2014). After receiving the SEVIS I-901 receipt, the student can apply for a visa at any U.S. embassy. To maintain the F visa, an individual must refrain from unauthorized employment and maintain a full course load.
21. A further administrative change extended the number of designated STEM programs from about 90 to nearly 400 in June 2012.
22. Measured at the peaks in each technology boom, the ratio of median earnings of computer science graduates to all BA recipients was 1.78 in 1979 and 1.54 in 2001.
23. See Bound, Braga, Golden, and Khanna (2013) for data from the U.S. Government Accountability Office (GAO) for 1992 and from the Immigration and Naturalization Service (INS) for 2000. Also note that India is the country that shows the largest growth in H visas issued in the 1990s, rising from 2,250 in 1990 to 16,485 in 1995 to 61,530 in 2000; see U.S. Department of State’s *Annual Reports of the Visa Office* and *Yearbook of Immigration Statistics*.
24. We omit younger persons from table 10.5 because a large share of them are still students.
25. Very recent evidence suggests an increase in the number of foreign students pursuing U.S. undergraduate degrees, though it is too early to predict whether these students will stay in the United States (Bird and Turner 2012).
26. Richard Freeman (2010) estimates that among foreign-born recipients of BA degrees from U.S. universities, stay rates are exceedingly high. He estimates that about 550,000 noncitizens and nonpermanent residents obtained science and engineering degrees in the United States between 1960 and 2003, while the stock of U.S.-educated science and engineering BA recipients in 2003 was about 723,000.
27. For example, the evaporation of the demand for nursing in the United States during the Great Recession created a “glut” of trained nurses in the Philippines, with attendant effects on the Filipino economy.
28. For a discussion of offshoring in the presence of a highly elastic demand schedule for native workers, see Feenstra (2009).

REFERENCES

- Acemoglu, David, and David Autor. 2011. “Skills, Tasks, and Technologies: Implications for Employment and Earnings.” In *Handbook of Labor Economics*, ed. Orley Ashenfelter and David Card. New York: Elsevier.
- Autor, David, Lawrence Katz, and Alan Krueger. 1998. “Computing Inequality: Have Computers Changed the Labor Market?” *Quarterly Journal of Economics* 113(4): 1169–1214.
- Bird, Kelli, and Sarah Turner. 2012. “College in the States: Foreign Student Demand and Higher Education Supply in the U.S.” Working Paper. Charlottesville: University of Virginia.
- Blanchard, Emily, John Bound, and Sarah Turner. 2009. “Opening (and Closing) Doors: Country-Specific Shocks in U.S. Doctorate Education.” In *Doctoral Education and the Faculty of the Future*, ed. Ron Ehrenberg. Ithaca, N.Y.: Cornell University Press.
- Borjas, George. 1987. “Immigrants, Minorities, and Labor Market Competition.” *Industrial and Labor Relations Review* 40(3): 382–92.

- . 1999. "The Economic Analysis of Immigration." In *Handbook of Labor Economics*, vol. 3A, ed. Orley Ashenfelter and David Card. San Diego, Calif.: North-Holland.
- . 2003. "The Labor Demand Curve Is Downward Sloping: Reexamining the Impacts of Immigration on the Labor Market." *Quarterly Journal of Economics* 118(November): 1335–74.
- Bound, John, Breno Braga, Joseph M. Golden, and Gaurav Khanna. 2013. "Recruitment of Foreigners in the Market for Computer Scientists in the U.S." Working Paper. Ann Arbor: University of Michigan (November).
- Bound, John, Breno Braga, Joseph M. Golden, and Sarah Turner. 2013. "Pathways to Adjustment: The Case of Information Technology Workers." *American Economic Review: Papers and Proceedings* 103(3): 203–7.
- Bound, John, Sarah Turner, and Patrick Walsh. 2009. "Internationalization of U.S. Doctorate Education." In *Science and Engineering Careers in the United States*, ed. Richard Freeman and Daniel Goroff. Chicago: University of Chicago Press.
- Camarota, Steven A. 2004. "The High Cost of Cheap Labor: Illegal Immigration and the Federal Budget." Washington, D.C.: Center for Immigration Studies (August). Available at: <http://www.cis.org/High-Cost-of-Cheap-Labor> (accessed September 19, 2014).
- Card, David. 2005. "Is the New Immigration Really So Bad?" *Economic Journal* 115(506): F300–323.
- . 2009. "Immigration and Inequality." *American Economic Review* 99(2): 1–21.
- Card, David, and John E. DiNardo. 2002. "Skill-Biased Technological Change and Rising Wage Inequality: Some Problems and Puzzles." *Journal of Labor Economics* 20(4): 733–83.
- Clemens, Michael A. 2013. "Why Do Programmers Earn More in Houston Than Hyderabad? Evidence from Randomized Processing of U.S. Visas." *American Economic Review* 103(3): 198–202.
- Feenstra, Robert. 2009. *Offshoring in the Global Economy: Theory and Evidence: Microeconomic Structure and Macroeconomic Implications*. Cambridge, Mass.: MIT Press.
- Finn, Michael G. 2012. "Stay Rates of Foreign Doctorate Recipients from U.S. Universities, 2009." Oak Ridge Institute for Science and Education (January). Available at: <http://orise.orau.gov/files/sep/stay-rates-foreign-doctorate-recipients-2009.pdf> (accessed September 19, 2014).
- Freeman, Richard. 2010. "What Does Global Expansion of Higher Education Mean for the United States?" In *American Universities in a Global Market*, ed. Charles T. Clotfelter. Cambridge, Mass., and Chicago: National Bureau of Economic Research and University of Chicago Press.
- Goldin, Claudia Dale, and Lawrence F. Katz. 2008. *The Race Between Education and Technology*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- Grogger, Jeff, and Gordon Hanson. 2013. "Attracting Talent: Location Choices of Foreign-Born PhDs in the U.S." Working Paper 18780. Cambridge, Mass.: National Bureau of Economic Research.
- Johnson, George, and Matthew Slaughter. 2001. "The Effects of Growing International Trade on the U.S. Labor Market." In *The Roaring Nineties*, ed. Robert Solow and Alan B. Krueger. New York: Russell Sage Foundation.
- Katz, Lawrence F., and David H. Autor. 1999. "Changes in the Wage Structure and Earnings Inequality." In *Handbook of Labor Economics*, ed. Orley Ashenfelter and David Card. New York: Elsevier.
- Katz, Lawrence F., and Kevin M. Murphy. 1992. "Changes in Relative Wages: Supply and Demand Factors." *Quarterly Journal of Economics* 107(1): 35–78.
- Kerr, William, and William Lincoln. 2010. "The Supply Side of Innovation: H-1B Visas and U.S. Ethnic Invention." *Journal of Labor Economics* 28(3): 473–508.
- Lowell, B. Lindsay. 2000. "H-1B Temporary Workers: Estimating the Population." Working paper #12. San Diego: University of California San Diego. Available at: <http://ccis.ucsd.edu/wp-content/uploads/2012/08/wrk12.pdf> (accessed September 23, 2014).
- Lowell, Lindsay. 2010. "A Long View of America's Immigration Policy and the Supply of Foreign-Born STEM Workers in the United States." *American Behavioral Scientist* 53(7): 1029–44.
- Martin, Susan. 2012. "Labor Migration to the United States: Challenges and Opportunities." Paper presented to the 2012 Mortimer Caplin Conference on the World Economy, "High-Skilled Immigration: Politics, Economics and Law: Resources and Scholarship." Miller Center, Washington, D.C. (December 2).
- Orrenius, Pia, and Madeline Zavodny. 2010. *Beside the Golden Door*. Washington, D.C.: American Enterprise Institute.
- Orrenius, Pia, Madeline Zavodny, and Emily Kerr. 2012. "Chinese Immigrants in the U.S. Labor Market: Effects of Post-Tiananmen Immigration Policy." *International Migration Review* 46(2): 456–82.
- Passel, Jeffrey, and D'Vera Cohn. 2009. "A Portrait of Unauthorized Immigrants in the U.S." Washington, D.C.: Pew

- Hispanic Center (April). Available at: <http://pewhispanic.org/2009/04/14/a-portrait-of-unauthorized-immigrants-in-the-united-states/> (accessed September 19, 2014).
- _____. 2011. "Unauthorized Immigrant Population: National and State Trends, 2010." Washington, D.C.: Pew Hispanic Center (February 1). Available at: <http://www.pewhispanic.org/2011/02/01/unauthorized-immigrant-population-national-and-state-trends-2010/> (accessed September 19, 2014).
- Rosenzweig, Mark R., Douglas A. Irwin, and Jaffrey G. Williamson. 2006. "Global Wage Differences and International Student Flows." In *Brookings Trade Forum 2006*, 57–86. Washington, D.C.: Brookings Institution Press.
- Tichenor, Daniel. 2012. "High-Skilled Immigration Reform in Historical Context: New Opportunities and Enduring Constraints." Paper presented to the Mortimer Caplin Conference on the World Economy, "High-Skilled Immigration: Politics, Economics and Law: Resources and Scholarship." Miller Center, Washington, D.C. (December 2).
- U.S. Government Accountability Office (GAO). 2011. "H-1B Visa Program: Reforms Are Needed to Minimize the Risks and Costs of the Current Program." Washington: GAO (January). Available at: <http://www.gao.gov/assets/320/314501.pdf> (accessed September 19, 2014).

Chapter 11

Unauthorized Mexican Migration and the Socioeconomic Integration of Mexican Americans

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Jennifer Van Hook, and Mark A. Leach

Nearly fifty years ago, the United States adopted policies that allowed new kinds of immigrants to come to the country (Martin 2011; Reimers 2005).¹ Immigration soon began to increase steadily. Now, one in eight U.S. residents is foreign-born, up from one in twenty in 1970 (Gryn and Larsen 2010). These more recent immigrants also differ from earlier generations. Nine of every ten come from outside Europe, the reverse of immigration in the late nineteenth and early twentieth centuries (Grieco et al. 2012). They represent a variety of nationalities: more than twenty countries now contribute at least 1 percent to the total number of new legal permanent residents (Monger and Yankay 2012). Even so, Mexicans predominate heavily among both legal and, especially, unauthorized immigrant flows (Passel, Cohn, and Gonzalez-Barrera 2012). As a result, the United States has become more non-European and ethnoracially diverse (Lee and Bean 2010). With Mexican immigrant settlements spreading in the past twenty years from the Southwest to the rest of the country (Massey and Capoferro 2008), the country also has become more Mexican, both demographically (Massey and Pren 2012b) and culturally (Arellano 2012; Jiménez 2009).

This chapter seeks to assess the implications of Mexican migration for the integration of Mexican Americans. Such migration could be undesirable if it were harming native-born Americans or leading to the formation of a new ethnoracial underclass whose costs outweighed its economic contributions to the country.² But we know from labor market research that Mexican immigrants do not compete to any substantial degree with less-skilled natives.³ Moreover, even though little research has assessed the sociocultural consequences of this recent Mexican migration for the country (Kasinitz 2012), most studies suggest that these effects are actually often positive. For example, Jennifer Lee and Frank Bean (2010) recently observed that U.S. metropolitan areas with more Latino migrants and greater ethnoracial diversity show evidence of more ethnoracial boundary dissolution than other areas.

However, a key question remains: how well (or badly) are Mexican migrants—and especially their children and grandchildren—faring in the United States? The same labor market research that does *not* find adverse effects of Mexican migrants on the jobs or wages of natives *does* overwhelmingly reveal an impact within the population of immigrants, namely, that the newly arrived less-skilled Mexican immigrants depress the employment and wages of those Mexicans who arrived earlier. Moreover, federal and state legislation has undercut the rights and legal protections afforded to unauthorized Mexican workers and their families and sometimes curtailed those of legal permanent residents as well (Gentsch and Massey 2011; Kanstroom

2012; Massey and Pren 2012a). This shift accentuates migrants' social and economic marginality, which makes life precarious for them and their offspring (Bean et al. 2011; Massey and Gentsch 2014; Yoshikawa 2011). Both competition among migrants themselves and harsh treatment from the host society may handicap Mexican immigrant integration.

At the same time, the nation has gradually been employing ever more unauthorized Mexicans to fill less-skilled jobs (Bean, Brown, Bachmeier, Gubernskaya, and Smith 2012). Rising immigrant marginality, together with the growing U.S. reliance on less-skilled Mexican workers, risks the development of a new underclass, especially at a time when overall opportunities for socioeconomic mobility are stalling (Massey 2007). If upward mobility among the descendants of Mexican immigrants is to continue, it is imperative to understand why increasing numbers of unauthorized Mexican migrants have come to the country in the first place and how their migration status relates to the most crucial factor affecting mobility among Mexican Americans—namely, the educational attainment of the second and third generations.

Mexicans enter the United States in multiple ways. As the analyses here will show, the degree of success that they and their children attain depends on the nature and duration of their entry status. The most "regular" are legal migrants who have acquired legal permanent residency (LPR) status, even after arriving in some other capacity. Some of these migrants enter legally on temporary visas (tourists, students, and temporary agricultural workers) but may overstay them. The number of people from Mexico, as well as other countries, with such visas has risen sharply over the past half-century. Those who come via unauthorized land crossings at the southwestern border—often called "illegal," "undocumented," or "unauthorized" migrants (Bean and Lowell 2007)—have garnered the most media and scholarly attention (Chávez 2012; Dreby 2010; Massey, Durand, and Malone 2002). Land-border crossers, overstays, and temporary legal workers all suffer from marginal status. Almost all are unauthorized. Even though some enter legally, they may end up "unauthorized." We thus use the term "unauthorized" to refer to all of them. The socioeconomic positions and legal rights of these persons are much more limited and tenuous than those of LPRs and, especially, naturalized citizens (Gibney 2009; Kanstroom 2012; Massey and Pren 2012b).⁴

Although past research suggests that the education and earnings of unauthorized Mexican migrants do not measure up to those of legal migrants (Bean, Browning, and Frisbie 1984; Hall, Greenman, and Farkas 2010; Sorensen and Bean 1994), we know little about how much unauthorized status affects the success of their children and grandchildren, be it through deportations of family members, barriers to social benefits, discrimination, or poverty. Recent research suggests, however, that unauthorized parents pass along disadvantages to their offspring (Bean et al. 2011; Gonzales and Chávez 2012; Yoshikawa 2011; Yoshikawa and Kholoptseva 2013). The reason so many unauthorized Mexican parents are here is that the country's current immigration policies encourage a sizable less-skilled, marginal migrant workforce (Hanson 2010). The children of these immigrants experience handicaps not only because of their parents' marginal status but also because little is done to facilitate their integration.

Over the past few decades, the United States has experienced widening economic inequality, with the wealthiest tier of Americans reaping the largest gains from economic growth (Stiglitz 2012; Wilkinson and Pickett 2010). The bottom earnings tier increasingly consists of less-skilled Mexican migrants, many of whom compete with one another. Yet almost all of them are here because of the availability of work. We present evidence that the growth of marginal Mexican migration over the past forty years derives mostly from a decline in the number of less-skilled native-born persons available to do such work, not primarily from push factors in Mexico or from policy changes in the United States, although both of these play a role. We also estimate

how much unauthorized Mexican migration status affects educational attainment among the migrants' descendants. For policymakers and legislators, our results point to the need for changes in immigration and immigrant integration policies. If the country is to meet its workforce needs without exacerbating inequality and spurring the creation of an entrenched subclass, public policies need to do a better job of fostering both the legal entry of these less-skilled immigrants and the integration of their children.

We organize our examination into two main sections. First, we chart the trends in Mexican and non-Mexican migration since 1970, explaining how and why marginal migration has expanded so much. We focus both on the policies behind the migration and on the U.S. demographic and educational changes that have reduced the pool of less-skilled native workers, creating a void filled largely by marginal Mexican immigrants. Second, we compare the education and income of Mexican migrants who arrive under different migration statuses, documenting the gaps between unauthorized and legal migrants. Given these first-generation disadvantages, we also assess the implications of Mexican unauthorized (marginal) status for the educational integration of their children and grandchildren. Finally, we synthesize the findings and discuss their policy implications.

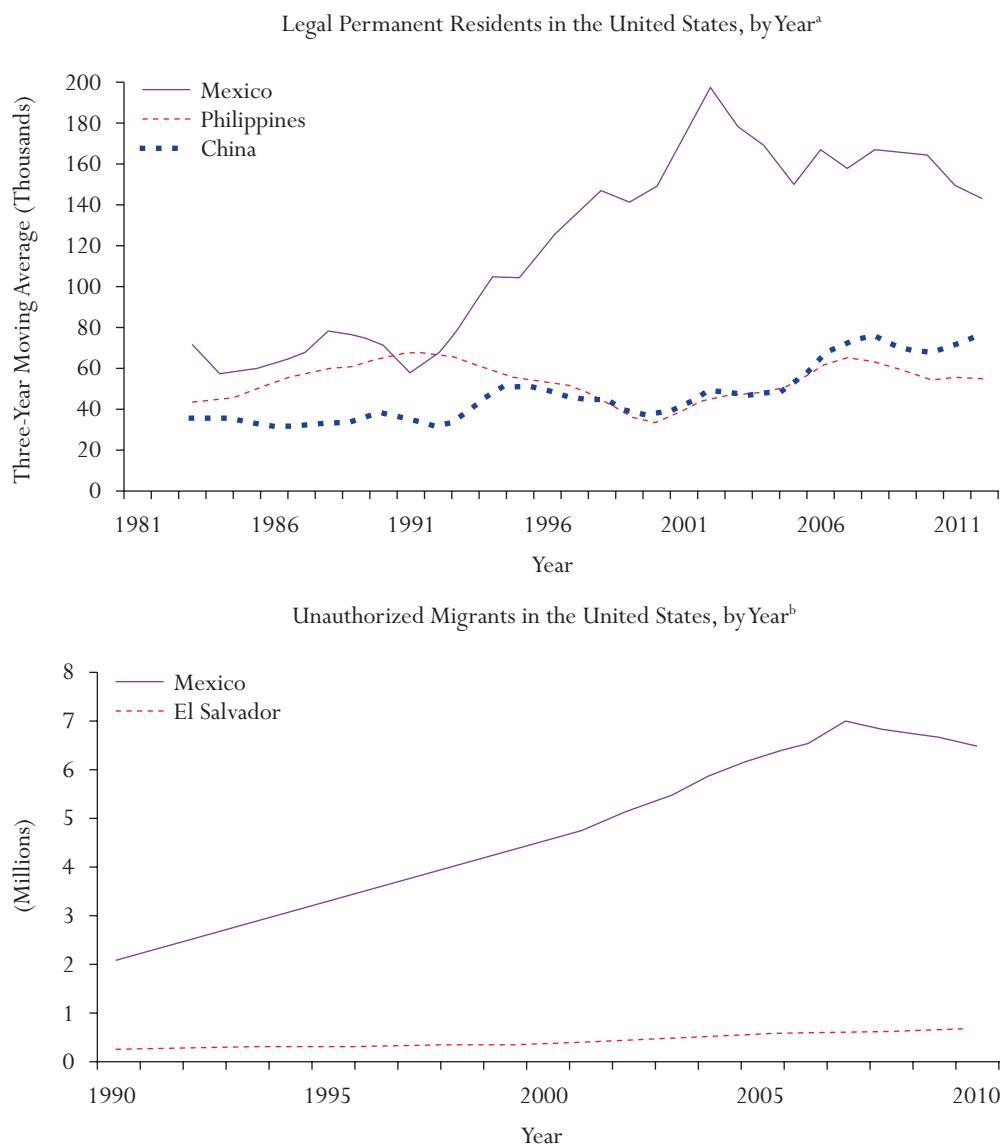
THE GROWTH OF MARGINAL MEXICAN MIGRATION AND ITS RELEVANCE FOR MEXICAN AMERICAN INTEGRATION

Trends in Marginal Mexican Migration

Over the past four decades, the total annual number of new entrants to the United States has risen ninefold. This increase encompasses non-immigrants of all types (students, tourists, businesspeople, exchange visitors, and temporary workers), legal immigrants (including refugees), and unauthorized immigrants from every corner of the world.⁵ To a considerable extent, this expansion reflects broader international trends involving flows of people and money as most national economies join the global marketplace. For example, since 1970 the share of the U.S. economy deriving from international trade has increased from 12 to 31 percent (U.S. Department of Commerce 2012). Greatly improved communication and transportation technologies throughout the globe have expanded the potential and actual supply of new migrants (Castles and Miller 2009; Hutton and Giddens 2000; Moretti 2012). Within this overarching trend, Mexicans have predominated, with disproportionate increases of both Mexican-born non-immigrants and unauthorized immigrants (land border crossers and visa overstayers).

The absolute number of legal immigrants who are Mexican, while not as dramatic, also remains high (see figure 11.1, top panel), even though the annual number of Mexican legal permanent residents has declined. In 2000 the number of Mexicans entering legally was about four times as great as the number from the second-largest sending country (the Philippines). In 2010 Mexican immigration decreased, but it was still about twice as high as that year's second-leading country (China). Today the number of Mexican LPRs continues to dominate the numbers from any other single national-origin country. Also, the size of the Mexican unauthorized immigrant net inflow to the United States dwarfs to an even greater degree the number coming from any other single source country, a pattern that has persisted for several decades (figure 11.1, bottom panel). In short, nearly three in every five unauthorized immigrants here today come from Mexico, a fraction about the same as in earlier decades (Passel, Cohn, and Gonzalez-Barrera 2012). Moreover, the increasing flow of Mexican non-immigrants during this period has

FIGURE 11.1 *Legal Permanent Resident (LPR) and Unauthorized Migration from Mexico and from Countries of Next-Largest Migration, 1981–2010*

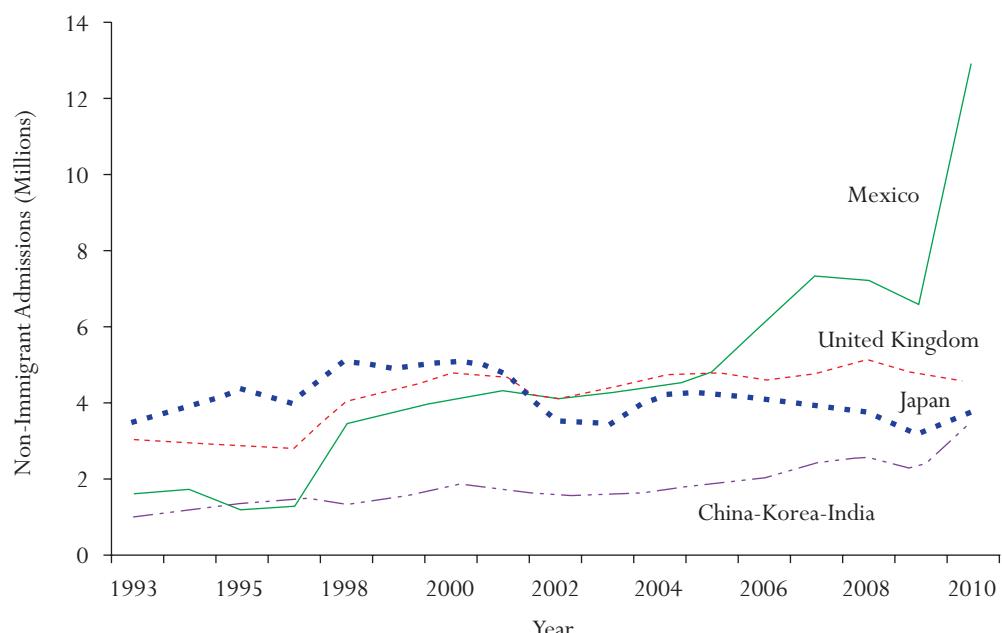


Source: Hoefer, Rytina, and Baker (2011); Passel and Cohn (2011); Passel, Van Hook, and Bean (2004); U.S. Department of Homeland Security (DHS), *Yearbook of Immigration Statistics: 2002, 2008, and 2011*; U.S. Immigration and Naturalization Service (INS), *Statistical Yearbook of the Immigration and Naturalization Service: 1986, 1993, and 1998*.

^aLPRs exclude persons legalized under the provisions of the 1986 Immigration Reform and Control Act (IRCA).

^bAnnual estimates are shown for Mexicans between 2000 and 2010.

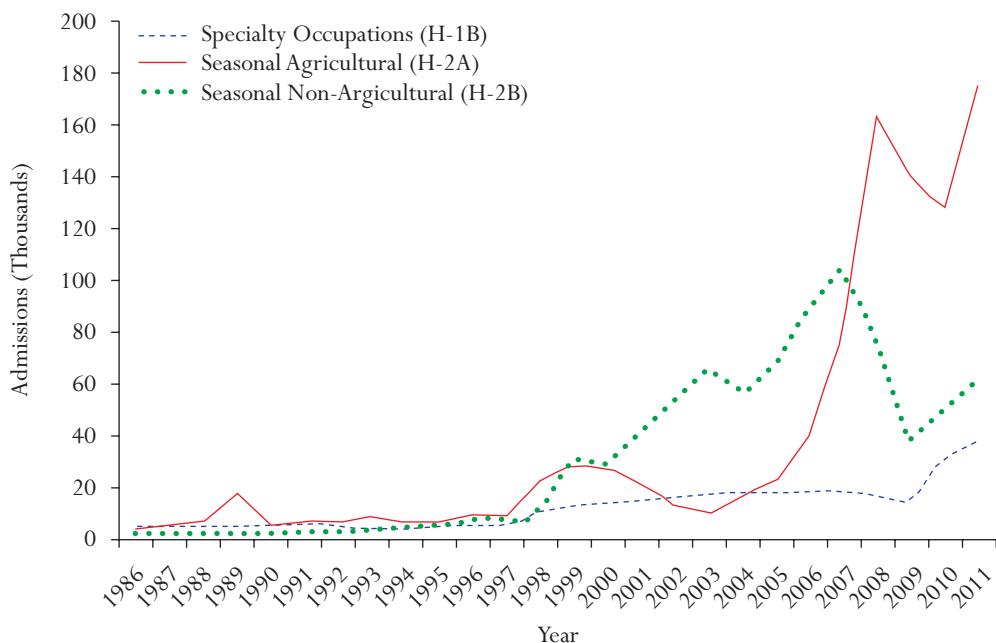
FIGURE 11.2 Non-Immigrant Admissions (I-94 Only) from Japan, Mexico, the United Kingdom, and China-Korea-India, 1993–2009



Source: DHS, *Yearbook of Immigration Statistics: 2004–2011*; INS, *Statistical Yearbook of the Immigration and Naturalization Service: 1994–2003*.

boosted this influx to levels higher than those from any other country (see figure 11.2), increasing the likelihood that the number of Mexican visa overstayers has risen both absolutely and relatively (Bachmeier et al. 2011). Altogether, of total foreign-born inflows over the past decade (LPRs, unauthorized entrants, and non-immigrants), the Mexican portion has risen from about 13 percent in 2000 to almost 28 percent in 2010.⁶

Over the past twenty years, the number of temporary legal Mexican workers has also climbed. These workers are not readily discernible in statistics on total legal non-immigrant admissions, which consist overwhelmingly of students and tourists. But when we break down the history of non-immigrant admissions by type (see figure 11.3), we note that they began to increase noticeably in the mid-1990s, coinciding with the high-tech economic boom. Tens of thousands of high-skilled temporary technology workers on H-1B visas began to arrive from India and China, as did larger numbers of less-skilled Mexican seasonal agricultural workers on H-2A visas and non-agricultural workers on H-2B visas. These latter categories of temporary Mexican immigrants reached levels in 2011 that were about ten times their 1970 levels. In sum, recent marginal migrant flows to the United States (those involving either unauthorized or temporary entrants and temporary workers) are sharply distinctive in two ways—in their consistent rise, and in their overwhelmingly Mexican character. No other country contributes so much to the presence of such migrants in the United States as does Mexico.

FIGURE 11.3 *Temporary Mexican Worker Admissions to the United States, by Type, 1986–2011*

Source: DHS, *Yearbook of Immigration Statistics: 2003–2010*; INS, *Statistical Yearbook of the Immigration and Naturalization Service: 1986–2002*.

Explaining the Onset and Growth of Marginal Mexican Migration

Although legal and unauthorized immigrants come from many countries, why have marginal Mexican flows predominated? What accounts for the persistent growth in their numbers, even in the face of strong hostility to unauthorized Mexicans from a vocal minority of natives? The answers help to pinpoint the reasons why the United States needs immigration policies that both ensure the size of its less-skilled workforce and foster the integration of the offspring of Mexican immigrants. If migrants have come only because of “push” factors in Mexico, the main immigration policy challenge for the United States would be reducing migration. If, on the other hand, the immigrants also come because of strong “pull” factors here, including a dearth of natives available to do low-skilled work, then migrants would be contributing substantially to the country’s workforce, and a compelling case exists for doing more to integrate them and their families into American society.

Even though labor market impact research shows that Mexican immigrants for the most part do not take the jobs of less-skilled natives or drive down native wages, a substantial segment of the public seems to think they do. Growth in marginal Mexican migration to the United States is often viewed in crisis terms—as the result of uncontrollable natural forces or disasters. The media describe a “floodtide,” “rising tide,” or “torrent” of migrants (Chávez 2001). The language

betrays a presumptive narrative that migration is driven by conditions in Mexico—for example, population pressure, low wages, and unemployment. In fact, the number of migrants has gradually risen along with gradual declines in the number of less-skilled natives. The imagery of a “flood” of migrants overlooks the fact that the United States is taking advantage of Mexican labor—just as it has long tended to do, ever since the expansion of railroads into the American Southwest during the 1880s (Cardoso 1980).

The steady rise in Mexican migration since the late 1970s can be traced in part to the 1965 U.S. immigration reforms that abolished national-origin quotas. This set the stage for unauthorized Mexican immigration, although the legislation did not aim to increase Mexican migration in any way (Bean and Stevens 2003; Martin 2011; Massey and Pren 2012a). Indeed, the opposite was true. To understand the unanticipated consequences of the 1965 reforms, it is instructive to recall the context of immigration in the decades prior to that. In 1924 the country passed quotas based on the size of immigrant-group populations within the country. (At that time, Germans were the largest immigrant group.) In the late 1940s and early 1950s, when policymakers sought to implement anti-Communist Cold War foreign policies involving countries favorable to the United States (such as establishing air force and naval bases, negotiating trade agreements, and admitting persons fleeing Communist countries), the 1924 quotas blocked citizens from those countries from entering the United States. Passage of the 1952 McCarran-Walter Act reaffirmed those quotas. Despite numerous attempts, Congress would not reform the immigration system until the presidency of Lyndon B. Johnson, starting in 1963.

With the power of the presidency enhanced in the aftermath of John Kennedy’s assassination, President Johnson, a master of the legislative process (Martin 2011; Reimers 1983; Tichenor 2002), broke the logjam. In his 1964 State of the Union Address, Johnson outlined proposals for pathbreaking civil rights legislation, noting, “We must also lift by legislation the bars of discrimination against those who seek entry into our country” (Tichenor 2002, 213). The following year, the Immigration Reform Act passed both houses of Congress with strong bipartisan support. The 1965 Hart-Celler Act abolished national-origin quotas and established a privileged policy of family reunification. As part of a compromise, the law retained many of the other restrictions from McCarran-Walter, as well as added new ones (Martin 2011). Essentially, the agreement broke a stalemate between conservatives and liberals within both parties: restrictionists acceded to front-door modifications (that is, changes in the criteria for legal immigration) in exchange for ostensibly tightened side-door migration (that is, a ceiling on Western Hemisphere entrants) (Zolberg 2006).⁷

The Hart-Celler Act, combined with the end of the long-standing bracero program—the 1942 contract labor agreement with Mexico that permitted tens of thousands of agricultural and other manual workers to enter the United States annually (Calavita 1992)—spurred unauthorized Mexican migration. Hart-Celler imposed annual caps on entrants, initially 170,000 for the Eastern Hemisphere and 120,000 for the Western Hemisphere, as well as a per-country limit of 20,000 visas for the Eastern Hemisphere. Although the Johnson administration did not support the Western Hemisphere cap, members of the House and Senate Judiciary Committees argued for it both on grounds of fairness (a cap only for one hemisphere seemed unfair) and out of fear of unregulated spillover from rapid nonwhite population growth in Latin America (Zolberg 2006).⁸ The legislation made few provisions for low-skilled labor, even though the United States had ended the bracero program in the previous year. For many Mexicans, especially circulatory labor-migrants, the most viable option after the bracero program ended in 1964 was to enter the country illegally, since they could no longer come as contract laborers. As a result, unauthorized migration grew substantially (Massey and Pren 2012b; Zolberg 2006).

The long-term effects of the Hart-Celler Act on legal Mexican migration began immediately. The law's family reunification procedures allowed for gradual growth in Latin American legal migration that was mostly Mexican (Keely 1971; Ueda 1998). Legal Mexican migrants had averaged only about 30,000 per year during the 1950s, but after 1965 legal permanent residents could more easily bring in immediate family members, which led to gradual increases in LPRs from Mexico, especially when employers used Hart-Celler provisions to sponsor workers previously covered as braceros. These "sponsored" workers were allowed to become LPRs and bring immediate family members. Unauthorized migration also increased because the new ceiling on legal visas was too low to accommodate all the Mexican entrants seeking to reunite with their families and for whom U.S. work was available. Moreover, the end of the bracero program had eliminated legal temporary entry for agricultural workers, although the demand for them, now growing because of the expansion of California irrigation and agriculture, was stronger than ever. Not surprisingly, during the 1970s the bulk of the unauthorized population, almost all Mexican, settled in California.

Economic and Demographic Factors Contributing to Growth in Unauthorized Migration

Although the 1965 reforms and the end of the bracero program created an impetus for Mexican migration, they do not fully explain why the number of unauthorized entrants steadily rose. Admittedly, the law allowed more immigration through its family reunification provisions (Martin 2011), and the growing social networks of migrants facilitated further migration, in the logic of "cumulative causation" (Massey 1999). But since less-skilled Mexican immigrants, for the most part, do not compete much with less-skilled natives, several American economic and demographic trends that have shrunk the native less-skilled population merit discussion. These trends have created a workforce void filled by Mexican migrants. Specifically: (1) U.S. economic growth has often disproportionately exceeded population growth, generating "excess" jobs; (2) gains in education have reduced the number of less-skilled natives; (3) fertility rates among the native-born have declined, also lowering the relative number of younger natives; and (4) Baby Boomers have been "aging out" of younger cohorts (such as twenty-five- to forty-four-year-olds). Over time, the result has been that fewer less-skilled, younger native workers have been available.⁹

Imbalances in Economic and Population Growth Even allowing for both unauthorized and legal immigration, annual U.S. population growth since 1980 has rarely edged past 1 percent. Since 2000, population growth has noticeably fallen below this level. Economic growth over the overall period, however, has been substantially higher. Until the recent recession, the annual percentage change in gross domestic product (GDP) has averaged more than 3 percent annually (U.S. Census Bureau 2010; U.S. Department of Commerce 2010). Even including periods of recession, each decade since 1970 has averaged job growth at or well above the levels needed to absorb population growth. For example, during the 1970s economic growth generated more than 1.9 million new jobs per year, or about 50 percent *more* than the number required to absorb both the Baby Boomers, then coming of age, and the new immigrants. During the 1980s job growth was almost as high, about 1.8 million new jobs per year, and during the 1990s it was considerably higher, averaging more than 2.1 million jobs per year (Bureau of Labor Statistics 2011). During the 2000s, until 2008, the economy would have needed to add 1.3 million new jobs each year to keep up with population expansion, a level more than half a million per year below actual job creation (Bureau of Labor Statistics 2012; Bean, Brown, Bachmeier, Gubern-

skaya, and Smith 2012; Federal Reserve Bank of Atlanta 2012). In short, during most years, job expansion has outstripped the levels needed to keep up with population growth, even though population growth includes both legal and unauthorized immigrants.

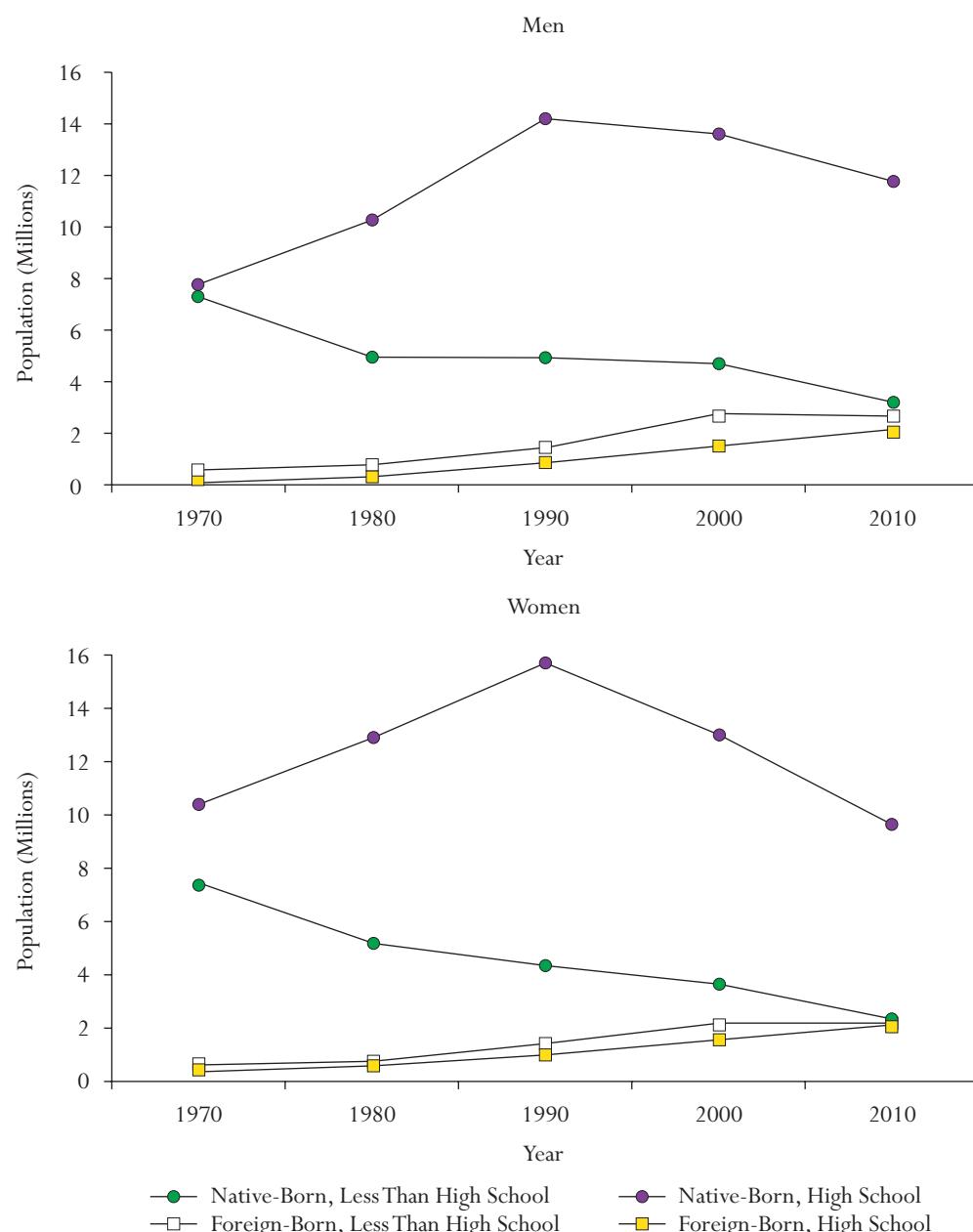
Educational Upgrading Changes in education have depleted the supply of less-skilled natives. The upgrading that began early in the twentieth century with the “high school completion” movement (Goldin and Katz 2008) continued after World War II with the expansion of public higher education. Notwithstanding debates about why the rate of increase in college attendance slowed in the 1990s and 2000s only to rise recently, the fraction of the population with exposure to postsecondary schooling has steeply risen for most of the last six decades. Adults age twenty-five and over with more than a high school education now make up nearly 60 percent of the population, up from 5.3 percent in 1950 (Minnesota Population Center 2011; Current Population Survey 2010).

The number of native-born Americans with a high school diploma or less has fallen in both relative and absolute terms. In 1950 more than 88 percent of U.S. adults ages eighteen and older (some 90 million persons) had never finished high school. By 2010 only 14.7 percent (35 million) had not. In short, by 2010 there were 61 percent fewer persons in the country than in 1950 without a high school diploma or its equivalent (Ruggles et al. 2010). Strikingly, this figure is for the *entire* adult population, which includes the substantial number of poorly educated immigrants who have come here over the past three decades.¹⁰

Declining Native Fertility and Cohort Change Another important trend has been the sharp drop in fertility rates once the Baby Boom (those born between 1946 and 1964) ended in the mid-1960s. As measured by the total fertility rate (TFR), or the average number of children a woman would be expected to have if her childbearing followed the fertility pattern shown during that year, by the mid-1970s fertility rates had dropped by about half, reaching levels below 1.8, considerably below population replacement. Afterward, they inched up, hovering for years around 2.0 to 2.1 children per woman (U.S. Department of Health and Human Services 2010), before falling again during the recent recession. This fertility decline induced cohort change among Baby Boomers. From about 1970 until 1990, the number of natives ages twenty-five to forty-four (with high school diplomas or less) grew appreciably, despite educational upgrading (see figure 11.4). The expansion of the economy, as noted previously, more than absorbed the increase. But by 1990, when the earliest Baby Boomers started to reach age forty-five, the numbers of Baby Boomers ages twenty-five to forty-four started to shrink, as declining fertility after the Baby Boom led to much smaller cohorts. This tendency became more pronounced through the 1990s and 2000s as the cohorts born after the Baby Boom continued to shrink (figure 11.4). In short, there were ever fewer young people to take the less-skilled work that the expanding economy was generating.

For a quarter-century now, the “extra” increment of persons entering the labor market from Baby Boomers’ coming of age has been subsiding, and now the oldest Boomers have begun to retire. Today most Boomers are ages forty-five to sixty-four, and the labor market is experiencing the opposite dynamic from the 1970s and 1980s. As the Baby Boomers age, the number of younger natives entering the labor market has plummeted because the birth rate in the native-born population had dropped to 1.7 births per woman by 2010, a level about 20 percent below replacement level (Bean, Brown, Bachmeier, Gubernskaya, and Smith 2012), and because, as noted, the very large younger Baby Boom cohorts of natives (ages twenty-five to forty-four) had aged.¹¹ Consequently, the younger cohorts (those ages twenty-five to forty-four in 2010) have become much smaller, consisting of drastically fewer potential less-skilled workers. In short,

FIGURE 11.4 *Trends in the Nativity Components of the Less-Skilled Workforce Ages Twenty-Five to Forty-Four, by Gender, 1970–2010*



Source: Adapted from Bean et al. (2011); decennial U.S. census public use microdata for 1970–2000 and 2010 ACS from Ruggles et al. (2010).

demographic change has already depressed the number of younger less-skilled natives who might be candidates to fill less-skilled jobs. Of course, the impending retirement of Baby Boomers may further help immigrants in the future, opening up jobs and creating opportunities for upward mobility (Alba 2009). Furthermore, when retiring Boomers sell their homes, vacancies will arise that may foster spatial assimilation (Myers 2007). These are looming changes, however; the change discussed here has already occurred.

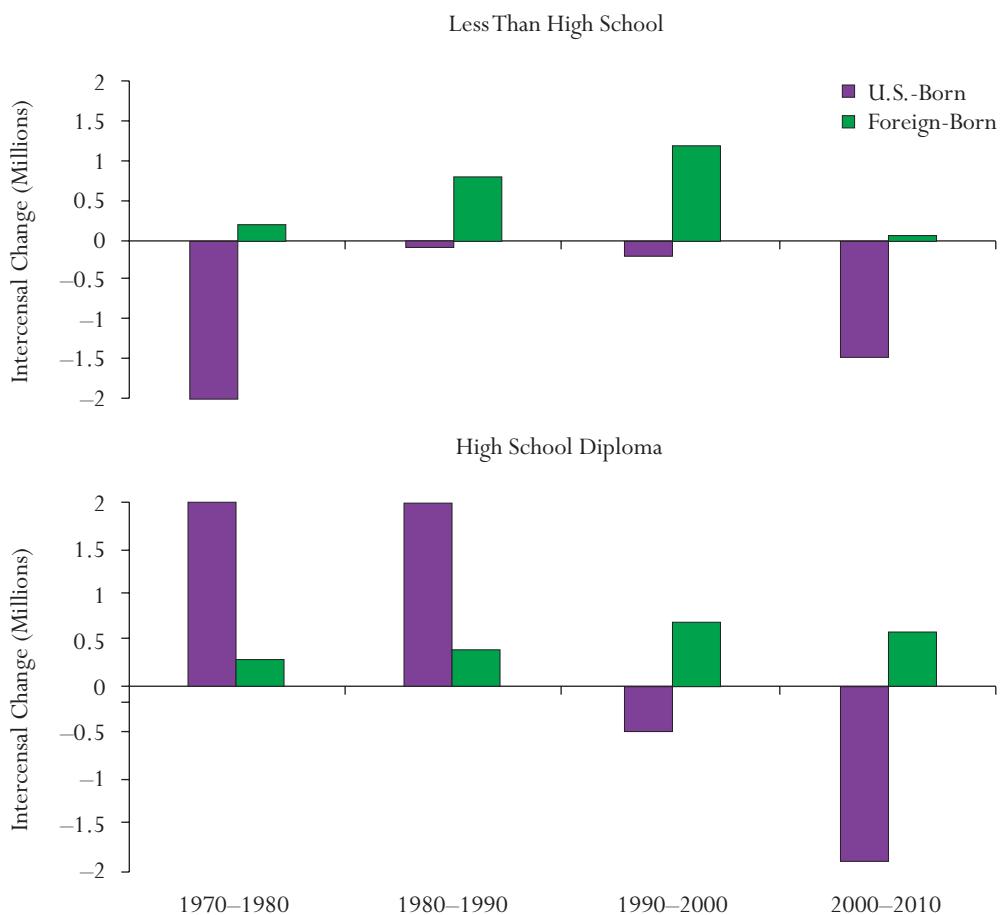
An important question is whether the decline in the pool of young native workers has coincided with a drop in less-skilled work. Certainly, if we consider only manufacturing, the answer would be yes. From 1970 until today, the share of manufacturing jobs in the economy dropped from more than one in four to approximately one in eight. The drop-off in the share of manufacturing jobs held by persons with a high school diploma or less has been similarly precipitous, also falling from approximately one in four in 1970 to approximately one in eight today (Bean, Brown, Bachmeier, Gubernskaya, and Smith 2012). Interestingly, over this same time the overall number of manufacturing jobs remained approximately 21 million. But because of population and job growth, a relatively smaller *share* of less-skilled persons today work in manufacturing employment than in the past. Also, many of today's manufacturing jobs require at least some college education (Creticos and Sohnen 2013). Thus, the relative demand for less-skilled workers in manufacturing has declined.

During this same period, however, the share of the less-skilled workforce in service jobs has grown considerably (Freeman 2007). From 1980 until today, the number of jobs held by less-skilled, younger males (of any nativity or ethnic-racial background)—the group one might expect to compete most directly with young, male Mexican labor migrants—has held steady at roughly 3.7 million to 3.8 million, or approximately 45 percent of the less-skilled, younger male workforce. Thus, despite a decline in the workforce share of less-skilled manufacturing workers, the share of less-skilled workers in general is as large today as it was forty years ago because of growth in the share of less-skilled service workers (Bean, Brown, Bachmeier, Gubernskaya, and Smith 2012).

Shortfalls in Native Workers Relative to Growth in Immigration How large is the relative decline in the number of less-skilled natives and how does it compare to the arrival of numbers of comparable immigrants? We start by focusing on males ages twenty-five to forty-four with less than a high school education. This group might compete the most with less-skilled immigrants, including less-skilled Mexican migrants. In 1970 few such immigrant males were in the workforce; however, by 2010 they numbered about 2.7 million (figure 11.4), and many of them had arrived after 1990. The comparable native workforce, however, *lost* about 4 million workers. Thus, the native male workforce of this age range and skill level shrank considerably more than the immigrant workforce expanded. Note that we are talking about all less-skilled immigrants. The differences would be even more dramatic if we focused on only Mexican immigrants. A similar pattern characterizes the cohort change for females.

Figure 11.5 shows further evidence on the gains or losses by nativity in the total sizes of this age group (twenty-five to forty-four) for males. Among those with less than a high school education, a drop occurred in the number of native persons who might be candidates to hold less-skilled jobs every decade, especially from 1970 to 1980 and from 2000 to 2010. The cumulative decline across decades adds up to more than 4 million males. By contrast, the increase in the number of comparable foreign-born males is far less, about 2 million. Among those with only a high school diploma, this deficit did not emerge until 1990, primarily because of the large number of Baby Boomers coming of age. But once that demographic tidal wave subsided, the number

FIGURE 11.5 *Decennial Changes in the Number of Less-Skilled Males Ages Twenty-Five to Forty-Four, by Educational Level, 1970–2010*



Source: Adapted from Bean et al. (2011); decennial U.S. census public use microdata for 1970–2000 and 2010 ACS from Ruggles et al. (2010).

of natives holding only a high school diploma also declined. Again, the shrinkages substantially exceeded the growth in the number of comparable foreign-born males.

Although these figures illustrate workforce shifts for younger males (ages twenty-five to forty-four), similar trends exist for other age groups and for females, although not quite so large. In any case, the pattern is clear—cohort change from the aging of the Baby Boomers, educational upgrading, and lower fertility in the native-born population have led to large declines in the pool of natives with a high school education or less, the native-born group most likely to fill less-skilled jobs. In an economy that was expanding, especially during the 1990s, this has left a workforce void, and immigrants, mostly from Mexico, have filled that void. This helps to explain both the persistence of unauthorized Mexican migration and its growth over this period. Mexican immigrant workers have filled the jobs that there are not enough native-born workers to do.

Increasingly, most of these immigrant workers are unauthorized because they have few ways to enter the country legally.

MIGRATION STATUS, LABOR MARKET OUTCOMES, AND SECOND- AND THIRD-GENERATION EDUCATIONAL ATTAINMENT

As unauthorized Mexican workers become more integral to the country's less-skilled workforce, understanding the degree to which they resemble other Americans in regard to schooling, work, and income takes on greater importance. To address the impact of their legal and citizenship status, we compare the labor market positions of unauthorized Mexican migrants to those of Mexican LPRs and naturalized citizens, as well as to those of all U.S.-born workers. Research based on interviews with circular migrants who have returned to Mexico indicates inferior outcomes for unauthorized migrants compared to legal immigrants (Donato, Aguilera, and Wakabayashi 2005; Donato et al. 2008; Massey and Gentsch 2014). Small-scale surveys and qualitative studies done in the United States also suggest that marginal migrants, particularly the unauthorized, face hardship and insecurity in the labor market that affect their children's cognitive and socioemotional development (Abrego and Gonzales 2010; Brabeck and Xu 2010; Ortega et al. 2009; Potochnick and Perreira 2010; Yoshikawa 2011). Unfortunately, there is little current empirical evidence of educational and labor market disadvantages for unauthorized Mexican migrants at the national level, owing to a dearth of survey data that include indicators of immigrants' legal status. One exception that uses an imputation of status (the basis for which is not fully described) comes from Jeffrey Passel and D'Vera Cohn (2009); another, based on data collected prior to the harsher climate of the past few years, is Hall et al. (2010).

Education and Labor Market Outcomes Among Mexican Immigrants

Here we present results using data from the 2008 Survey of Income and Program Participation (SIPP) to assess education and labor market outcomes in the immigrant generation (U.S. Census Bureau 2008).¹² All foreign-born respondents from the 2008 SIPP were asked whether they were U.S. citizens, and if so, how they obtained citizenship (including through naturalization, military service, and the like).¹³ The foreign-born were subsequently asked whether they were legal permanent residents upon arriving in the United States; subsequently, those non-LPR, noncitizen arrivals were asked whether their status had been adjusted to LPR status since immigrating to the United States. Though the survey allows non-LPR arrivals to specify their arrival status (for example, refugee or temporary worker), the specific non-LPR codes are suppressed in the publicly released data we use here. Thus, we are able only to distinguish between naturalized citizens, LPRs, and "others." While the "other" category consists of both unauthorized and legal temporary migrants, Passel and Cohn (2010) estimate that nearly 90 percent of all foreign-born residents who are neither U.S. citizens nor LPRs are unauthorized. Therefore, the labor market outcomes observed for non-LPRs are overwhelmingly driven by unauthorized migrants.

The public use 2008 SIPP data also suppress country of birth codes; consequently, we cannot distinguish Mexican from Central American immigrants. Thus, our examination includes all immigrants from Mexico and Central America (largely Salvadorans and Guatemalans) but excludes those from other regions of the world. ("Caribbean" and "South American" are separate from "Central America" in the codes and are not included in our sample.) In the following analyses, "marginal migrants," "LPRs," and "naturalized citizens" refer to immigrants born in

Mexico and Central America, while “U.S.-born” refers to the total U.S.-born population. Because the vast majority of those in the Mexican/Central American category are from Mexico—about 80 percent, according to 2010 ACS data (Minnesota Population Center 2011)—we use the term “Mexican” for this category.

A comparison of marginal Mexican migrants to LPRs and naturalized immigrants permits an assessment of theoretical perspectives on immigrant integration. We consider three perspectives: classic assimilation (see, for example, Alba and Nee 2003); racialization, including segmented assimilation (as in Portes and Rumbaut 2001; Telles and Ortiz 2008); and marginal membership integration, including “delayed” integration (as in Bean, Brown, Bachmeier, Fokkema, and Lessard-Phillips 2012; Brown 2007; Brown and Bean 2007; Waldinger 2011). Broadly speaking, these theoretical perspectives emphasize different dynamics driving the extent to which immigrants (and their children and grandchildren) improve their life situations after coming here, especially their labor market positions. The perspectives also imply different patterns of mobility across migration statuses as immigrants move toward parity with native majority groups, especially whites.

What are the mobility differences suggested by these perspectives? Roughly, in comparing unauthorized migrants with legal permanent residents and naturalized citizens, the classic assimilation perspective would predict that a gradient involving more mobility and a smaller gap with natives will emerge, whatever the characteristic being examined; that is, the unauthorized will fare the worst, followed by LPRs and then naturalized citizens. In short, the longer the exposure to the host society, the greater the assimilation. The racialization perspective, because it emphasizes the discrimination confronted by the members of a given ethnoracial group, would predict that, regardless of legal status, Mexican immigrants will show only partial mobility, all else equal. The marginal membership perspective, which posits that the lack of social and political membership is the most important barrier to other kinds of integration, would predict little mobility and large remaining gaps only for those migrants who are the most marginal in membership. In other words, the marginal migrants (those who are unauthorized) will show minimal mobility and sizable gaps with natives, while the legal permanent residents, or citizens, will exhibit the greatest mobility and small remaining gaps with natives. In particular, this perspective would predict a sharp discontinuity across the migration statuses.

Demographic Characteristics We limit our examination to adults between the ages of twenty-five and sixty-four. Table 11.1 compares unauthorized Mexican (non-LPR) migrants to LPRs, naturalized immigrants, and all U.S.-born adults with respect to several demographic characteristics, as well as education, that help to determine labor market outcomes. Because unauthorized migrants are primarily labor migrants (Massey et al. 1987; Portes and Bach 1985), they are disproportionately male, younger, and less likely to be married compared to other types of immigrants and U.S.-born citizens. Also, unauthorized Mexican migrants are much less educated than Mexican LPRs and naturalized citizens, other immigrants, and the U.S.-born population. In the SIPP data, three-fifths of adult unauthorized migrants had completed eight or fewer years of schooling, and 84 percent lacked a high school diploma or its equivalent. LPRs fared only slightly better. By comparison, naturalized citizens and all U.S.-born adults did considerably better: 59 and 32 percent, respectively, had not completed high school. Similarly, unauthorized migrants were less likely to speak or understand English.

As for the employment and occupational concentration by gender (table 11.2), 57 percent of working-age unauthorized migrant women were in the labor force, compared with about the same percentage of similar LPRs but 74 percent of naturalized citizens and 77 percent of the U.S.-born. Conversely, 36 percent of all working-age unauthorized migrant women were en-

TABLE 11.1 *Demographic Characteristics and Human Capital Among Working-Age Adults in the United States Ages Twenty-Five to Sixty-Four, by Nativity and Immigrant Legal/Citizenship Status, 2009*

	Mexican/Central American Immigrants			Other Immigrants			U.S.- Born
	Unauthorized	LPR	Naturalized	Unauthorized	LPR	Naturalized	
Population (millions)	4.5	4.2	2.9	2.6	4.9	7.1	133.6
Male (percentage)	57.7	52.1	50.9	51.4	46.9	46.9	48.9
Mean age	37.6	39.7	44.5	40.4	41.2	46.1	44.3
Married (percentage)	51.1	66.9	72.9	53.9	68.1	70.4	60.0
Minor children (percentage)	52.5	61.3	52.6	40.9	45.0	41.2	36.4
Education (mean years)	8.7	9.2	11.1	13.6	14.1	14.4	13.9
Zero to eight years (percentage)	60.7	60.0	38.9	13.8	11.3	7.6	7.4
Nine to eleven years (percentage)	23.5	22.6	20.6	23.8	18.4	17.3	24.6
High school or some college (percentage)	10.8	11.2	26.6	23.3	27.3	29.9	36.9
BA or higher (percentage)	5.0	6.3	13.8	39.1	43.0	45.2	31.1
Limited English (percentage)	63.2	53.3	23.6	23.8	18.7	6.4	0.9

Source: SIPP, 2008, wave 2 (January–April 2009).

gaged primarily in child-rearing, a much higher figure than those for the naturalized and the U.S.-born. Overall, male labor force participation rates were considerably higher, with a gender gap that was most pronounced among unauthorized migrants. The rate of labor force participation among male unauthorized migrants was 98 percent, the highest among all categories of male migrants.

The unemployment rates (table 11.2) point to disparities across nativity and legal/citizenship groups. For women, the unemployment rates for unauthorized migrants, LPRs, naturalized immigrants, and all U.S.-born citizens were 7.5 percent, 5.7 percent, 6.1 percent, and 2.9 percent, respectively. The corresponding rates among men were 7.6 percent (unauthorized migrants), 6.2 percent (LPRs), 4.2 percent (naturalized), and 4.1 percent (U.S.-born). Although these rates are undoubtedly inflated because wave 2 of the SIPP was conducted during the Great Recession, the cross-group comparisons nevertheless suggest that unauthorized migrants shouldered a disproportionate share of insecurity in the labor market. Even among the employed, unauthorized migrants were disproportionately concentrated in low-paying jobs that often lacked benefits and avenues for upward mobility (Kalleberg 2011). Compared with LPRs and citizens, unauthorized migrant women were heavily concentrated in building cleaning jobs and grounds maintenance, food services (primarily cooking), and production (primarily textile and apparel workers) (table 11.2). Among men, nearly 32 percent of unauthorized migrant workers were employed in construction jobs compared to 31 percent, 23 percent, and 10 percent of LPRs, naturalized immigrants, and U.S.-born citizens, respectively. And like their female counterparts, unauthorized Mexican migrant men were also heavily represented in building cleaning, grounds maintenance, and food services occupations.

Indicators of Labor Market Integration Since these occupations consist of shift work, often paid by the hour, without paid leave, the income of workers depends mostly on the number of hours worked (Bernhardt et al. 2009; Holzer et al. 2011). Since working is the fundamental

TABLE 11.2 *Employment Status and Occupations Among Adults in the United States Ages Twenty-Five to Sixty-Four, by Nativity and Immigrant Legal/Citizenship Status, 2009*

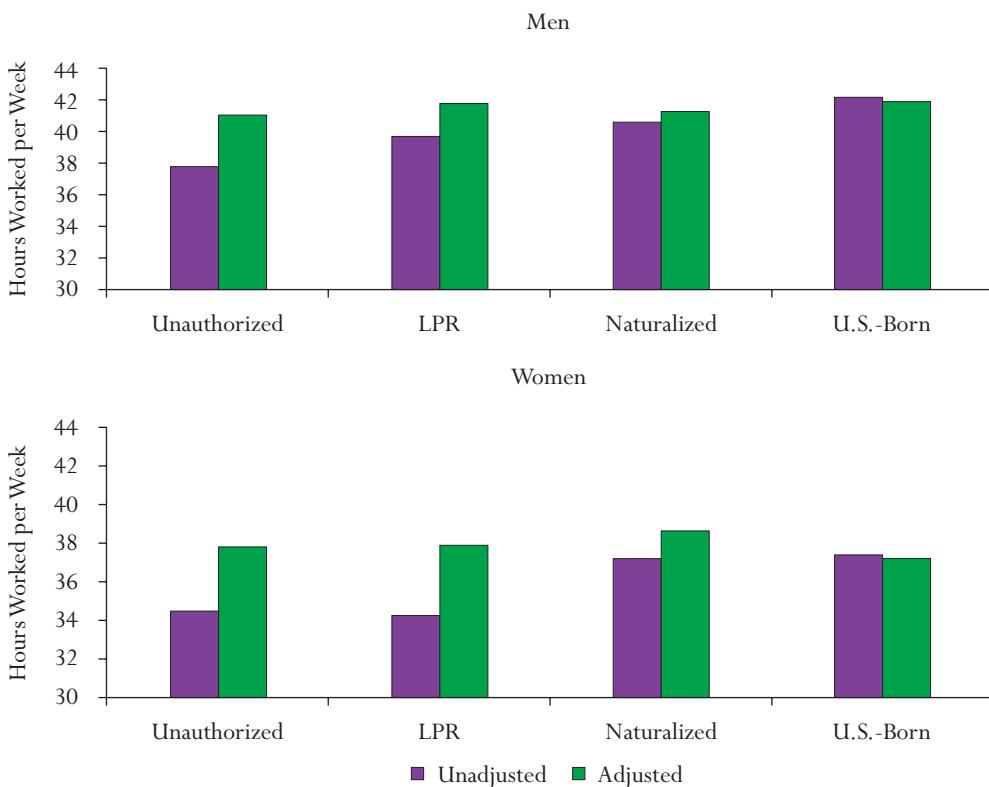
	Mexican/Central American Immigrants							
	Unauthorized Migrants		LPRs		Naturalized Citizens		U.S.-Born	
	Women	Men	Women	Men	Women	Men	Women	Men
In the labor force	57.0	97.8	56.1	91.5	73.5	88.0	77.1	87.8
Employed	49.5	90.2	50.4	85.3	67.4	83.8	74.2	83.7
Unemployed	7.5	7.6	5.7	6.2	6.1	4.2	2.9	4.1
Not in the labor force	43.0	2.2	43.9	8.5	26.5	12.0	22.7	12.3
Disabled	3.4	1.6	5.2	5.8	5.5	7.0	7.4	7.1
In school	1.4	0.4	1.0	1.2	0.4	2.1	0.9	0.7
Caring for children	35.7	0.1	34.1	0.1	15.5	0.0	8.6	0.5
Retired	2.6	0.2	3.6	1.4	5.1	2.8	5.8	4.0
Occupation								
Managerial, professional, and technical	6.2	4.3	9.7	8.9	25.2	15.3	45.6	42.0
Health care support	3.4	0.0	1.1	0.0	5.7	0.2	4.1	0.4
Food preparation and serving	17.2	11.7	19.2	9.6	5.1	6.4	4.3	2.4
Building and grounds cleaning and maintenance	23.4	14.3	22.1	11.7	12.0	5.0	2.7	3.5
Personal care and service	7.9	0.5	10.4	0.2	9.1	0.5	5.2	0.9
Sales and clerical	16.6	4.4	17.5	6.2	24.3	13.2	31.8	15.7
Farming, fishing, and forestry	3.9	4.7	3.5	5.7	2.0	2.7	0.4	0.9
Construction and extraction	0.0	31.7	2.0	31.2	0.0	23.4	0.4	10.1
Installation, maintenance, and repair	0.0	4.7	0.0	5.0	0.0	6.0	0.3	6.9
Production, transport, and material moving	21.4	23.7	14.6	21.5	16.6	27.4	5.2	17.2
Percentage with employer-provided health insurance	22.3	20.1	29.0	30.5	61.0	62.4	76.2	74.3
Percentage union members	6.0	3.7	9.4	5.5	18.2	18.4	12.8	14.6

Source: SIPP, 2008, wave 2 (fielded between January and April 2009).

rationale driving labor migration, one might expect unauthorized migrants to report higher average numbers of work-hours than other types of workers, especially men, given their very high rate of participation in the labor force. However, the opposite is true. We plot the average number of hours worked per week for immigrant and U.S.-born workers separately by gender (figure 11.6). For each of the types of workers compared, the unadjusted mean is simply the gender-specific group average. The adjusted mean is the average number of hours worked when holding constant the demographic and human capital factors reported in table 11.1 and the occupations from table 11.2. On average, both female (34.3 hours) and male (37.2) unauthorized migrants worked fewer than forty hours per week, and male unauthorized migrants averaged significantly fewer hours than male LPRs and U.S. citizens. Although the mean number of hours worked by unauthorized male migrants increases when adjusting for background factors, the gap in work intensity between unauthorized migrants and other types of workers remains significant.

Not only were unauthorized migrants working fewer hours, they also earned less in hourly wages (figure 11.7). The wages of unauthorized migrant men and women were, respectively,

FIGURE 11.6 Hours Worked per Week Among Mexican/Central American Immigrants, by Legal Status, as Compared with All U.S.-Born Workers, 2008



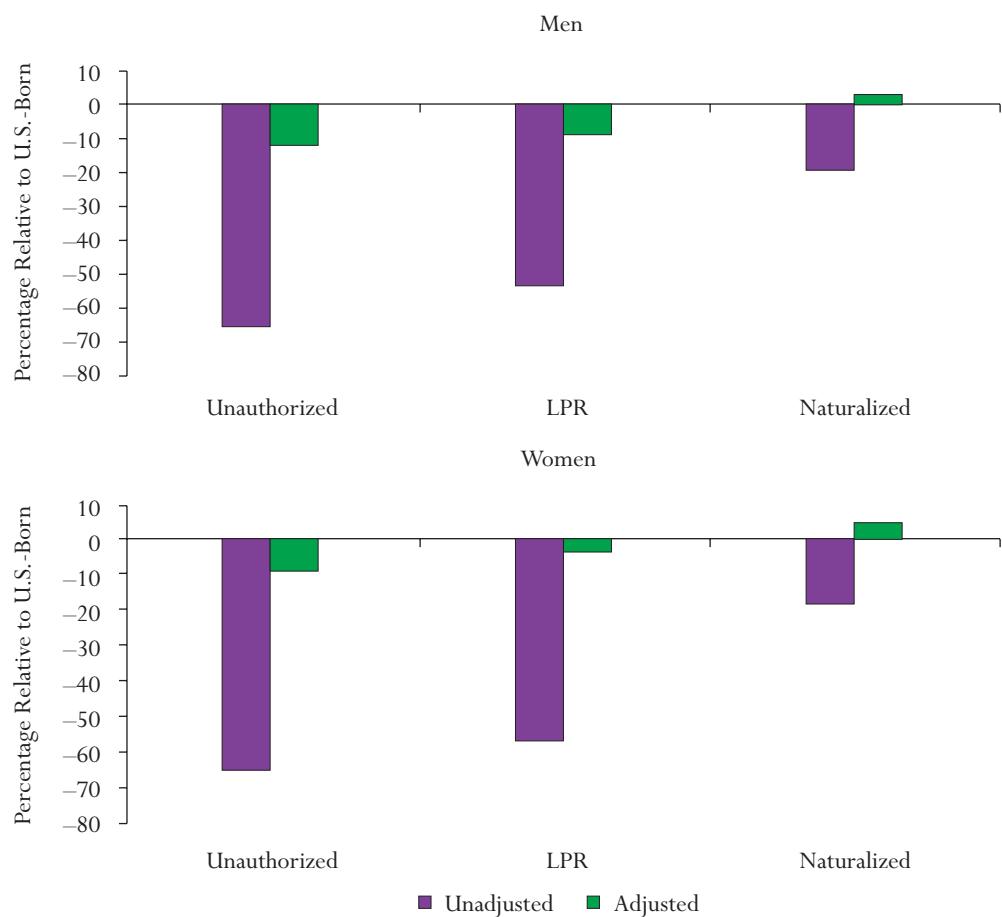
Source: SIPP, 2008, wave 2.

Note: "Adjusted" means control for group differences in age, educational attainment, occupation, and state of residence.

about 67 percent and 66 percent lower than those of U.S.-born workers. Differences in demographic factors, human capital, and occupation accounted for a substantial proportion of the wage gap between unauthorized migrants and U.S.-born workers, though even after adjusting for these differences, the earnings of unauthorized migrants remained about 12 percent lower. The earnings of LPRs were also lower than those of U.S.-born workers (by 31 percent for women and 35 percent for men), but this gap is almost entirely explained by background factors for women and reduced to about an 8 percent disadvantage for LPR men. The adjusted wages of naturalized males and females actually slightly exceeded those of natives.

These statistics highlight the hardships faced by unauthorized Mexican migrants, as well as those faced by Mexican legal permanent residents. This is not surprising since a sizable proportion of LPRs from Mexico (about 35 percent, according to Guillermina Jasso and her colleagues [2008], based on data from the New Immigrant Survey) began as unauthorized migrants before converting to LPR status. For Mexicans, however, the considerable disadvantages associated with being a noncitizen barely existed among those who were naturalized, once demographic

FIGURE 11.7 *Hourly Earnings of Mexican/Central American Immigrants, by Legal Status, Relative to Earnings of U.S.-Born Workers, 2008*



Source: SIPP, 2008, wave 2.

Note: Adjusted bars control for group differences in age, educational attainment, occupation, and state of residence.

factors are controlled. For the naturalized, after accounting for education, occupation, age, and region, hourly wages were actually slightly higher among both men and women than they were for all native-born persons. Even looking at educational differences between the naturalized and the native-born, no differences remain when only gender, age, and region of the country are controlled.

In short, among naturalized Mexicans, after controlling for basic demographic background factors, differences in either wages or education disappear. This pattern seems more consistent with the membership model of immigrant integration than with either the classic assimilation or racialization models. After controlling for such factors, the former would expect a pattern of gradually decreasing gaps in education and wages across the migration status categories, and the latter would expect remaining differences for all of the migration status categories compared to

all native-born persons. Unauthorized migration status (and often even legal permanent resident status) thus appears to be associated with the greatest degree of disadvantage among the Mexican migrants, and, crucially, their offspring suffer the strongest educational disadvantage.

Parental Migration Status and Children's Education

Although numerous case studies portray the heartrending difficulties that unauthorized migrants and their children face in navigating school and work (Dreby 2012; Gonzales 2011; Gonzales and Chávez 2012; Suárez-Orozco et al. 2011), little research has addressed the question of how unauthorized status might actually harm the children and grandchildren of immigrants, especially their schooling. Here we examine evidence that parental pathways to legalization do matter.

As noted, Mexican immigrants are by far the largest U.S. immigrant group. Because so many come without papers, Mexican-origin children account for a large majority of the children in the United States with an unauthorized immigrant parent. According to current estimates, 70 percent of the 5.5 million children of unauthorized immigrants in the United States have a Mexican-born parent (Passel and Cohn 2011). These estimates imply that in 2010 more than half of the 7.3 million children of Mexican immigrants residing in the country had an unauthorized parent (King et al. 2010; Passel and Cohn 2011). Moreover, most children of unauthorized parents, about 80 percent as of 2009, are born in the United States and thus are U.S. citizens (Passel and Cohn 2009). Even though U.S.-born children of immigrants presumably enjoy access to the same education and jobs as any other citizen, their parents' migration-status histories reflect their first membership experiences in their families of socialization with the host society (Hochschild and Mollenkopf 2009). Such experiences may have lasting effects on second- and third-generation children. Although targeted policies like the DREAM Act may address the situations of children who are themselves unauthorized, policies directed at the unauthorized population as a whole can affect both immigrants and their native-born children.

Mexican immigrants are distinctive in terms of the variety of pathways they take to legal status and citizenship. More than other groups, Mexican migrants to the United States have traditionally circulated back and forth between the two countries (Cornelius 1992; Massey, Durand, and Malone 2002; Portes and Bach 1985). Circular migrants often change their orientations, gradually becoming permanent migrants (Roberts 1995) over many years (Menjívar 2006; Roberts, Frank, and Lozano-Ascencio 1999). As migrants move from being "sojourners" to "settlers" (Chávez 1988), their frame of reference shifts from the society of origin to the society of destination. Thus, when poor, unskilled laborers (especially males) who initially migrate for temporary employment find permanent work, they often seek ways to legalize. The family reunification provisions of U.S. immigration laws encourage the development of complex family-based strategies for achieving legalization (Curiel 2004; Glick 2010; Hondagneu-Sotelo 1994).

How might such legal-status trajectories relate to educational attainment among their children? Numerous additional studies have documented the deleterious effects of being unauthorized, especially in the labor market (Donato et al. 2008; Gentsch and Massey 2011; Hall et al. 2010; Massey and Gentsch 2014). Recent studies have also found negative psychological consequences for the children of unauthorized immigrants, including stress and other anxieties that inhibit learning and cognitive development (Yoshikawa and Kholoptseva 2013). Such factors may also limit children's educational attainment, the crucial precursor of mobility in the United States (Hout 2012). Differences in levels of schooling substantially explain nativity differences in employment and earnings between many immigrant groups and whites (Duncan, Hotz, and

Trejo 2006; Smith and Edmonston 1997), illustrating why education is crucial for Mexican Americans (Telles and Ortiz 2008).

Parental Migration-Status Trajectories Because of high rates of unauthorized status in the first generation, many Mexican immigrants and their children exist on the margins of society, and their incorporation may take longer than that of other immigrant groups (Bean and Stevens 2003; Brown 2007). Theoretically, this marginality may derive from either the mother or the father or both being unauthorized. We examine here the results of research on how combinations of parents' legal status trajectories matter for children's education (Bean et al. 2011). These are defined by each parent's status in terms of nativity, entry, legalization, and citizenship at two points in time—at entry and at the later time of data collection. Parental trajectories across these points vary considerably within and across couples, both because immigrant parents may not have arrived together in the United States and because the costs of legalization and naturalization force the family to choose which parent should legalize first.

As previously noted, scarcely any national-level or even other data sets provide information on both unauthorized Mexican migration status for immigrants and their adult children. But one recent study in metropolitan Los Angeles, the Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA) survey (Bean, Leach, Brown, Bachmeier, and Hipp 2011; Rumbaut et al. 2004), included a large sample of second-generation Mexican respondents ages twenty to forty. Although the study is not national in scope, it offers enormously valuable information for a random sample of second-generation young adults in the city with the largest number of Mexican immigrants in the United States. The term "second-generation" typically refers to persons born in the United States with at least one immigrant parent, but the IIMMLA sample also includes immigrants who arrived in the United States as children before fifteen years of age.

In using this information, we note that very few of these respondents were themselves unauthorized, and their status does not affect the research results we show. The IIMMLA data include information about the migration status of each parent when that person first entered the United States, as well as about the parents' legal and citizenship status at the time of the interview. The answers enable the comparison of migration statuses for each parent at the time of entry and at the time of the interview. In some cases, the respondent either had never known one of his or her parents or did not know a parent's initial migration status. Others had parents who had never lived in the United States. Still others had parents who had come as unauthorized entrants and then had become legal permanent residents. Some of these eventually naturalized.

The percentages of parents in the various trajectories used are shown in table 11.3. Mexican parents are highly likely to have been unauthorized when they came to the country: 34.2 percent of Mexican mothers and 32.8 percent of Mexican fathers in the sample were unauthorized at entry. Because a high proportion of Mexican immigrant parents at any moment may still be making the transition from temporary to permanent immigrant, and because U.S. immigration policy is so complicated that it encourages multiple legal entry strategies (Council on Foreign Relations 2009), Mexicans more than other country-of-origin group show multiple, parental mixed-status combinations of entry and legalization/citizenship statuses. Here we examine how these various parental mixed-status categories relate to children's educational attainment. We do this by gauging the extent to which children's schooling varies by parents' combination of migration status categories, controlling for parents' antecedent factors and the respondent's other characteristics (for details, see Bean et al. 2011).

Patterns of Parental Trajectory Combinations The members of the Mexican-immigrant generation and their children show characteristics typical of their form of migration. For ex-

TABLE 11.3 *Mexican-Origin Immigrant Mothers and Fathers with Various Nativity/Migration and Legalization/Citizenship Trajectories, 2004*

Trajectory	Mothers	Fathers
Unknown	1.0%	6.4%
Never migrated to the United States	8.7	12.7
Authorized to naturalized	32.1	25.6
Authorized to LPR	13.7	12.6
Unauthorized (or unknown) to naturalized	14.8	16.3
Unauthorized (or unknown) to LPR	15.2	12.2
Unauthorized (or unknown) to unauthorized	4.2	4.3
U.S.-born	10.5	9.9

Source: Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA), adapted from Bean et al. (2011).

Note: N = 935. These trajectories include some mothers or fathers who after entry spent some time as an unauthorized migrant but whose entry status was unknown by the respondent. They became LPRs and in most instances naturalized. Most likely, these persons entered initially as students or tourists, overstayed their visas, subsequently were able to adjust to LPR status, and finally naturalized.

ample, nearly three decades after they migrated to the United States, the Mexican parents still have mostly not finished high school, averaging only a little more than eight and a half years of schooling (see table 11.4). The Mexican American young adult respondents, by contrast, are much better educated than their parents, having completed thirteen years of schooling on average. Many of these Mexican Americans did not speak English at home while growing up (although most also learned English), and nearly three-fourths lived with both parents. Also, a noticeable proportion of their parents had returned to Mexico after migrating for at least six months, a pattern consistent with sojourner migration (Chávez 1988; Massey et al. 1987).

The parents of the second generation are characterized by seven migration-status trajectory combinations. These show considerable diversity in mother-father migration-status patterns. For example, two of the combinations involve either all of the fathers (but not all of the mothers) being citizens (either having been born in the United States or having naturalized), or all of the mothers (but not all of the fathers) being citizens. We label these “Father-Citizens” and “Mother-Citizens,” respectively. Falling into these groups were 24.1 percent and 13.9 percent of the Mexican parental combinations, respectively (figure 11.8). Also, two additional combinations involve both parents becoming legal permanent residents with many (slightly less than half) having naturalized, although not quickly. In one of these groups, almost all of the parents had entered legally, and in the other almost none of them had. We term these the “Legal Permanent Residents” (LPRs) (17.0 percent) and the “Unauthorized Entrants Who Legalized” (17.1 percent). Two somewhat idiosyncratic classes also emerge, again with mother-father differentiation, each showing substantial unauthorized entry and subsequent universal attainment of LPR status with some naturalization. But in each of these classes, only one parent had achieved legal status—either the father or the mother. These groups are “Fathers Unauthorized–Mothers Legalized” (4.5 percent) and “Mothers Unauthorized–Fathers Legalized” (14.1 percent). The remaining group (9.3 percent of the sample) consists of parents who had either entered or remained unauthorized, or parents whose status was unknown (“Mother Unauthorized and Father Unauthorized”).

How Trajectory Combinations Affect Children’s Education To ascertain how the parental combinations affected the education of their children, we first assess how parents’ back-

TABLE 11.4 *Means and Standard Deviations for Respondents' and Parents' Characteristics, 2004*

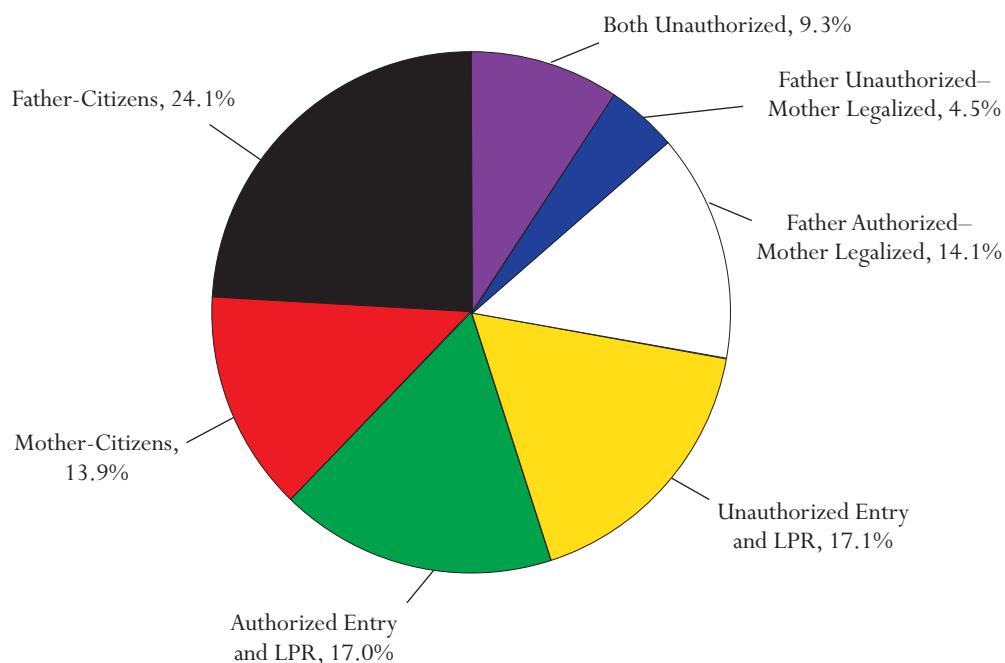
Attributes	Respondents		Standard Deviation
	Mean		
Age	27.80		5.93
Years of education completed	13.00		2.35
Male	0.50		0.50
Second-generation	0.67		0.47
Spoke Spanish at home while growing up	0.91		0.29
Enrolled in school at interview	0.30		0.46
Lived with both parents while growing up	0.72		0.45
Mothers		Fathers	
	Mean	Standard Deviation	Mean
Years of education	8.70	3.81	8.60
Held laborer occupation in home country	0.24	0.43	0.50
Worked in white-collar occupation in home country	0.21	0.41	0.17
Migrated from west central region of Mexico	0.52	0.50	0.51
Returned to home country for six months or more after migration to the United States	0.15	0.36	0.15
			0.36

Source: IIMMLA, adapted from Bean et al. (2011).

grounds were related to their combination by estimating a statistical model that regresses the trajectory combination on variables characterizing the mother's and father's backgrounds. These background indicators include each parent's education and occupation in Mexico; the region of origin in Mexico; whether the parent had returned to Mexico; and whether the parents had lived together for most of the respondent's childhood. The results reveal patterns consistent with the mixed trajectories of the combinations. For example, when parents (especially fathers) were better educated, had never worked in Mexico as laborers, had both lived with the child while the child was growing up, and had not returned to Mexico, they were more likely to be in the Mother-Citizens or Father-Citizens combinations.

We next assess how the parental combinations relate to the schooling of the adult children of the immigrants by regressing the second-generation respondent's education (measured as years of schooling) on the seven parental mixed-trajectory combinations, with those whose parents both remained unauthorized deleted as the reference group. The regression coefficients from these models reflect the education premium to the adult children of immigrants associated with their parents' holding a certain combination of legal statuses. We first estimate a model without any covariates or controls. In this unadjusted case, children who had at least one legal-immigrant parent showed a significant educational advantage relative to children whose parents remained unauthorized or whose status was unknown. This premium runs to more than two and a half years of schooling for those in the Father-Citizens group (first column, table 11.5). Results are then statistically adjusted for differences in background factors (shown in the second column of table 11.5). After such controls, five of the six groups still exhibit at least a full year or more

FIGURE 11.8 Parental Migration-Status Combinations, 2004



Source: Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA); adapted from Bean et al. (2011).

of education than those whose parents remained unauthorized. Most important, however, the differences are not fully explainable by the adjustments. Although a considerable portion of the schooling premium (averaging roughly 50 percent across the groups) can be accounted for by other kinds of influence, these background differences, about one-half to two-thirds of the average education difference, still stands.

One combination stands out for the schooling advantage it conveys to offspring: the Mother-Citizens group. Upon close inspection, however, we note that this group is distinctive. Two-thirds of the mothers in the group were native-born. The other one-third entered the country as LPRs, and all quickly naturalized; none entered illegally. While 40 percent of these mothers married unauthorized males—a figure that suggests both the ubiquity of unauthorized Mexican male labor migration and the fact that when such migrants marry natives they gain eligibility for “green card” status—it is not surprising that adult children with parents like these show the highest levels of education. With so many native-born mothers, this group starts from such a high mobility level that it provides an upper-bound benchmark of how parents’ advantages become transmitted to their children. But because so many of the mothers are not immigrants, and because we are interested in what happens to the children of immigrants, we limit our attention to the members of the other parental groups.

Looking at the schooling premium results in table 11.5 (top part of the table), we note that the predominant difference across the trajectory combinations hinges on whether the mother has legal status or not. All of the respondents whose parents were in groups with legal mothers

TABLE 11.5 *Regression Models Showing Relationships Between Parents' Mixed-Status Categories and Respondents' Years of Schooling, 2004*

	Unadjusted	Adjusted ^a
All categories^b		
Father-Citizens	2.60***	1.15***
Mother-Citizens	2.47***	1.53***
Authorized Entry and LPR	2.19***	1.10***
Unauthorized Entry and LPR	2.31***	1.36***
Father Unauthorized–Mother Legalized	2.03***	1.16***
Mother Unauthorized–Father Legalized	0.87 **	-0.36*
F-value	17.78***	18.03***
R-squared	0.10	0.28
With categories collapsed ^c		
Categories containing legal or citizen mothers	2.04***	1.24***

Source: IIMMLA, adapted from Bean et al. (2011).

^aFor “all categories,” the educational premiums shown are adjusted for parents’ and respondents’ background characteristics and for observed selectivity (the chances that certain kinds of parents are more likely to end up in one trajectory combination compared with others). With the categories collapsed, the education premium is also adjusted for these as well as for unobserved selectivity using an instrumental variables approach.

^bMother Unauthorized–Father Unauthorized omitted.

^cUnauthorized mothers omitted.

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

showed considerably more schooling than those whose parents were in the groups with unauthorized mothers. The gross schooling difference for the offspring of these two sets of mothers is considerably more than two years (table 11.5, bottom part of the table with categories collapsed). When background statistical adjustments are introduced, the differences shrink to about one and a half years, but do not disappear. The educational advantage resulting from a mother’s legalization thus does not appear to derive substantially from other kinds of differences between these two kinds of mothers. However, there remains the possibility that the association between the mother’s legalization and the children’s education is spurious and correlated with something not observed in the research, such as parents’ levels of initiative in seeking legalization.

To assess this, we apply an instrumental variables approach to gauge the extent to which such factors might be accounting for the premium (see Bean et al. 2011). Recall that respondents whose parents were in the group in which mothers attained legal permanent residence status showed an unadjusted schooling advantage of about two years compared to those whose mothers were unauthorized. The estimate of this difference, after adjusting for multiple background factors, is about one and a half years of schooling. Applying the instrumental variables strategy reduces the premium further, to about one and a quarter (1.24) years (table 11.5, bottom part of the table). But a substantial difference of nearly one and a quarter years of schooling persists. In short, the influence on education of unobserved factors captured by the instrumental variables approach does not appear to eliminate the educational advantage associated with a mother having achieved legal status.

Implications for Third-Generation Schooling The unauthorized status of parents may also handicap third-generation (or grandchild) educational attainment. To what extent do the human

capital and labor market disadvantages of unauthorized migrants carry over into later generations? Specifically, how much does the legacy of grandparental unauthorized status linger into the third generation? Bean and his colleagues (2013) have estimated how much of the schooling difference between third-generation Mexican-origin young adults in Los Angeles and native whites is attributable to grandparental unauthorized status. For males and females examined separately, the answer is about 35 to 40 percent. Thus, for a schooling gap of 1.1 years between these third-generation males (and here “third-generation” means the third-only generation, not the third-plus, that is, third or later generations) and non-Hispanic white males, about 0.4 of a year is explained by the legacy effects of grandparental unauthorized status. Stated differently, were it not for many third-generation Mexican Americans having unauthorized grandparents (specifically unauthorized-entry grandmothers who stayed unauthorized), a smaller schooling difference (about 0.7 of a year) between third-only-generation Mexican Americans and third-only-generation non-Hispanic whites would be expected instead of the substantially larger difference (1.1 years) observed in the IIMMLA data. In short, clear pathways to legalization can be expected to appreciably boost Mexican American educational attainment even as late as the third generation.

CONCLUSION AND POLICY IMPLICATIONS

This chapter has documented the origins, extent, and consequences of unauthorized migration status for the offspring of Mexican immigrants in the United States. In particular, we have assessed the implications of unauthorized status for educational attainment, among both the migrants themselves and their children (including those born in the United States) and grandchildren. How significant are these educational disadvantages for Mexican American integration more broadly? The answer depends in part on the number of unauthorized Mexican immigrants in the country and on how many children they have. Clearly, the greater the number of such migrants and the more children they have, the more widespread the integration challenge. From about 1970 through the passage of the Immigration Reform and Control Act in 1986 and up to the onset of the Great Recession in 2008, unauthorized migration from Mexico steadily increased, especially during the boom years of the 1990s and early 2000s. The most recent estimates from 2011 suggest that there are about 6.5 million unauthorized Mexicans living in the United States. Their children, some born in Mexico but most born in this country, number about 3.85 million (Passel, Cohn, and Gonzalez-Barrera 2012). In terms of sheer numbers, the scope of the challenge to integration is considerable. Moreover, these numbers may undercount the Mexican unauthorized population somewhat owing to the “coverage error” associated with the Mexican-born in official government surveys (Van Hook et al. 2014).¹⁴

Mexican immigrants’ unauthorized entry status and subsequent lack of opportunities to legalize carry significant negative implications for the success of their children and grandchildren. Our analyses show that in contexts without clear-cut and easily navigable bases through which less-skilled labor migrants can obtain legal entry and residence, Mexican immigrants must traverse myriad, complex, and often incomplete trajectories to full societal membership (Leach et al. 2011), but often never attain legal residency, let alone citizenship. This forces the immigrants and their children to live in the shadows, thus affecting educational outcomes in the second and third generations. At present, unauthorized migrants have few pathways to legalization and a long wait, up to five years, when a pathway becomes available.¹⁵ Without immigration reform, a greater proportion of the unauthorized population will remain unauthorized longer than their predecessors who came during the 1960s and 1970s. If the United States does not provide pathways to legalization, or if it institutes difficult or punitive pathways (such as long

wait times, large fines for having been unauthorized, sizable fees for legalizing, or prohibitively high thresholds that generally discourage applications), then the size of the group will grow, given the availability of U.S. work owing to the relatively small number of natives to do less-skilled work. In this event, the educational disadvantages and inequalities plaguing Mexican immigrants compared to others will persist.

In addition, children will continue to suffer from their parents' and grandparents' unauthorized status. The unauthorized status of mothers alone appears to reduce children's schooling by about one and a quarter years, all else equal. The children of legal Mexican immigrants averaged thirteen years of education, so a reduction of one and a quarter years marks the difference between attending some college and not finishing high school. Without a high school diploma, Americans earn about half a million dollars less over their lifetimes and die about seven years earlier than those with some college (Julian and Kominski 2011; Meara, Richards, and Cutler 2008). The disadvantage to the third generation would presumably be proportionately less, but nonetheless nontrivial.

All of this raises the question of what causes these disadvantages. In particular, to what extent do they derive from discrimination? Bean and his colleagues (2013) argue that current research results imply that poverty explains much of the handicap, but they also note that the possibility cannot be ruled out that ethnoracial discrimination accounts for at least some of the educational differences between higher-generation Mexican Americans and non-Hispanic whites. However, their findings suggest that a different kind of discrimination drives an important part of Mexican American educational disadvantage, namely, discrimination based on immigration status. "Unauthorized" parental status, which reverberates even upon the U.S.-born second and third generations, explains much of the gap in attainment between third-generation Mexican Americans and whites. Without opportunities for legalization, this gap will continue. In short, it may be the lack of initial societal membership and its legacy effects as much as native prejudice against later-generation Mexican Americans that handicaps their educational attainment.

Our findings indicate the crucial role that opportunities for legalization play in the success and failure of Mexican Americans. The disadvantages of remaining unauthorized are evident: legal status alone exerts its own positive force on second- and third-generation educational attainment. The conclusion: pathways to legalization will help overcome the risk of an expanding underclass of Mexican Americans. Since most children of unauthorized immigrants are born in the United States, our analysis also suggests that legislation providing the possibility of entry into full societal membership helps not only the immigrants themselves but also their children and their children's children. Evidence shows that those unauthorized entrants who do attain legal status overcome many of the disadvantages confronting them, as do their children. Because parents' socioeconomic status has sizable effects on children's education (Fischer and Hout 2006), the positive influence of such membership in the immigrant generation is likely to carry over to later generations as well.

NOTES

1. This research was supported by the US2010 Census Research Project at the Russell Sage Foundation and by grants for data collection and analysis from the Russell Sage Foundation, including one for the Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA) Study. The research approach and findings in the chapter have been presented at seminars at the Public Policy Institute of California, the University of Illinois, the University of California at San Diego, the University of California at Davis, the University of California at Santa Barbara, the University of California at Los Angeles, the University of California at Riverside, the Univer-

sity of Texas at Austin, Georgetown University, the Gallup Corporation and ImmigrationWorks USA (Washington, D.C.), the Pennsylvania State University, the Goldman School at the University of California at Berkeley, the University of Alcalá (Spain), the Institut National d'Études Demographique (INED, Paris, France), the Colegio de la Frontera del Norte (Mexico), and the University of Texas at San Antonio. We express our appreciation to all those who offered comments and suggestions at these presentations. We also acknowledge support from the Center for Research on Immigration, Population, and Public Policy at the University of California at Irvine and the Population Research Institute at Pennsylvania State University.

2. Bean and Stevens (2003); see also Ross Douthat, "When Assimilation Stalls," *New York Times*, April 28, 2013.
3. For reviews, see Borjas and Katz (2007), Card and Lewis (2007), Hamermesh and Bean (1998), Holzer (2011), and Ottaviano and Peri (2008).
4. It is important to note that the task of marshaling evidence about such migrants is made difficult by the fact that information on unauthorized migration is regrettably (if understandably) sketchy. This requires that researchers often use less than perfect data and indirect evidence to detect the traces of such migrants and their consequences for the country. Because of the policy significance of the issues, however, it is important to address them with whatever data are available, even if the information is not ideal. This is partly why we concentrate here on Mexican unauthorized migrants. Not only does this group make up by far the largest share (over half) of all unauthorized migrants in the country, but the data on Mexican migrants are better and more reliable than the information on other similar groups. Also, because other national-origin immigrant groups are much smaller, and because differences in national-origin dynamics are important in analyzing immigration (see, for example, Bean and Stevens 2003), we do not try to lump these other groups together for purposes of analytic comparison. The picture we provide of Mexican unauthorized migrants undoubtedly provides a glimpse into the situations of similar migrants from other national-origin groups.
5. In 1970 the total number of all such entrants (LPRs, temporary non-immigrants [I-94s], and net unauthorized flows) was about 5 million, whereas in 2010 it was about 49 million (Passel, Cohn, and Gonzalez-Barrera 2012; U.S. Department of Homeland Security, *Yearbook of Immigration Statistics: 2010*).
6. Authors' calculations are from data from U.S. Department of Homeland Security, *Yearbook of Immigration Statistics: 2010*, and from Passel and Cohn (2011).
7. While the broad preference categories under the McCarran-Walter Act had privileged highly skilled immigrants, the Hart-Celler Act emphasized family reunification criteria as the fundamental bases for immigrant entry. Four of the top five preference categories gave priority to the reunification of families and amounted to nearly three-fourths of the slots (Zolberg 2006). In addition, the law added parents of adult U.S. citizens to the list of immigrants not subject to numerical limitations (Keely 1971). But family-based entries had to occur within the framework of overall limits. Notably, the Western Hemisphere cap of 120,000 was less than the average annual migration then occurring from the region. A ceiling of 120,000 visas per year was placed on the total number of legal immigration admissions, which included legal migrants from Mexico. Further legislation passed in 1976 expressly limited the number of such legal Mexican entrants to 20,000 persons per year (Cerrutti and Massey 2004; Fragomen and Del Rey 1979), an extremely low number.
8. See also Charles Bartlett, "House Balky on Immigration Issue," *Los Angeles Times*, August 24, 1965; United Press International, "Johnson Stays Silent on Hemisphere Immigrants," *Los Angeles Times*, September 13, 1965.
9. The argument has also been advanced that the unauthorized Mexican population in the United States grew after the passage of the Immigration Reform and Control Act (IRCA) in 1986 because that year marked the beginnings of substantially increased enforcement at the U.S.-Mexico border, and these buildups had the effect of encouraging migrants *not* to return to Mexico (Massey and Pren 2012b; Massey, Durand, and Malone 2002). While IRCA and subsequent policy changes undoubtedly played a role in increasing the stock of migrants in the country, it seems likely that much, if not most, of the growth derives from other sources. For one thing, the increases began before IRCA was passed. For another, research has shown that the border enforcement buildup was not large enough to become very effective until the mid-2000s, at the earliest (Bean and Lowell 2004), and growth was continuing before that point in time. For still another, most migrants had long been accumulating social and economic reasons not to return to their places of origin, as reflected in the fact that rural-to-urban migrants in Mexico had been slow to return to their small towns and villages even though there were no enforcement constraints to discourage them from doing so (Villarreal and Hamilton 2012).
10. A related question is whether the amount of less-skilled work needing to be done has similarly decreased. In

manufacturing, the answer would be yes. Since 1970, the share of manufacturing jobs in the economy has halved, dropping from more than one in four to about one in eight. The drop-off in the share of manufacturing jobs held by persons with a high school diploma or less has been similarly precipitous, also falling from approximately one in four in 1970 to approximately one in eight today. Interestingly, during this same time the overall number of manufacturing jobs remained approximately 21 million. But because of overall job growth, a relatively smaller share of less-skilled persons work in manufacturing now. Also, many of today's manufacturing jobs require at least some college education. Thus, the relative demand for less-skilled workers in manufacturing has declined. However, during this same period the share of the less-skilled workforce in service jobs has grown considerably (Freeman 2007). As a result, from 1980 until today, the number of nonmanufacturing jobs held by less-skilled, younger males has held steady at roughly 3.7 million to 3.8 million, or approximately 45 percent of the less-skilled, male workforce ages twenty-five to forty-four. However, because service-sector work often lacks the same opportunities and pay structure as manufacturing, native low-skilled men have increasingly left the labor force altogether. Nonparticipation in the labor force by men too young to retire more than tripled between the 1960s and 1994, and that increase was concentrated among men with low skills (Murphy and Topel 1997).

11. Roughly, a decline of this magnitude implies that every 1,000 native women of childbearing age would need to have about 400 more births per year to reproduce the native population. Over a ten-year period, this would result in about 6 million more births. In other words, after ten years of current levels of childbearing, the native-born population would contain almost 6 million fewer persons (allowing for some deaths and emigration) than it would if a replacement TFR of 2.1 had been attained over the period. Thus, over the past thirty years, the size of new cohorts born to native-born mothers in the United States has been slowly shrinking. A hint of this is evident in the drop in the interdecade native growth rate, which was 21.2 percent during the 1950s but only 7.8 percent from 2000 to 2010 (authors' calculations from U.S. census data). Even more dramatic, the size of the younger native-born population (ages twenty-five to thirty-four) has been shrinking since 1980. This means that the number of natives available to meet societal workforce needs are now in both relative and absolute decline, on account of diminished fertility alone.
12. Certain SIPP panels include a series of questions allowing users to separate marginal types of "other" immigrants, LPRs, and foreign-born citizens. A SIPP panel is interviewed roughly every four months for about three years. The survey consists of a core set of questions asked of each wave, as well as topical module questions that vary from wave to wave. We use data from the second wave, carried out between January and April 2009, which includes topical module questions about immigration and citizenship status.
13. Persons born abroad to U.S. citizen parents are U.S. citizens by birth and are thus *not* included in the immigrant population.
14. Recent research suggests coverage error for the Mexican-born population in the United States. Data from census and other government surveys have probably been somewhat higher than previously thought, particularly during periods of prosperity and increasing unauthorized flows. Because coverage error is a crucial element in the predominant estimation technique used to gauge unauthorized Mexican migration, the residual method, it is significant for unauthorized estimates. Jennifer Van Hook and her colleagues (2013) examined birth, death, and net migration data (for both Mexico and the United States for three time intervals) to estimate the coverage of the Mexican-born population. They use multiple methods and multiple time points to gain perspective on the problem. The results provide evidence of undercoverage of the Mexican-born population, in the range of five to ten percentage points greater than previously used estimates. This, of course, implies that the undercoverage of the unauthorized segment of the Mexican-born population, because it is harder to capture, is probably somewhat higher still. For present purposes, the statistics previously cited about the magnitude of unauthorized migrant stocks and flows should be viewed as lower-bound indications of the degree of unauthorized Mexican migration to the United States over the past couple of decades.

Also, visa overstays and other kinds of overstays among Mexicans seem highly likely to have risen in recent decades. Research by James Bachmeier and his colleagues (2011) documents the substantial increases in both the number of non-immigrants from Mexico (the population in which overstays emerge) and the number of border crossing cards (cards authorizing Mexicans to cross the border to work in border areas). In recent years, Mexicans have used tourist or other visas or border crossing cards to enter the United States for longer-term stays (Hernández-León 2008). This implies that rates of visa and other overstays have probably risen in recent years. Unfortunately, data on overstays and overstaying rates are next to nonexistent, with the best research on the subject

- dating back more than twenty years (Warren 1990). Bachmeier and his colleagues (2011), however, demonstrate that even if overstay rates had declined, the number of Mexican overstays has probably risen anyway because the size of the population from which overstays come (here we include those with border crossing cards) has increased so drastically. Because overstays are not only unauthorized residents but also persons who have violated the terms of a legal entry document, they may be more unlikely than other unauthorized migrants to respond to government surveys (Bachmeier, Van Hook, and Bean 2014). In short, the trend of increased reliance on such documents for entry may also contribute to a rise in coverage error for the Mexican-born population.
15. Over the past two decades, the waiting time for Mexican applicants to obtain legal permanent residence through the family reunification provisions has gone from two years to five years (Bachmeier et al. 2011; U.S. Department of State 2011).

REFERENCES

- Abrego, Leisy J., and Roberto G. Gonzales. 2010. "Blocked Paths, Uncertain Futures: The Postsecondary Education and Labor Market Prospects of Undocumented Youth." *Journal of Education for Students Placed at Risk* 15(1): 144–57.
- Alba, Richard. 2009. *Blurring the Color Line: The New Chance for a More Integrated America*. Cambridge, Mass.: Harvard University Press.
- Alba, Richard, and Victor Nee. 2003. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Cambridge, Mass.: Harvard University Press.
- Arellano, Gustavo. 2012. *Taco USA: How Mexican Food Conquered America*. New York: Scribner.
- Bachmeier, James D., Zoya Gubernskaya, Frank D. Bean, and Jennifer Van Hook. 2011. "Non-Immigrant Overstay Among Mexican Nationals Admitted to the United States: 1990–2010." Paper presented to the annual conference of the Western Economics Association. San Diego (July 2).
- Bachmeier, James D., Jennifer Van Hook, and Frank D. Bean. 2014. "Can We Measure Immigrants' Legal Status? Lessons from Two U.S. Surveys." *International Migration Review* 48(2): 538–66.
- Bean, Frank D., Susan K. Brown, James D. Bachmeier, Tineke Fokkema, and Laurence Lessard-Phillips. 2012. "The Dimensions and Degree of Second-Generation Incorporation in U.S. and European Cities: A Comparative Study of Inclusion and Exclusion." *International Journal of Comparative Sociology* 53(3): 181–209.
- Bean, Frank D., Susan K. Brown, James D. Bachmeier, Zoya Gubernskaya, and Christopher D. Smith. 2012. "Luxury, Necessity, and Anachronistic Workers: Does the United States Need Unskilled Immigrant Labor?" *American Behavioral Scientist* 56(8): 1008–28.
- Bean, Frank D., Susan K. Brown, Mark A. Leach, James D. Bachmeier, and Rosaura Tafoya-Estrada. 2013. "The Implications of Unauthorized Migration for the Education Incorporation of Mexican-Americans." In *Regarding Education: Mexican-American Schooling in the Twenty-First Century*, ed. Adam Sawyer and Brant Jensen. New York: Columbia University (Teachers College) Press.
- Bean, Frank D., Harley L. Browning, and W. Parker Frisbie. 1984. "The Sociodemographic Characteristics of Mexican Immigrant Status Groups: Implications for Studying Undocumented Mexicans." *International Migration Review* 18(3): 672–91.
- Bean, Frank D., Mark Leach, Susan K. Brown, James D. Bachmeier, and John Hipp. 2011. "The Educational Legacy of Unauthorized Migration: Comparisons Across U.S. Immigrant Groups in How Parents' Status Affects Their Offspring." *International Migration Review* 45(2): 348–85.
- Bean, Frank D., and B. Lindsay Lowell. 2004. "NAFTA and Mexican Migration to the United States." In *NAFTA's Impact on North America: The First Decade*, ed. Sidney Weintraub. Washington, D.C.: Center for Strategic and International Studies.
- . 2007. "Unauthorized Migration." In *The New Americans: A Guide to Immigration Since 1965*, ed. Mary C. Waters, Reed Ueda, and Helen B. Marrow. Cambridge, Mass., and London: Harvard University Press.
- Bean, Frank D., and Gillian Stevens. 2003. *America's Newcomers and the Dynamics of Diversity*. New York: Russell Sage Foundation.
- Bernhardt, Annette, Ruth Milkman, Nik Theodore, Douglas Heckathorn, Mirabai Auer, James DeFilippis, Ana Luz Gonzalez, Victor Narro, Jason Perelshteyn, Diana Polson, and Michael Spiller. 2009. *Broken Laws, Unprotected Workers*. New York: National Employment Law Project.
- Borjas, George J., and Lawrence F. Katz. 2007. "The Evolution of the Mexican-Born Workforce in the United States."

- In *Mexican Immigration to the United States*, ed. George J. Borjas. Chicago and Cambridge, Mass.: University of Chicago Press and National Bureau of Economic Research.
- Brabeck, Kalina, and Qingwen Xu. 2010. "The Impact of Detention and Deportation on Latino Immigrant Children and Families: A Quantitative Exploration." *Hispanic Journal of Behavioral Sciences* 32(3): 341–61.
- Brown, Susan K. 2007. "Delayed Spatial Assimilation: Multi-Generational Incorporation of the Mexican-Origin Population in Los Angeles." *City and Community* 6(3): 193–209.
- Brown, Susan K., and Frank D. Bean. 2007. "Immigration Policy." In *The Blackwell Encyclopedia of Sociology*, vol. 5, ed. George Ritzer. Malden, Oxford, Victoria: Blackwell Publishing Ltd.
- Bureau of Labor Statistics (BLS). 2011. "Labor Force Statistics from the Current Population Survey." Washington: U.S. Government Printing Office. Available at: <http://www.bls.gov/cps/#data> (accessed July 26, 2011).
- . 2012. "Establishment Data, Historical Employment: B-1: Employees on Nonfarm Payrolls by Major Industry Sector, 1962 to Date." Washington: BLS. Available at: www.bls.gov/opub/ee/2012/ces/tableb1_201205.pdf (accessed June 14, 2012).
- Calavita, Kitty. 1992. *Inside the State: The Bracero Program, Immigration, and the INS*. New York: Routledge.
- Card, David, and Ethan G. Lewis. 2007. "The Diffusion of Mexican Immigrants During the 1990s: Explanations and Impacts." In *Mexican Immigration to the United States*, ed. George J. Borjas. Chicago and Cambridge, Mass.: University of Chicago Press and National Bureau of Economic Research.
- Cardoso, Lawrence A. 1980. *Mexican Emigration to the United States, 1897–1931: Socio-Economic Patterns*. Tucson: University of Arizona Press.
- Castles, Stephen, and Mark J. Miller. 2009. *The Age of Migration: International Population Movements in the Modern World*. 4th ed., revised and updated. New York: Guildford Press.
- Cerrutti, Marcella, and Douglas S. Massey. 2004. "Trends in Mexican Migration to the United States, 1965–1995." In *Crossing the Border: Research from the Mexican Migration Project*, ed. Jorge Duran and Douglas S. Massey. New York: Russell Sage Foundation.
- Chávez, Leo. 1988. "Settlers and Sojourners: The Case of Mexicans in the United States." *Human Organization* 47(2): 95–108.
- . 2001. *Covering Immigration: Popular Images and the Politics of the Nation*. Berkeley: University of California Press.
- . 2012. *Shadowed Lives: Undocumented Immigrants in American Society*. 3rd ed. San Diego: Harcourt, Brace, and Jovanovich.
- Cornelius, Wayne A. 1992. "From Sojourners to Settlers: The Changing Profile of Mexican Immigration to the United States." In *U.S.-Mexico Relations: Labor Market Interdependence*, ed. Jorge A. Bustamante, Clark W. Reynolds, and Raúl A. H. Ojeda. Palo Alto, Calif.: Stanford University Press.
- Council on Foreign Relations. 2009. *U.S. Immigration Policy*. New York: Council on Foreign Relations.
- Creticos, Peter A., and Eleanor Sohnen. 2013. *Manufacturing in the United States, Mexico, and Central America: Implications for Competitiveness and Migration*. Washington, D.C.: Migration Policy Institute.
- Curiel, Enrique Martinez. 2004. "The Green Card as a Matrimonial Strategy: Self-Interest in the Choice of Marital Partners." In *Crossing the Border: Research from the Mexican Migration Project*, ed. Jorge Durand and Douglas S. Massey. New York: Russell Sage Foundation.
- Current Population Survey. 2010. *Annual Social and Economic (ASEC) Supplement* (machine-readable data file). Conducted by the U.S. Census Bureau for the Bureau of Labor Statistics. Washington: U.S. Census Bureau (producer and distributor).
- Donato, Katharine M., Michael B. Aguilera, and Chizuko Wakabayashi. 2005. "Immigration Policy and Employment Conditions of U.S. Immigrants from Mexico, Nicaragua, and the Dominican Republic." *International Migration* 43(5): 5–29.
- Donato, Katharine M., Chizuko Wakabayashi, Shirin Hakimzadeh, and Amada Armenta. 2008. "Shifts in the Employment Conditions of Mexican Migrant Men and Women: The Effect of U.S. Immigration Policy." *Work and Occupations* 35(4): 462–95.
- Dreby, Joanna. 2010. *Divided by Borders: Mexican Migrants and Their Children*. Berkeley: University of California Press.
- . 2012. "The Burden of Deportation on Children in Mexican Immigrant Families." *Journal of Marriage and Family* 74(4): 829–45.
- Duncan, Brian V., Joseph Hotz, and Stephen J. Trejo. 2006. "Hispanics in the U.S. Labor Market." In *Hispanics and the Future of America*, ed. Marta Tienda and Faith Mitchell. Washington, D.C.: National Academies Press.

- Federal Reserve Bank of Atlanta. 2012. "Jobs Calculator." Atlanta: Federal Reserve, Center for Human Capital Studies. Available at: <http://www.frbatlanta.org/chcs/calculator/index.cfm> (accessed December 31, 2012).
- Fischer, Claude S., and Michael Hout. 2006. *Century of Difference: How America Changed in the Last One Hundred Years*. New York: Russell Sage Foundation.
- Fragomen, Austin T., Jr., and Alfred J. Del Rey Jr. 1979. "The Immigration Selection System: A Proposal for Reform." *San Diego Law Review* 17(1): 1–36.
- Freeman, Richard B. 2007. *America Works: Critical Thoughts on the Exceptional U.S. Labor Market*. New York: Russell Sage Foundation.
- Gentsch, Kerstin, and Douglas S. Massey. 2011. "Labor Market Outcomes for Legal Mexican Immigrants Under the New Regime of Immigration Enforcement." *Social Science Quarterly* 92(3): 875–93.
- Gibney, Matthew. 2009. "Precarious Residents: Migration Control, Membership, and the Rights of Non-Citizens." Human Development Research Paper 2009–2010. New York: United Nations Development Program.
- Glick, Jennifer E. 2010. "Connecting Complex Processes: A Decade of Research on Immigrant Families." *Journal of Marriage and Family* 72(3): 498–515.
- Goldin, Claudia, and Lawrence F. Katz. 2008. *The Race Between Education and Technology*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- Gonzales, Roberto G. 2011. "Learning to Be Illegal: Undocumented Youth and Shifting Legal Contexts in the Transition to Adulthood." *American Sociological Review* 76(4): 602–19.
- Gonzales, Roberto G., and Leo R. Chávez. 2012. "Awakening to a Nightmare: Abjectivity and Illegality in the Lives of Undocumented 1.5 Generation Latino Immigrants in the United States." *Current Anthropology* 53(3): 255–81.
- Grieco, Elizabeth M., Edward N. Trevelyan, Luke J. Larsen, Yesenia D. Acosta, Christine Gambino, G. Patricia de la Cruz, Thomas Gryn, and Nathan P. Walters. 2012. "The Size, Place of Birth, and Geographic Distribution of the Foreign-Born Population in the United States: 1960–2010." Working Paper 96. Washington: U.S. Census Bureau, Population Division (October).
- Gryn, Thomas, and Luke J. Larsen. 2010. "Nativity Status and Citizenship in the United States: 2009." *American Community Survey Briefs ACS-09-16*. Washington: U.S. Census Bureau.
- Hall, Matthew, Emily Greenman, and George Farkas. 2010. "Legal Status and Wage Disparities for Mexican Immigrants." *Social Forces* 89(2): 491–514.
- Hamermesh, Dan, and Frank D. Bean. 1998. *Help or Hindrance? The Economic Implications of Immigration for African Americans*. New York: Russell Sage Foundation.
- Hanson, Gordon H. 2010. *Regulating Low-Skilled Immigration in the United States*. Washington, D.C.: American Enterprise Press.
- Hernández-León, Rubén. 2008. *Metropolitan Migrants: The Migration of Urban Mexicans to the United States*. Berkeley: University of California Press.
- Hochschild, Jennifer, and John Mollenkopf. 2009. *Bringing Outsiders In: Transatlantic Perspectives on Immigrant Political Incorporation*. Ithaca, N.Y.: Cornell University Press.
- Hoefer, Michael, Nancy Rytina, and Bryan C. Baker. 2011. "Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2010." Office of Immigration Statistics, Policy Directorate, U.S. Department of Homeland Security. Available at: http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2010.pdf (accessed October 13, 2014).
- Holzer, Harry J. 2011. "Immigration Policy and Less-Skilled Workers in the United States: Reflections on Future Directions for Reform." Washington, D.C.: Migration Policy Institute.
- Holzer, Harry J., Julia I. Lane, David B. Rosenblum, and Fredrik Andersson. 2011. *Where Are All the Good Jobs Going? What National and Local Job Quality and Dynamics Mean for U.S. Workers*. New York: Russell Sage Foundation.
- Hondagneu-Sotelo, Pierrette. 1994. *Gendered Transitions: Mexican Experiences of Immigration*. Berkeley: University of California Press.
- Hout, Michael. 2012. "Social and Economic Returns to Higher Education in the United States." *Annual Review of Sociology* 38: 379–400.
- Hutton, Will, and Anthony Giddens, eds. 2000. *Global Capitalism*. New York: New Press.
- Jasso, Guillermina, Douglas S. Massey, Mark R. Rosenzweig, and James P. Smith. 2008. "From Illegal to Legal: Estimating Previous Illegal Experience Among New Legal Immigrants to the United States." *International Migration Review* 42(4): 803–43.

- Jiménez, Tomas R. 2009. *Replenished Ethnicity: Mexican Americans, Immigration, and Identity*. Berkeley: University of California Press.
- Julian, Tiffany, and Robert Kominski. 2011. "Education and Synthetic Work-Life Earnings Estimates." *American Community Survey Briefs ACS-14*. Washington: U.S. Census Bureau (September).
- Kalleberg, Arne L. 2011. *Good Jobs, Bad Jobs: The Rise of Polarized and Precarious Employment Systems in the United States, 1970s to 2000s*. New York: Russell Sage Foundation.
- Kanstroom, Daniel. 2012. "Aftermath: Deportation Law and the New American Diaspora." New York: Oxford University Press.
- Kasinitz, Philip. 2012. "The Sociology of International Migration: Where We Have Been, Where Do We Go from Here?" *Sociological Forum* 27(3): 579–90.
- Keely, Charles B. 1971. "Effects of the Immigration Act of 1965 on Selected Population Characteristics of Immigrants to the United States." *Demography* 8(2): 157–69.
- King, Miriam, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. 2010. *Integrated Public Use Microdata Series, Current Population Survey: Version 3.0* (machine-readable database). Minneapolis: University of Minnesota.
- Leach, Mark A., Frank D. Bean, Susan K. Brown, and Jennifer Van Hook. 2011. "Unauthorized Immigrant Parents: Do Their Migration Histories Limit Their Children's Education?" US2010 Project (October). Available at: www.s4.brown.edu/us2010/Data/Report/report101811.pdf (accessed January 11, 2012).
- Lee, Jennifer, and Frank D. Bean. 2010. *The Diversity Paradox: Immigration and the Color Line in Twenty-First-Century America*. New York: Russell Sage Foundation.
- Martin, Susan F. 2011. *A Nation of Immigrants*. New York: Cambridge University Press.
- Massey, Douglas S. 1999. "Why Does Immigration Occur? A Theoretical Synthesis." In *The Handbook of International Migration: The American Experience*, ed. Charles Hirschman, Philip Kasinitz, and Josh DeWind. New York: Russell Sage Foundation.
- . 2007. *Categorically Unequal: The American Stratification System*. New York: Russell Sage Foundation.
- Massey, Douglas S., Rafael Alarcón, Jorge Durand, and Humberto González. 1987. *Return to Aztlan: The Social Process of International Migration from Western Mexico*. Berkeley: University of California Press.
- Massey, Douglas S., and Chiara Capoferro. 2008. "The Geographic Diversification of American Immigration." In *New Faces in New Places: The Changing Geography of American Immigration*, ed. Douglas S. Massey. New York: Russell Sage Foundation.
- Massey, Douglas S., Jorge Durand, and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.
- Massey, Douglas S., and Kerstin Gentsch. 2014. "Undocumented Migration to the United States and the Wages of Mexican Immigrants." *International Migration Review* 48(2): 482–99.
- Massey, Douglas S., and Karen A. Pren. 2012a. "Origins of the New Latino Underclass." *Race and Social Problems* 4(1): 5–17.
- . 2012b. "Unintended Consequences of U.S. Immigration Policy: Explaining the Post-1965 Surge from Latin America." *Population and Development Review* 38(1): 1–29.
- Meara, Ellen R., Seth Richards, and David M. Cutler. 2008. "The Gap Gets Bigger: Changes in Mortality and Life Expectancy, by Education, 1981–2000." *Health Affairs* 27(2): 350–60.
- Menjívar, Cecilia. 2006. "Liminal Legality: Salvadoran and Guatemalan Immigrants' Lives in the United States." *American Journal of Sociology* 111(4): 999–1037.
- Minnesota Population Center. 2011. *Integrated Public Use Microdata Series, International: Version 6.1* (machine-readable database). Minneapolis: University of Minnesota.
- Monger, Randall, and James Yankay. 2012. "U.S. Legal Permanent Residents: 2011." *Annual Flow Report*, 1–6. Washington: Department of Homeland Security, Office of Immigration Statistics.
- Moretti, Enrico. 2012. *The New Geography of Jobs*. Boston: Houghton Mifflin Harcourt.
- Murphy, Kevin M., and Robert Topel. 1997. "Unemployment and Nonemployment." *American Economic Review* 87(12): 295–300.
- Myers, Dowell. 2007. *Immigrants and Boomers: Forging a New Social Contract for the Future of America*. New York: Russell Sage Foundation.
- Ortega, Alexander N., Sarah M. Horwitz, Hai Fang, Alice A. Kuo, Steven P. Wallace, and Moira Inkelaas. 2009. "Doc-

- umentation Status and Parental Concerns About Development in Young U.S. Children of Mexican Origin." *Academic Pediatrics* 9(4): 278–82.
- Ottaviano, Gianmarco I. P., and Giovanni Peri. 2008. "Immigration and National Wages: Clarifying the Theory and the Empirics." Working Paper 14188. Cambridge, Mass.: National Bureau of Economic Research.
- Passel, Jeffrey S., and D'Vera Cohn. 2009. "A Portrait of Unauthorized Immigrants in the United States." Washington, D.C.: Pew Research Center.
- . 2010. "U.S. Unauthorized Migration Flows Are Down Sharply Since Mid-Decade." Washington, D.C.: Pew Hispanic Center.
- . 2011. "Unauthorized Immigrant Population: National and State Trends, 2010." Washington, D.C.: Pew Hispanic Center.
- Passel, Jeffrey, D'Vera Cohn, and Ana Gonzalez-Barrera. 2012. "Net Migration from Mexico Falls to Zero—and Perhaps Less." Washington, D.C.: Pew Hispanic Center.
- Passel, Jeffrey S., Jennifer Van Hook, and Frank D. Bean. 2004. "Estimates of the Legal and Unauthorized Foreign-Born Population for the United States and Selected States, Based on Census 2000." Washington, D.C.: U.S. Bureau of the Census and Sabre Systems Statistical and Demographic Analyses, Immigration Studies White Papers.
- Portes, Alejandro, and Robert L. Bach. 1985. *Latin Journey: Cuban and Mexican Immigrants in the United States*. Berkeley: University of California Press.
- Portes, Alejandro, and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley and New York: University of California Press and Russell Sage Foundation.
- Potochnick, Stephanie R., and Krista M. Perreira. 2010. "Depression and Anxiety Among First-Generation Immigrant Latino Youth: Key Correlates and Implications for Future Research." *Journal of Nervous and Mental Disease* 198(7): 470–77.
- Reimers, David M. 1983. "An Unintended Reform: The 1965 Immigration Act and Third World Migration to the United States." *Journal of American Ethnic History* 3(1): 9–28.
- . 2005. *Other Immigrants: The Global Origins of the American People*. New York: New York University Press.
- Roberts, Bryan R. 1995. "Socially Expected Durations and the Economic Adjustment of Immigrants." In *The Economic Sociology of Immigration*, ed. Alejandro Portes. New York: Russell Sage Foundation.
- Roberts, Bryan R., Reanne Frank, and Fernando Lozano-Ascencio. 1999. "Transnational Migrant Communities and Mexican Migration to the U.S." *Ethnic and Racial Studies* 22(2): 238–66.
- Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. *Integrated Public Use Microdata Series: Version 5.0* (machine-readable database). Minneapolis: University of Minnesota.
- Rumbaut, Rubén G., Frank D. Bean, Leo Chávez, Jennifer Lee, Susan K. Brown, Louis DeSipio, and Min Zhou. 2004. *Immigration and Intergenerational Mobility in Metropolitan Los Angeles (IIMMLA)*. Ann Arbor: Inter-University Consortium for Political and Social Research (distributor). 2008-07-01. doi:10.3886/ICPSR22627.v.1.
- Smith, James P., and Barry Edmonston. 1997. *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*. Washington, D.C.: National Academies Press.
- Sorensen, Elaine, and Frank D. Bean. 1994. "The Immigration Reform and Control Act and the Wages of Mexican Origin Workers: Evidence from Current Population Surveys." *Social Science Quarterly* 75(1): 1–17.
- Stiglitz, Joseph E. 2012. *The Price of Inequality: How Today's Divided Society Endangers Our Future*. New York: W.W. Norton and Co.
- Suárez-Orozco, Carola, Hirokazu Yoshikawa, Robert T. Teranishi, and Marcelo M. Suárez-Orozco. 2011. "Growing Up in the Shadows: The Developmental Implications of Unauthorized Status." *Harvard Educational Review* 81(3): 438–73.
- Telles, Edward E., and Vilma Ortiz. 2008. *Generations of Exclusion: Racial Assimilation and Mexican Americans*. New York: Russell Sage Foundation.
- Tichenor, Daniel J. 2002. *Dividing Lines: The Politics of Immigration Control in America*. Princeton, N.J.: Princeton University Press.
- Ueda, Reed. 1998. "The Changing Face of Post-1965 Immigration." In *The Immigration Reader*, ed. David Jacobson. Malden, Mass.: Blackwell Publishers.
- U.S. Census Bureau. 2008. *Survey of Income and Program Participation Users' Guide*. Washington: U.S. Government Printing Office.

- . 2010. "Population Estimates." Available at: <http://www.census.gov/popest/data/historical/index.html> (accessed January 26, 2012).
- U.S. Department of Commerce, Bureau of Economic Analysis. 2010. "National Economic Accounts: Gross Domestic Product." Available at: <http://www.bea.gov/national/index.htm#gdp> (accessed January 26, 2012).
- . 2012. "United States Trade Representative Annex I." Available at: www.ustr.gov/sites/default/files/AnnexI_1.pdf (accessed May 11, 2013).
- U.S. Department of Health and Human Services (HHS). Centers for Disease Control and Prevention (CDC). National Center for Health Statistics (NCHS). 2010. "VitalStats." Available at: <http://www.cdc.gov/nchs/vitalstats.htm> (accessed January 12, 2012).
- U.S. Department of Homeland Security (DHS). 2003–2011. *Yearbooks of Immigration Statistics: 2002–2010*. Washington: DHS, Office of Immigration Statistics.
- U.S. Department of State. Bureau of Consular Affairs. 2011. *Mexico Family Preference Cut-off Dates from FY1992–2010*. Available at: <http://travel.state.gov/content/visas/english/law-and-policy/bulletin.html> (accessed January 12, 2012).
- U.S. Immigration and Naturalization Service (INS). 1987–2004. *Statistical Yearbooks of the Immigration and Naturalization Service: 1986, 1993, and 1998*. Washington: U.S. Government Printing Office.
- Van Hook, Jennifer, James D. Bachmeier, Frank D. Bean, and Catherine Tucker. 2014. "Recent Trends in Coverage of the Mexican-Born Population of the United States: Results from Applying Multiple Methods Across Time." *Demography* 51(2): 699–726.
- Villarreal, Andrés, and Erin R. Hamilton. 2012. "Rush to the Border? Market Liberalization and Urban- and Rural-Origin Internal Migration in Mexico." *Social Science Research* 41(5): 1275–91.
- Waldinger, Roger. 2011. "Immigration: The New American Dilemma." *Daedalus* 140(2): 215–25.
- Warren, Robert. 1990. "Annual Estimates of Nonimmigrant Overstays in the United States: 1985–1988." In *Undocumented Migration to the United States: IRCA and the Experience of the 1980s*, ed. Frank D. Bean, Barry Edmonston, and Jeffrey S. Passel. Washington, D.C.: Urban Institute Press.
- Wilkinson, Richard G., and Kate Pickett. 2010. *The Spirit Level: Why Equality Is Better for Everyone*. New York: Viking Press.
- Yoshikawa, Hirokazu. 2011. *Immigrants Raising Citizens: Undocumented Parents and Their Young Children*. New York: Russell Sage Foundation.
- Yoshikawa, Hirokazu, and Janya Kholoptseva. 2013. "Unauthorized Immigrant Parents and Their Children's Development: A Summary of the Evidence." Washington, D.C.: Migration Policy Institute.
- Zolberg, Aristide R. 2006. *A Nation by Design: Immigration Policy in the Fashioning of America*. New York: Russell Sage Foundation.

Chapter 12

Gender Disparities in Educational Attainment in the New Century: Trends, Causes, and Consequences

Thomas A. DiPrete and Claudia Buchmann

In a long-standing ritual, each spring tasseled graduates march across the stages of American colleges and universities, clutching diplomas—bachelor’s, master’s, doctorates.¹ Over time, women have come to dominate that throng.

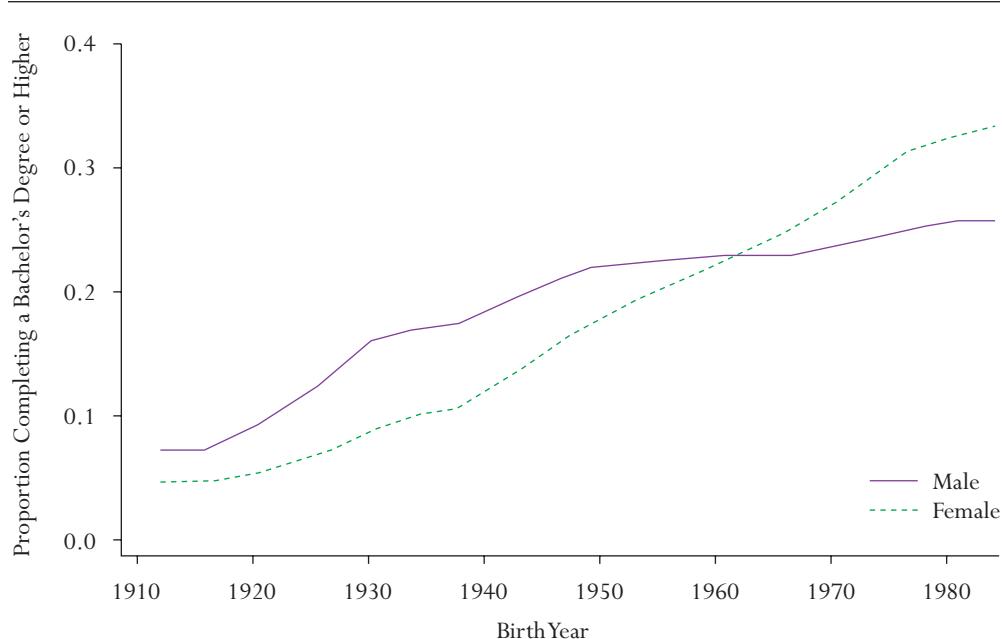
Consider the statistics. In 1970, 58 percent of college students were men; in 2010, 57 percent were women (National Center for Education Statistics 2012). By all predictions, women will gain in college enrollment and graduation over the next decade, widening the gender gap, albeit more slowly than in recent decades (National Center for Education Statistics 2012, table 283). The “feminization” of higher education is not unique to the United States but rather has occurred in most industrialized societies. College administrators, policymakers, and the media have noted the trend.² Researchers are trying to understand it.

This report analyzes women’s educational gains in the United States and places them within the broader international context. We describe changes in the relative educational attainment of females and males in the United States over the twentieth and early twenty-first centuries and consider the explanations for the reversal of the gender gap in college completion during these years. We show that the same trend is found for every main racial-ethnic group, with the exception of African Americans, among whom women always completed more degrees. It coincides with a substantial reduction in segregation across fields of study in the early 1970s, though this equalization has leveled off in recent years. We find that as early as the 1928 birth cohort, men tended to delay college graduation. At the youngest age (twenty-two), they lagged slightly behind white women but surpassed them at older ages, but for more recent cohorts they are further behind at twenty-two and do not catch up with age. In the quest to understand why women have overtaken men in their rates of college degree receipt, this report considers macro-societal changes as well as gender differences in academic performance. The female advantage in college completion emerged out of the combination of a long-standing female advantage in academic performance and the development of a more egalitarian society that raised the incentive for girls to obtain higher education.

GENDER GAPS IN EDUCATIONAL ATTAINMENT: 1940-2010

In the twentieth century, America’s high schools, then its colleges and universities, expanded dramatically. In 1900 most people had only primary schooling. By 1920 high school graduation was widespread, and by 1960 most high school graduates had attended college (Fischer and Hout 2006, 10). In the latter part of the twentieth century, college graduation supplanted high

FIGURE 12.1 *Proportion of Twenty-Six- to Twenty-Eight-Year-Olds in the 1912–1984 Birth Cohorts with a Bachelor’s Degree, by Birth Year and Age, 1910 to 1980*



Source: Authors’ compilation based on IPUMS census data 1940–2000 (Ruggles et al. 2010); American Community Survey (U.S. Census Bureau 2010).

school graduation as the educational watershed. While fewer than 7 percent of people born in 1915 graduated from college, 28 percent of those born in 1975 had graduated from college by the age of twenty-five (Bailey and Dynarski 2009). The expansion of higher education reflected a public commitment, manifested through the creation of state college systems and direct federal aid to students (first with the GI Bill and later with grant and loan programs) (Fischer and Hout 2006, 14). Of course, although the education of the population rose overall, the trend varied by gender and race.

Trends in bachelor’s degrees for men and women based on U.S. census data from 1940 to 2000 and American Community Survey (ACS) data from 2010 are shown in figure 12.1. In 1940 (when cohorts born in 1912–1914 were twenty-six to twenty-eight years old), only about 5 percent of women and 7 percent of men had completed a bachelor’s degree by ages twenty-six to twenty-eight.³ By 2010, 36 percent of women and 28 percent of men in this age range had completed a bachelor’s degree. How did this reversal happen? The male-female gap in degrees was relatively small in 1940. But from 1940 onward, men earned more bachelor’s degrees than women; by 1960 (when cohorts born in 1932–1934 were twenty-six to twenty-eight years old), 15 percent of men had earned bachelor’s degrees, compared to 8 percent of women. Over the next decade, the rate of degree receipt increased for men and women, but 1950 marked a watershed: men’s rate of BA completion stopped growing. That stagnation persisted for years: men born in the mid-1960s had virtually the same rate of graduation as men born fifteen years earlier.

The Vietnam War draft contributed to the stagnation: many men stayed in school to take advantage of student exemptions and avoid serving in the military (Card and Lemieux 2001; Freeman 1976). Also, during this time the wage premium for a college degree declined. (Economists blame the large supply of new college-educated job-seekers from the Early Baby Boom cohorts; see, for example, Freeman 1976). However, the persistent stagnation in men's college completion rates has deeper causes. As of 1980, the proportion of twenty-six- to twenty-eight-year-old men completing a bachelor's degree was still 25 percent, and it had reached only 26 percent by 2000 and 28 percent by 2010.

In contrast, more women were entering and graduating from college. Their rate of graduation continued to rise after the birth cohorts of 1950 even as male rates stagnated. By the time the 1960 birth cohorts had moved through the college enrollment years, the gender gap had closed. In the past thirty years, the proportion of twenty-six- to twenty-eight-year-old women earning at least a bachelor's degree rose from 21 percent (1980) to 30 percent (2000) to 36 percent (2010). Two factors are crucial: (1) the stable growth in the proportion of American women who earn college degrees, and (2) the prolonged stagnation in the comparable rates for American men.

Race and Ethnic Differences in Gender Disparities in Educational Attainment

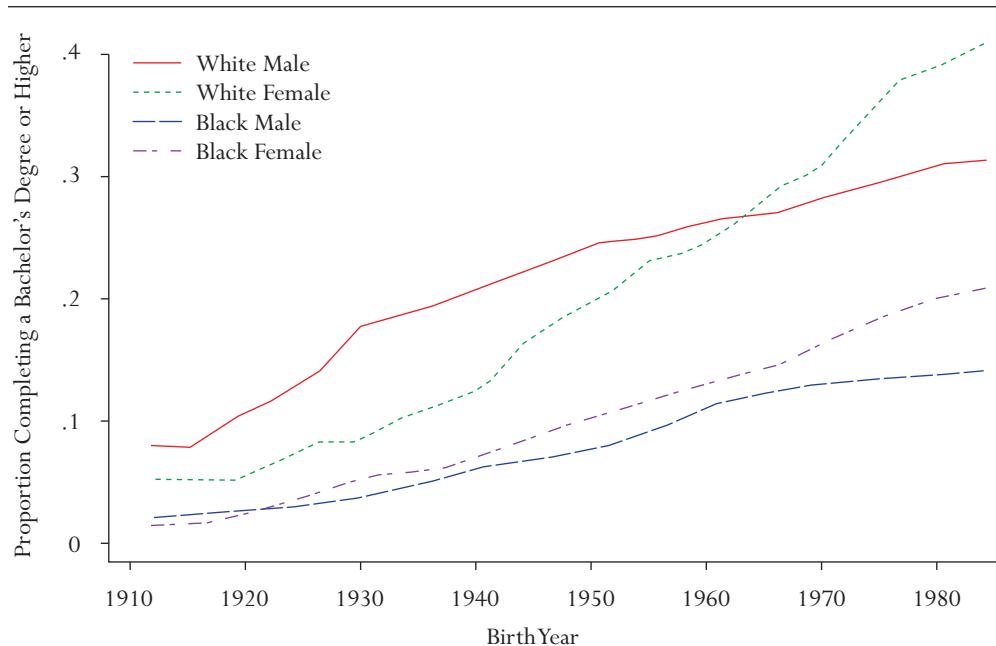
In the educational arena, women predominate, but the size of the male-female gap varies by race and ethnicity. It is largest for African Americans, but it is also large for Hispanics and Native Americans. In 2010 women earned 66 percent of all bachelor's degrees awarded to blacks, 61 percent to Hispanics, 60 percent to Native Americans, 55 percent to Asians, and 56 percent to whites (National Center for Education Statistics 2012). Consider the trends in college completion for much of the past century. Figure 12.2 presents the proportion of twenty-six- to twenty-eight-year-old blacks and non-Hispanic whites with at least a bachelor's degree by gender and race across the birth cohorts covered by the census and ACS data from 1940 to 2010. The trend for the two groups differs. With whites, the gender gap reversed. However, black men never led black women in rates of graduation. In 1940 only 1.3 percent of twenty-six- to twenty-eight-year-old black men and 1.6 percent of black women earned a college degree.⁴ Since then, black women have advanced faster.

The trends for Asians, Hispanics, and Native Americans are similar to those for whites. Despite the large racial and ethnic differences in the proportion of the population completing a bachelor's degree, women outperform men within each racial and ethnic group. Data for these groups from 1980 to the present are shown in figure 12.3.⁵ (Note that Hispanics and Native Americans are placed on a different scale from Asians, whose college graduation rates are higher than those of any other ethnic group.) Among Hispanics, Asians, and Native Americans, women were passing men in their rate of BA completion for twenty-six- to twenty-eight-year-olds born in the early 1960s. By 2010, among birth cohorts of the early 1980s, the female lead had widened for all three groups: for Hispanics (17 percent of women versus 12 percent of men), for Asians (62 percent of women versus 58 percent of men), and for Native Americans (14 percent of women versus 11 percent of men).

Gender Gaps in Graduate and Professional Degrees

Master's degrees show the same gender gap. Figure 12.4 displays trends in men's and women's completion of master's degrees from the 1969–1970 school year to the 2009–2010 school year.

FIGURE 12.2 *Proportion of Black and Non-Hispanic White Twenty-Six- to Twenty-Eight-Year-Olds with a Bachelor's Degree or Higher in the 1912–1984 Birth Cohorts, by Birth Year and Gender*



Source: Authors' compilation based on IPUMS census data 1940–2000 (Ruggles et al. 2010); American Community Survey (U.S. Census Bureau 2010).

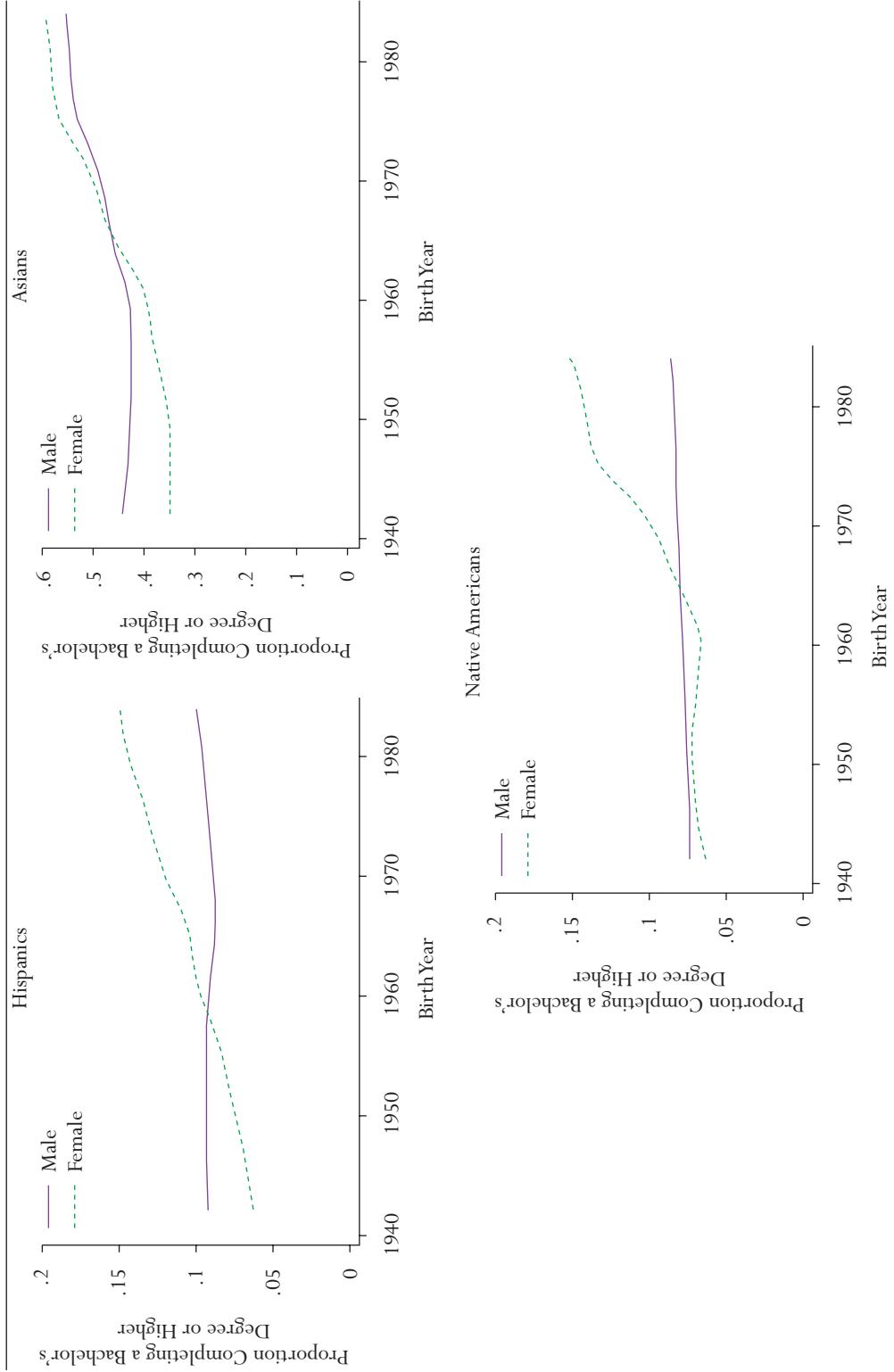
Just over three decades ago, in 1969–1970, more men earned master's degrees than women (143,083 master's degrees awarded to men versus 92,481 to women). But from 1980 onward, women outpaced men. By 2009–2010, women were awarded roughly 50 percent more master's degrees than men (417,828 degrees versus 275,197) (National Center for Education Statistics 2012).

Women's growth in professional and doctoral degrees has been slower than that for bachelor's or master's degrees (figure 12.5), and women have only recently reached parity with men in professional and doctoral degrees. In 1970 men completed sixteen times more professional degrees (such as medical, dentistry, or law degrees) than women. Since 1982, the number of professional degrees completed by men has declined slightly (from 40,229 in 1982 to 34,661 in 2010), while women again outpaced men—from 1,534 professional degrees in 1970 to 30,289 in 2010.

The pattern for doctoral degrees is similar: men completed almost eight times as many doctoral degrees as women in 1969–1970 (58,137 doctoral degrees awarded to men versus 6,861 to women). By 2009–2010, women received more doctoral degrees (81,953 versus 76,605). If these trends continue, the gender gap in professional and doctoral degrees may soon resemble the female-favorable gender gap in bachelor's and master's degrees.

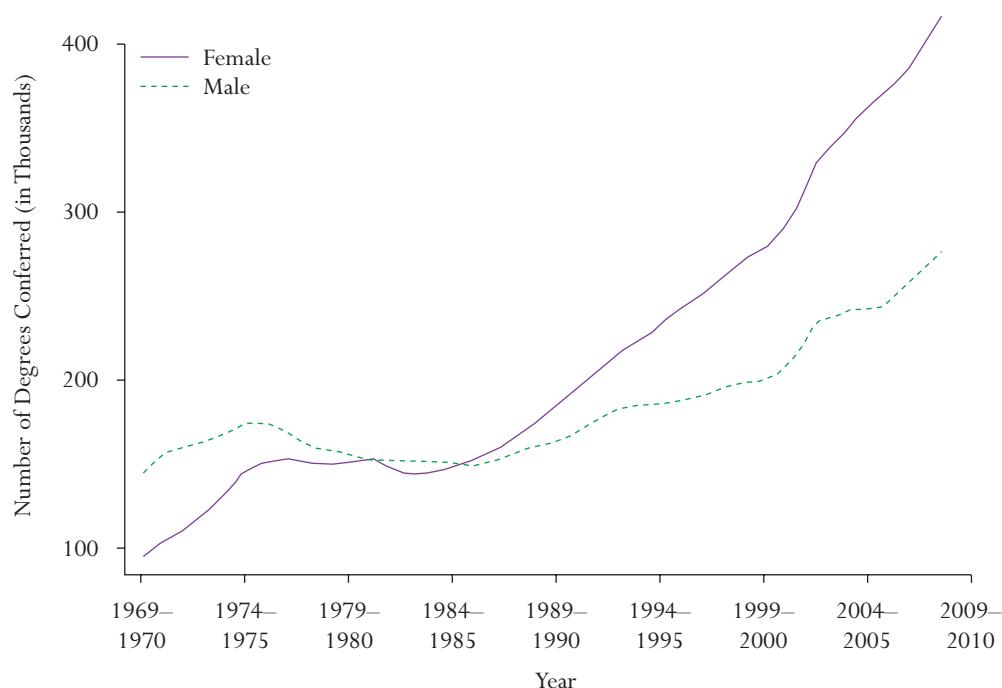
Figure 12.6 presents the data from figures 12.4 and 12.5 in terms of women's share of degrees. In 1969–1970, almost 40 percent of master's degree recipients were women, but only 11 percent of doctoral recipients and 6 percent of professional degree recipients were women.

FIGURE 12.3 Proportion of Twenty-Six- to Twenty-Eight-Year-Olds in the 1942–1984 Birth Cohorts with a Bachelor's Degree or Higher, by Birth Year, Gender, and Hispanic, Asian, and Native American Status



Source: Authors' compilation based on IPUMS, 1940–2000; ACS, 2010.

FIGURE 12.4 *Number of Master's Degrees Conferred (in Thousands), by Gender, 1969–1970 to 2009–2010*



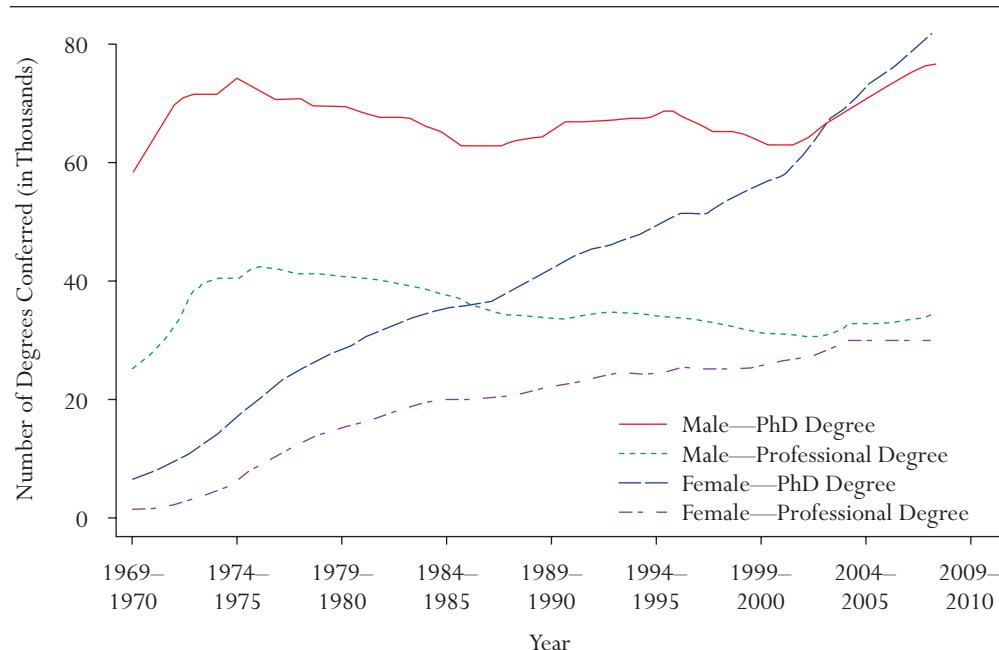
Source: Authors' compilation based on Snyder and Dillow (2012).

Women's share of master's degrees has grown: today 60 percent of master's degrees are awarded to women. Their share of professional and doctoral degrees has increased as well: women now earn 47 percent of professional degrees and 52 percent of doctoral degrees. At every level of education, women have achieved equality or surpassed men in the number of degrees earned.

Gender Segregation in Fields of Study

Gender differences in the type of institution attended (elite versus non-elite, public versus private) and the field of study pursued (major) also matter. These factors mark what Maria Charles and Karen Bradley (2002) have termed the "horizontal" dimensions of educational sex segregation (for a review, see Gerber and Cheung 2008). In contrast to the rapid advancement of women in educational attainment, the gender composition of fields of study has changed far more slowly (England and Li 2006). Figure 12.7 displays changes in the dissimilarity index over the past forty years for bachelor's degree recipients, as calculated by Allison Mann and Thomas DiPrete (2013) using fifty-three field-of-study categories in the National Science Foundation's WebCASPAR database. The figure combines the fields into three general categories: arts and sciences, sciences, and "education-business-other."⁶ The dissimilarity index shows a pronounced decline in gender segregation through the mid-1990s, when the decline began to stagnate. Over a decade ago, Jerry Jacobs (1995) and Sarah Turner and William Bowen (1999) identified this

FIGURE 12.5 *Number of Doctoral and Professional Degrees Conferred (in Thousands), by Gender, 1969–1970 to 2009–2010*



Source: Authors' compilation based on Snyder and Dillow (2012).

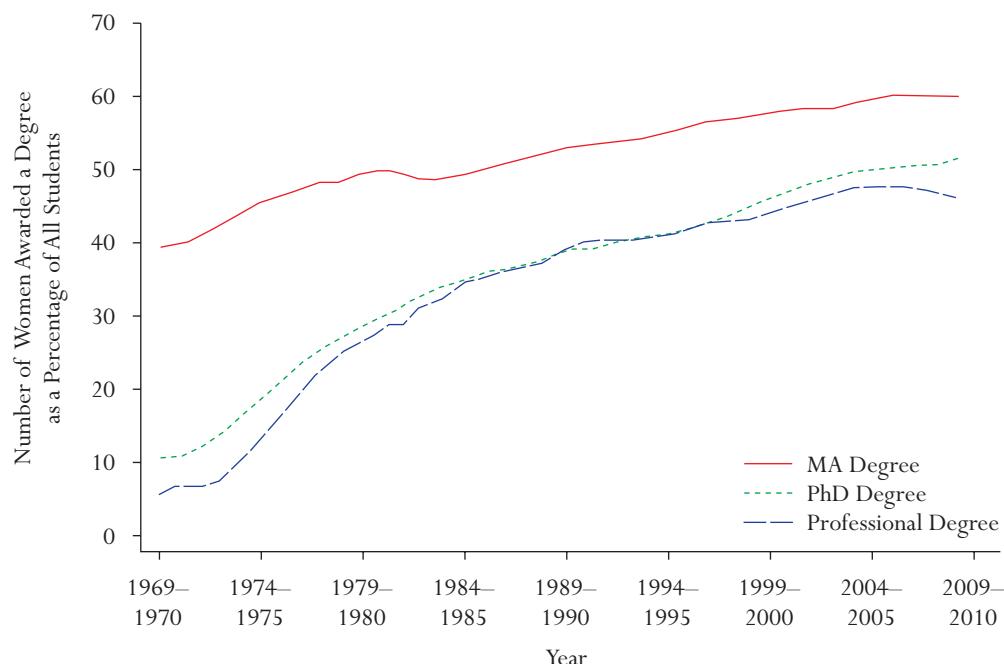
slowdown in gender integration. The key factor, however, was the decline in the education-business-other index through the mid-1980s. Gender segregation in fields within the arts and sciences has been more uneven. As for the sciences, the overall level of segregation has been much higher and appears to be rising.

Mann and DiPrete (2013) also computed trends in the index of association using Web CASPAR data. The index of association measures the factor by which women are underrepresented in the average field of study (Charles and Grusky 1995); it is not affected by changes in the share of students in particular fields. This is important because the overall attractiveness of many science, technology, engineering, and mathematics (STEM) fields has changed. With this measure, the gender segregation trends become more pronounced. The index decreased for all fields (total) before 1980, dropping from more than 6 in the late 1960s to about 3 in 1980. In terms of the broad subfields, gender segregation in education-business-other majors has diminished, albeit more slowly than in the 1980s, but segregation in the arts and sciences (especially in the sciences) has risen slightly over the past decade.

THE PATHWAYS TO COLLEGE COMPLETION IN CONTEMPORARY AMERICA

Before graduating from college, students must complete primary and secondary education. Children usually start first grade at age six, complete high school by age eighteen, and college by age twenty-two. Many events can disrupt this normative trajectory, including late entry into

FIGURE 12.6 *Women's Share of Master's, Doctoral, and Professional Degrees Awarded, 1969–1970 to 2009–2010*



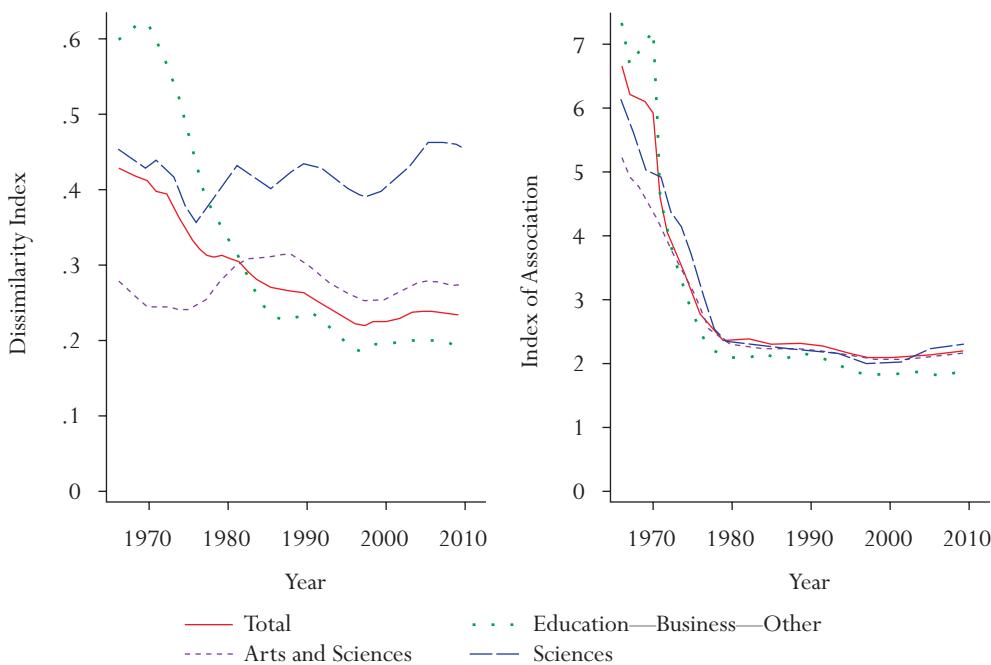
Source: Authors' compilation based on data from the National Center for Education Statistics (NCES) (Snyder and Dillenbeck 2012).

elementary school, grade retentions, and delayed entry into college. In addition, students may matriculate first at a community college, attend school part-time, or exit and reenter college. Here we delve into the impact of some of these factors on gender differences in graduation among blacks and whites. First, we examine age-specific four-year college completion rates; then we examine trends in the educational transitions preceding college graduation.

Age and Cohort Differences

Table 12.1 highlights the importance of age in the gender gap. Across the birth cohorts covered by the 1940–2000 census data, men consistently delayed their school transitions. Over time, the magnitude and the direction of the age-specific gender gap have changed. For the 1918 cohort, white men and women both completed college by age twenty-two at almost the same rates (1.02), but men quickly surpassed women; by age twenty-eight, white women had only two-thirds the odds of completing college as did men (0.63).⁷ In the 1928 cohort, white men were at a distinct disadvantage at age twenty-two, but they caught up, and by age twenty-eight white women had only half (0.48) the chance of completing college that men did. The 1938 and 1948 cohorts mark the nadir for white women: they lagged behind men at age twenty-two and continued to fall behind. But by the 1968 cohort, women had higher odds of graduating at age twenty-two, and they maintained an advantage at age twenty-eight. Women's advantage was even greater for the 1974 cohort.

FIGURE 12.7 Gender Segregation in Fields of Study, 1966–2009



Source: Mann and DiPrete (2013); data drawn from National Science Foundation Web-CASPAR database.

Note: The first graph displays the index of dissimilarity from the years 1966 to 2009. The second displays the index of association for the same years. Each contains a total all-fields index and subfield indices, as indicated in the legend.

The pattern is somewhat different among blacks, although here also we find the tendency for men to delay graduation. As shown in table 12.1, black women had higher odds of completing college across all time points and most ages. Among the 1938 birth cohort, the odds of completing college by age twenty-two for black women were 2.6 times higher than for black men. In this 1938 birth cohort, black men gradually reduced their education deficit: by ages twenty-six to twenty-eight, they lagged only slightly behind black women in their likelihood of finishing four years of college. The 1948 cohort of black men was similar to the 1938 cohort: they lagged well behind black women in rates of college completion during their early twenties, but achieved near-parity with black women by their late twenties. Across subsequent cohorts, however, black men, like white men, fell back. The female-to-male odds ratio at age twenty-six grew from 1.12 for the 1938 birth cohort to 1.17 for the 1948 birth cohort, 1.24 for the 1958 birth cohort, and 1.40 for the 1968 birth cohort. It remained roughly at this level for the 1974 birth cohort as well.

These statistics can be looked at in another way: comparing blacks and whites within each gender. Figure 12.8 presents the changing odds ratio in the education of twenty-six- to twenty-eight-year-old men (white to black) and women (white to black). The relative odds of a white man versus a black man completing college declined from nearly five times as high in 1940 to only twice as high in 2000, with black males making strong gains until 1980 and slower gains thereafter. In contrast, black women have not shown the same progress. Since about 1960, there

TABLE 12.1 *Female-to-Male Odds Ratios for the 1918–1974 Birth Cohorts of Completing Four-Year College, by Age, Year, and Race, 1940–1996*

	Census Year/Birth Cohort						
	1940/ 1918	1950/ 1928	1960/ 1938	1970/ 1948	1980/ 1958	1990/ 1968	1996/ 1974
Whites							
Twenty-two	1.02	1.58	0.82	0.86	1.19	1.41	1.56
Twenty-three	0.85	1.18	0.71	0.81	1.08	1.38	1.57
Twenty-four	0.76	0.75	0.69	0.81	0.98	1.20	1.42
Twenty-five	0.65	0.57	0.59	0.77	0.99	1.21	1.39
Twenty-six	0.58	0.51	0.58	0.74	0.95	1.15	1.24
Twenty-seven	0.58	0.51	0.55	0.70	0.91	1.15	1.29 ^a
Twenty-eight	0.63	0.48	0.52	0.69	0.89	1.12	1.25 ^a
Blacks							
Twenty-two	1.70	3.15	2.63	1.41	1.79	1.34	1.67
Twenty-three	1.49	2.33	1.72	1.35	1.61	1.57	1.65
Twenty-four	1.70	1.22	1.41	1.56	1.34	1.41	1.43
Twenty-five	1.54	1.47	1.53	1.30	1.27	1.48	1.59
Twenty-six	1.14	0.92	1.12	1.17	1.24	1.40	1.39
Twenty-seven	1.55	1.66	1.36	1.32	1.27	1.42	1.61 ^a
Twenty-eight	1.54	1.21	0.95	0.95	1.31	1.53	1.47 ^a

Source: McDaniel et al. (2011).

^aComputed based on extrapolating 1990–2000 results into the future.

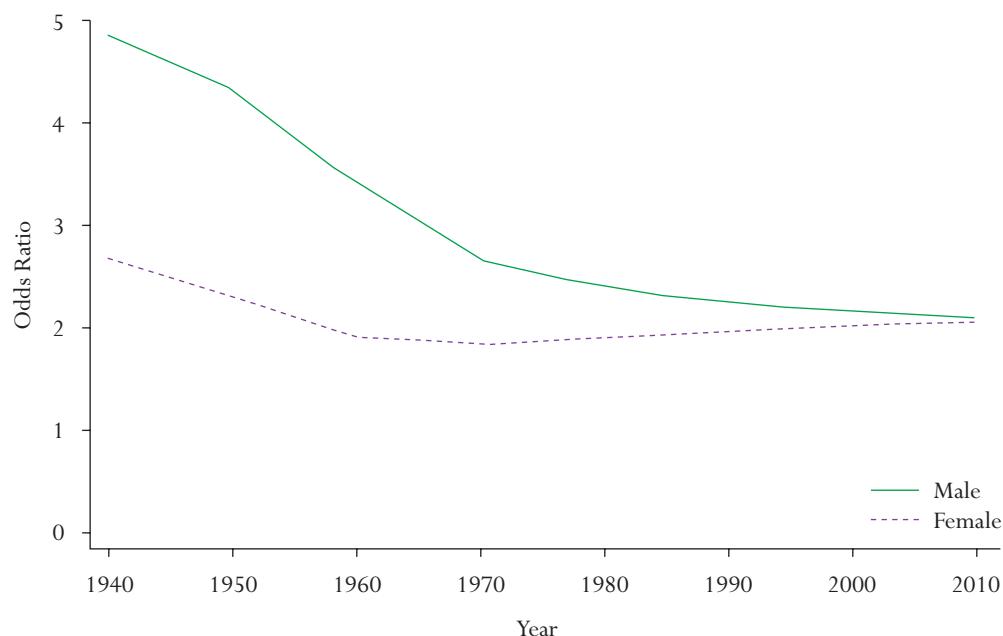
has been little or no trend in the relative odds of a black woman versus a white woman graduating from college. Black women have not gained in relative terms on white women because both groups have made comparably large strides in their rates of graduation. But because white men have made relatively little progress in their rates of college completion, it has been easier for black men to reduce their disadvantage. The differing trajectories of white men and women, not of black men and women, have driven the convergence.

Steps Toward Higher Education

While American students take many different pathways to college (Goldrick-Rab 2006; Mare 1981; Pallas 2003), high school graduation is the common first step. Many youth do not complete high school. High school graduates who opt for college must then apply, be admitted, and matriculate before they become college students. Then they must graduate. American college students, especially men, frequently do not get that crucial post-secondary degree. Consequently, to understand mean gender differences in college completion, we examine gender and racial differences in the transitions that lead to college graduation.⁸

Figure 12.9 shows the trend in rates of black male and female entry into postsecondary education for census respondents ages twenty-six to twenty-eight, by birth year.⁹ Figure 12.10 shows the trend in the probability of completing four-year college, given some postsecondary education for the same samples. The growing black gender gap largely reflects the differential in rates of entering postsecondary education. This rise in postsecondary education involved

FIGURE 12.8 *White Versus Black Odds of Completing a Bachelor's Degree by Ages Twenty-Six to Twenty-Eight, by Gender, 1940–2010*

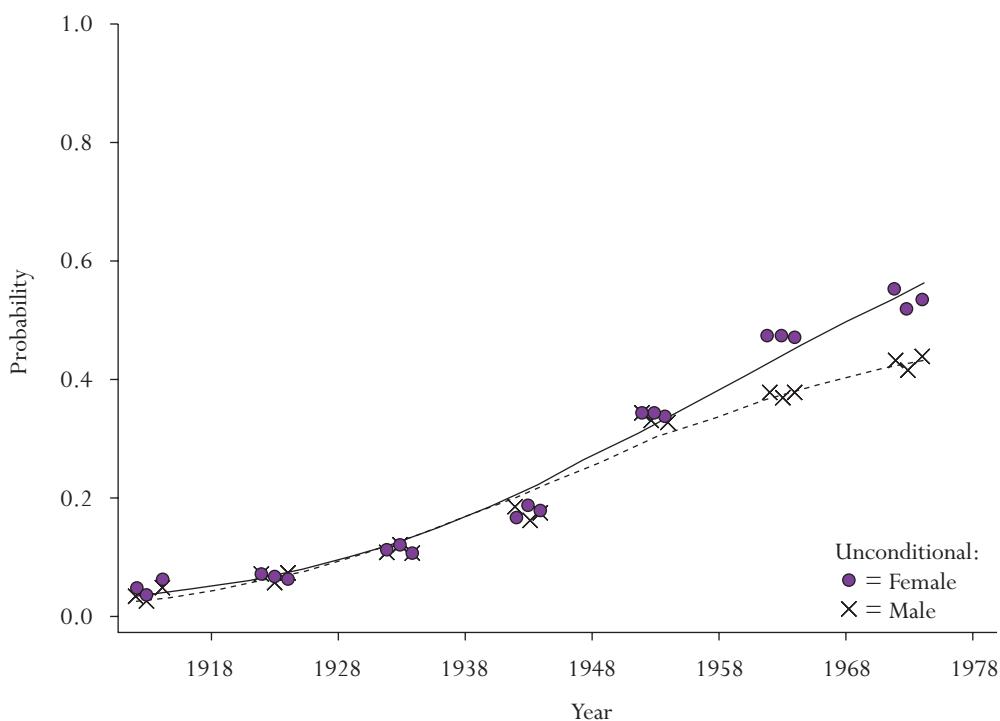


Source: Authors' compilation based on IPUMS, 1940–2000; ACS, 2010.

both increased rates of enrollment in community colleges (Snyder and Dillow 2007) and a more academically diverse population opting to enroll in higher education. Both processes probably contributed to the declining odds of completing four-year college, given college entry, for men and women. The decline in the odds of completing four-year college, given college entry, was actually greater for black women than black men, but this greater decline was not enough to offset the advantage that stemmed from women's more rapid rise in postsecondary enrollment.

Figures 12.11 and 12.12 present the corresponding graphs for whites. In qualitative terms, the story is the same: whites also experienced rising rates of college entry. The white male rate of completing a bachelor's degree, conditional on college enrollment, was constant or declining over the past thirty years. This pattern is similar to that for blacks and probably arises for the same reasons: the increasing share of postsecondary students in community college and the wider academic diversity of students entering postsecondary education. Just as for blacks, the rising female advantage in college completion for whites is largely due to rising rates of college entry. However, the gender gap in completing college, given some postsecondary education, is larger for whites, and where the black female line trends slightly downward, the white female line trends upward. In combination with the strong gender gap among whites in trends in college entry, the gender gap in trends in graduation contributes to the strong female-favorable trend in the probability of completing college by age twenty-six to twenty-eight for whites.

FIGURE 12.9 *Probability for Blacks Ages Twenty-Six to Twenty-Eight of Attaining Some College, by Birth Year*



Source: McDaniel et al. (2011); data are from the 1940–2000 IPUMS.

GENDER TRENDS IN EDUCATIONAL TRANSITIONS

Gender differences emerge in the transition rates between high school and postsecondary education, between two-year and four-year college, and between college entry and graduation (Buchmann and DiPrete 2006). From a statistical perspective, the probability of graduating from four-year college can be expressed as the probability of transitioning to postsecondary education multiplied by the probability of completing four-year college, given that one has some postsecondary education. Women have shown a faster increase in the probability of making a transition to postsecondary education, given high school graduation. The fact that women's gains have occurred largely through higher rates of transition from high school to college does not mean, however, that increasing men's rates of transitioning to college is the best way to increase their college graduation rates.

Although the rate of transition to postsecondary education is already very high in the United States, many students who begin college do not graduate by age twenty-six. Table 12.2, taken from our analysis of the National Education Longitudinal Study (NELS) data (Buchmann and DiPrete 2006), breaks down each cohort of men and women according to their route through the educational system. Twenty-two percent of male high school graduates and 19 percent of female high school graduates attended four-year college but did not graduate by age twenty-five

FIGURE 12.10 *Probability for Blacks Ages Twenty-Six to Twenty-Eight of Attaining a Bachelor's Degree, Given Some College, by Birth Year*

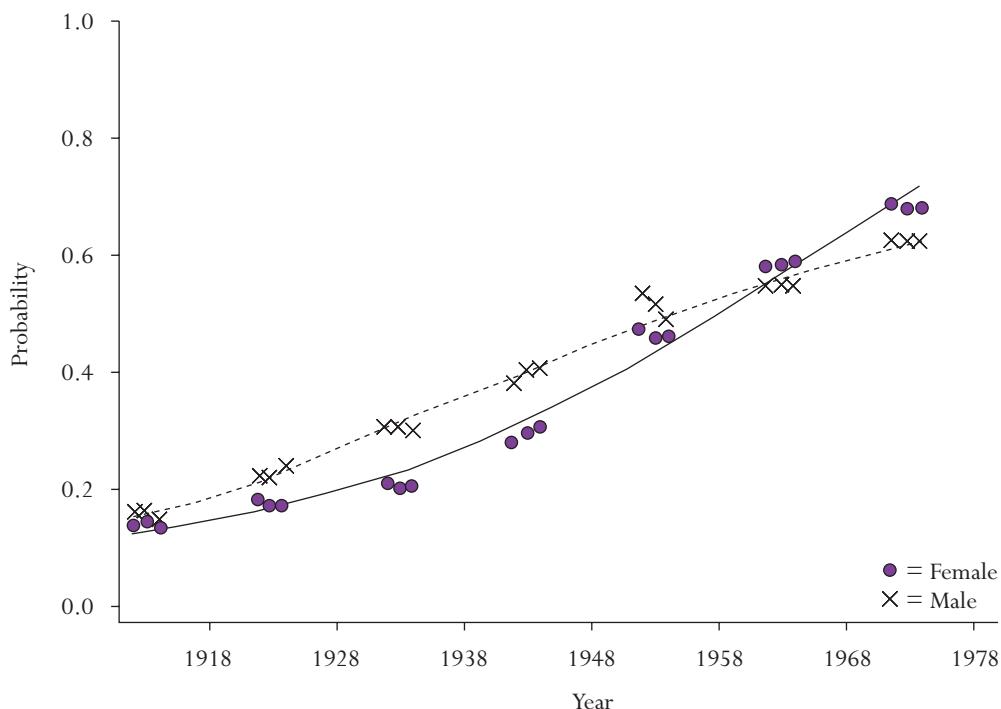


Source: McDaniel et al. (2011); data are from the 1940–2000 IPUMS.

to twenty-six. Focusing only on students who made the transition from high school directly to four-year college, 9 percent of men who attended only four-year college had not completed a degree by age twenty-five to twenty-six, compared with only 7 percent of women. To put it another way, 68 percent of men and 77 percent of women who attended only four-year college had completed a BA, while only 39 percent of males and 47 percent of females who spent any time in community colleges had completed a BA by age twenty-five to twenty-six. As William Bowen, Matthew Chingos, and Michael McPherson (2009) have highlighted, the most straightforward way to increase college completion rates would be to ensure that more of the students who start four-year college—whether via a transition from two-year college or directly from high school—complete a bachelor's degree. While both men and women have a problem with starting but not completing college, it is a greater problem for men. Moreover, this gender gap in completion rates, given a transition to four-year college, is related to educational performance.

Analysis of NELS data confirms that the primary reason for the growing gender gap is males' weaker academic performance (Buchmann and DiPrete 2006). For the NELS cohort, the gender gap in the probability of completing a BA by age twenty-five to twenty-six was about five percentage points (33 percent for women and 28 percent for men). As table 12.3 shows, this gap can be statistically broken down into that part due to different rates of transition into postsec-

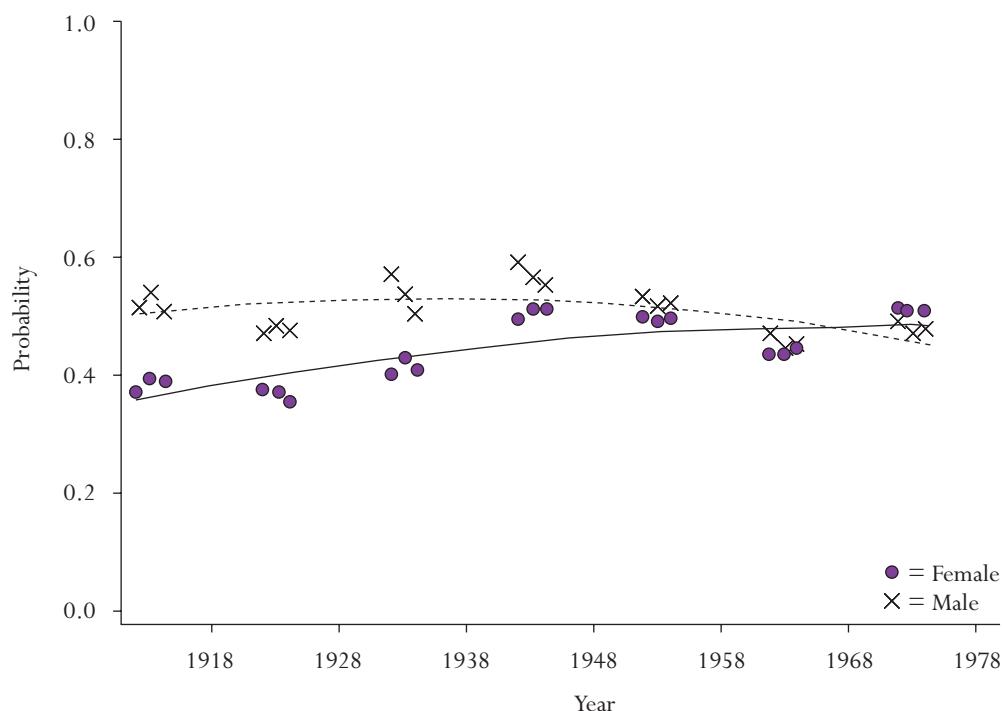
FIGURE 12.11 *Probability for Whites Ages Twenty-Six to Twenty-Eight of Attaining Some College, by Birth Year*



Source: McDaniel et al. (2011); data are from the 1940–2000 IPUMS.

ondary education and that part due to different rates of completing a BA, given a particular transition into postsecondary education. Relatively little of the gap (13 percent) is due to women's higher rates of transition into two-year college, and even less is explained (6 percent) when we take account of men's higher rate of making a transition from two-year college to four-year college (because this factor advantages men). Table 12.3 shows that $0.47 \times 0.48 \times 0.39 =$ about nine percentage points of the 0.28 male BA completion rate comes from students who had some two-year college. For women, the corresponding figure ($0.50 \times 0.46 \times 0.47$) is a higher eleven percentage points, which accounts for 46 percent of the overall gender gap in BA completion. Table 12.3 further shows that most of this explanatory power (0.33 of the 0.46) comes from the fact that women get better grades than men in college. Another 45 percent of the overall gender gap comes from the higher grades that women who go directly to a four-year college receive in college. Thus, the gender gap comes predominantly from higher educational performance and the advantages it conveys in college graduation rates as opposed to higher transition rates into college. Since 1988, when the NELS cohort was in eighth grade, women have opened up a larger lead in transition rates to postsecondary education. For more recent cohorts of young men and women, the combination of this higher rate of transition to college and women's higher educational performance accounts for the growing gender gap in the rate of BA completion.

FIGURE 12.12 *Probability for Whites Ages Twenty-Six to Twenty-Eight of Attaining a Bachelor's Degree, Given Some College, by Birth Year*



Source: McDaniel et al. (2011); data are from the 1940–2000 IPUMS.

TABLE 12.2 *Route Through the Educational System by Ages Twenty-Five to Twenty-Six*

	High School Graduates Only		All Students	
	Males	Females	Males	Females
No high school diploma	N/A	N/A	9%	8%
High school diploma, but no college	24%	21%	22	19
Two-year college only	24	27	22	25
Two-year plus four-year college				
BA	9	11	8	10
No BA	14	12	13	11
Four-year college only				
BA	20	22	18	20
No BA	9	7	8	6
Total	100	100	100	100

Source: Data are from NELS; see Buchmann and DiPrete (2006) for further details.

TABLE 12.3 *Probability of Completing a BA Degree for Men and Women by Ages Twenty-Five to Twenty-Six Given Various Pathways and Performances*

Probability of Completing:	Men	Women	Men if They Had Women's Grades	Fraction of Total Gap
Any two-year college	47%	50%		13%
Any four-year college, conditional on some two-year college	48	46		6
BA, given both four-year and two-year college	39	47	-46	46
Only four-year college	29	29		49
BA, given only four-year college	68	77	-76	100

Source: Data are from NELS; see Buchmann and DiPrete (2006) for more details.

WHY DID WOMEN OVERTAKE MEN IN COMPLETING COLLEGE?

The data are clear: women have overtaken men in the educational arena. The reasons include increasing educational and labor market opportunities for women and their incentives to seize them. Additionally, girls have performed better academically, showing better social and behavioral skills (also known as “noncognitive” skills) than boys. As for men, successive cohorts have lagged in their adaptive response to the changing labor market. Researchers do not fully understand this inertial force that resists adaptive change, although we have important insights. Each of these components is central to understanding the growing female advantage in college graduation.

Changes in the Labor Market, Families, and Incentives for More Education

In the twentieth century, the position of women shifted in both the labor market and the family. From 1900 to 2000, the labor participation rate of American women soared from 20 percent to 60 percent (Fischer and Hout 2006; Goldin 1990; U.S. Department of Labor 2010). Briefly, over the course of the twentieth century, the expanding opportunity for clerical jobs along with women’s large-scale entry into occupations that favored or required some form of higher education—teaching, nursing, and even some white-collar clerical work—increased their incentives to seek schooling beyond high school. In the early decades of the twentieth century, women entered the teaching profession and school administrators wanted to hire only unmarried women; consequently, as women left the profession upon marriage, younger women stepped in to fill their ranks (Rury 2008, 110). By the early 1940s, when the pervasive workplace bans on married women were almost completely eliminated and wartime demands for female labor were escalating, women entered the labor force in greater numbers (Goldin, Katz, and Kuziemko 2006). In the two decades after World War II, the U.S. economy expanded, and productivity, living standards, and college enrollments all rose. This economic growth increased the demand for labor and raised women’s wages. Women saw a higher opportunity cost in remaining full-time homemakers (Bergmann 2005). Not surprisingly, more women entered the workforce and remained there for longer periods. For example, before World War II most women worked only until they married and had children. After the war, women often returned to work after their children were school age or older (Goldin 1990; Thistle 2006). In the 1960s and 1970s,

the civil rights movement and the women's rights movement spurred "equal opportunity" legislation in education and employment.¹⁰ Finally, advances in birth control (specifically the pill and the intrauterine device) made it easier for women to control their fertility—which in turn made it easier for women to get advanced skills and work outside the home, even combining a career with child-rearing.

The fact that women and men tend to segregate in different occupations is one reason for the continuing gender wage gap. But women's gains in the high-skill sectors have not solely been due to "demand shifts" favoring traditionally female occupations. Women have also gained by entering high-status, previously male-dominated occupations like law, business, and life sciences (Goldin et al. 2006). In 2009, for the first time in history, the majority (51 percent) of workers in highly paid managerial and professional occupation positions were women, even though they made up only 47 percent of the total workforce (U.S. Department of Labor 2010, 1). Women have also gained skills and experience on the job through higher rates of labor force attachment. Conversely, the share of women in traditional female careers such as teaching and nursing has declined. The net effect has been that women adapted more successfully to the shifts in demand that eroded employment opportunities in middle-skill clerical, administrative, and production jobs (Autor 2010). Importantly, because of occupational sex segregation, this job polarization has had different impacts on men and women. As the economist David Autor (2010, 10) has written: "The decline of middle-skill jobs has clearly displaced males toward the tails of the occupational distribution and the net effect is an increase in the share of males in low-skill occupations compared to the share of males in high-skill occupations. Women's losses in middle skill occupations were substantially offset by employment gains in high-skill occupations, and this is true for both high school- and some-college-educated females." These changes in women's labor market experiences have encouraged them to complete college.

Women's rapid educational gains are certainly linked with gains in women's real wages as well as their wages relative to men. A substantial gender gap in wages still exists. In 2012 women working full-time earned 81 percent of what men working full-time earned. But this gap is far smaller than it was in 1978, when women earned 62 percent of what men earned. The gender wage gap has shrunk in part because women have entered well-paying managerial and professional occupations. As Francine Blau and Lawrence Kahn (2007) note, women's earnings gains are particularly remarkable in light of the fact that they occurred during a period of rising overall wage inequality.¹¹ In fact, in many metropolitan labor markets today, young women earn more on average than their male counterparts.¹² The reason? Women's quantitative advantage in education outweighs their disadvantage from gender segregation in the labor market.

Ironically, men's college graduation rates stagnated even while wages for high school-educated males declined—the result of both technological change and the decline of blue-collar unions. It is unclear why, in the face of these changes, more men did not complete college. Moreover, men's stagnant graduation rates exacerbated the wage decline for high school-educated workers and increased the worth of a college degree (Goldin and Katz 2008). Also, while real wages for high school-educated men were falling, the wages for high school-educated women remained stable (Appelbaum, Bernhardt, and Murnane 2003), yet women, not men, rapidly increased their rates of college enrollment and graduation. Men's failure to respond, as women have, to the economic incentives arising from the stagnant wages of high school-educated workers and the rising relative wages of college-educated workers is puzzling and demands examination.

For African Americans, legal and de facto discrimination and segregation muted the impact of these labor market shifts. The much lower rate of college completion for blacks was due in

part to the meager educational resources devoted to blacks, especially in the South (Rury 2008). Even the GI bill, which was race-neutral in statutory terms, did not help Southern black men very much. The combination of state-supported segregation and minimal state investment in the “black” colleges kept many Southern black men from using the GI bill to obtain a college degree (Turner and Bound 2003). At the same time, different structures of occupational opportunities for blacks and whites and for men and women (for example, the unwillingness of American businesses to hire blacks into the male-dominated managerial and engineering occupations) created different incentive structures for each group.

The small but prolonged female advantage in college graduation for blacks prior to 1980 may also have been related to the high labor force participation rates of educated black women. Employment rates were higher for college-educated black women in all the decennial censuses from 1940 through 2000 (McDaniel et al. 2011). They were far more likely than white college-educated women to be employed until the 1980s. In 1930 black women were three times more likely to work than white women. By 1970 black women were 1.3 times more likely than white women to work (Goldin 1990). Historically, black women worked to bolster their family’s income, in part to offset black men’s high unemployment rates and low education levels. Claudia Goldin (1977) found, however, that black women worked more than white women even if they had the same education, family income, and number of children. One legacy of slavery, Goldin points out, was that black women who worked outside the home were less likely to feel a social stigma than white women. As a consequence, the employment gap among college-educated women and men was much smaller for blacks than for whites. Historical differences in the labor force participation rates of black and white women arguably contributed to the higher rate of college graduation of black women relative to black men.

Even while job opportunities expanded, women confronted a new family dynamic. The same institutional and technological forces that made college education an economic asset put a financial strain on families headed by high school (or lower)-educated men. As we discussed in DiPrete and Buchmann (2006), highly educated women had better prospects and gained financially from the combination of educational homogamy and the increasingly strong earnings gains of highly educated men. These women were also less likely to divorce because their marriages suffered fewer financial strains, even as their own earnings gave them the freedom to leave unattractive marriages. Finally, their higher earnings protected them from poverty even if their marriages did dissolve. These family-based incentives for greater education were generally stronger for women than for men even if, as several studies have reported (Averett and Burton 1996; Charles and Luoh 2003; DiPrete and Buchmann 2006; Goldin and Katz 2000; see also Hubbard 2011), women’s economic returns to education were not growing faster than men’s.

Military Service

Because men are more likely than women to serve in the military, it is reasonable to ask whether military service competes with higher education and contributes to the gender gap. The U.S. military recruits about 200,000 enlisted personnel each year, almost all of whom are high school graduates. Since 1973, the military has comprised less than 1 percent of the total population. In fiscal year 2010, almost 1.2 million people served on active duty; most (85 percent) were men (Office of the Under Secretary for Personnel and Readiness 2012). The median age of enlistees is twenty-seven, so it is possible that military service competes with college as a destination for young adults. The GI bill offset some of these potentially negative effects of military service. Starting in 1944, it offered educational benefits to veterans of World War II and later the Korean War (Stanley 2003; Turner and Bound 2003). Marcus Stanley (2003) shows that the trend in

male BAs after World War II was along the same trajectory established in the 1936–1940 period, a finding consistent with an interpretation that the GI bill offset the direct negative effect on educational attainment during the years when some GIs otherwise would have attended college. Indeed, many people who enlist after high school cite the subsidies for college during or after their military service (Kleykamp 2006). Thus, for some, military service may have made college enrollment possible, albeit at a later point in life, and may be one explanation for men's delayed college enrollment. Of the 20,000 officers commissioned by the armed forces each year, nearly all are college graduates, and about 40 percent received their commission through their university's Reserve Officers' Training Corps (ROTC) (Segal and Segal 2004, 8). This group enlists after graduation.

On the whole, men who serve in the military receive less education than those who do not serve. Among high school graduates, veterans serving during the peacetime Cold War period were less likely to attain a college education than nonveterans at all levels of socioeconomic status (MacLean 2005). This difference held even among those who reported plans to attend college. Perhaps veterans who delay college are less likely to attend or complete college because they feel they are "too old" for college, or because they have found a romantic partner (Hogan 1981). It is not known whether military service reduces the likelihood of attaining a college degree or whether the military differentially selects young people who are less committed to postsecondary education (MacLean and Elder 2007). Alair MacLean and Glen Elder's findings are at least consistent with the idea that military service competes with higher education for young men. Similarly, Meredith Kleykamp (2010) finds that the downsizing of military jobs in the 1990s was associated with substantial increases in college attendance, especially among black men. To the best of our knowledge, no research has examined the relationship between military service and college graduation for women or whether the effects of military service found in the past remain the same today. These are important questions for future research.

Incarceration and the Gender Gap in College Completion

The IPUMS data used to report education trends in figure 12.2 are representative of the entire population, including prisoners (in jail or prison). Incarceration rates in the United States held stable between 1925 and 1975 at roughly 100 per 100,000 of the resident population, but after 1975 the incarceration rate increased rapidly. By 2001, it was 472 per 100,000, nearly five times its historical average (Langan 1991; Pettit and Western 2004).

Did this statistic skew either the gender gap or the racial gap in college completion? It is important to distinguish between the arithmetic impact of accounting for the incarcerated population in the computation of college completion rates and the causal impact of incarceration on the size of the changing gender gap, especially for blacks.¹³ The addition of the prison and jail data to the CPS data has a noticeable effect on the computed rates of college graduation for black men in particular, both because a considerable number were in prison or jail in these years and because the incarcerated population had relatively low levels of education. The black gender gap is noticeably larger when the incarcerated population is taken into account (McDaniel et al. 2011). Moreover, the impact of the incarceration adjustment grows larger for blacks over time because the size of the incarcerated black population grows as a fraction of the total black population over time.

It is more difficult to determine the causal effect of the rise in the incarceration of young men, especially young black men, on the growing gender gap in college completion in the 1980s and 1990s. In one respect, our adjustment understates the magnitude of the prison experience of black men because it pertains only to current inmates at the time of the survey. Many other

individuals interviewed in the CPS in each of these years had been in jail or prison in the past. We do not know how much education these young men would have achieved if they had not been incarcerated. However, other considerations suggest that the sharp rise in the prison population has had a relatively small impact on the gender gap. Our analysis of the prisons and jails surveys confirms that the young people sentenced to jail or prison were disproportionately high school dropouts; other evidence shows that they were performing poorly in school at the time of their arrest (Laub and Sampson 1993). In other words, if these individuals are drawn disproportionately from the bottom of the educational achievement distribution, we can conclude that very few would have gone to college even if they had never been incarcerated. From this perspective, the rising rates of incarceration contributed relatively little to the rise in the gender gap in educational attainment. As noted earlier, the gender gap for blacks is now more similar to that for whites than it was in 1960, even as young black men's experiences with incarceration diverged from young white men's experiences. Indisputably, incarceration has skewed the lives of young black men, affecting their work, cohabitation, and marriage as well as, very probably, their rates of high school and postsecondary education. However, incarceration's direct effect on rates of college graduation may be relatively small. This question is difficult to answer with certainty and requires further research.

Grades and Courses in School

Despite the scientific consensus that girls and boys have similar levels of academic aptitude, women have led in college graduation. In fact, girls generally outperform boys on verbal tests and lag behind boys on math tests, especially in the population at the lower end of the test score distribution. But gender differences in mental ability as measured by test scores are too small to explain the current gender gap in college completion. Moreover, these small gender differences in test scores have remained fairly stable, while the gender gap in educational attainment has reversed from a male advantage to a female advantage that continues to grow.

In contrast to their similar performance on standardized tests, girls have outperformed boys in grades since the turn of the century. (Because course performance is less standardized, there is less consensus on trends in gender differences in this measure.) In the middle of the nineteenth century, girls enrolled in coeducational schools at roughly the same rate as boys and, for the most part, took the same classes with the same teachers. Even then, girls earned higher grades and were promoted to the next grade more readily (Clarke 1875; Hansot and Tyack 1988).¹⁴ Writing in 1910, J. E. Armstrong from the Englewood High School in Chicago, reading before the Central Association of Science and Mathematics Teachers at the University of Chicago in November 1909, reported that "the first three primary grades of the schools of the whole United States show that a larger number of boys than girls have to repeat grades. The census shows that the sexes are born in very nearly equal numbers and yet the boys are four per cent more numerous in the first grade" (Armstrong 1910, 347–48). As early as 1870, when rates of high school completion were extremely low (only 2 percent of seventeen-year-olds completed high school), more girls graduated (Newcomer 1959; Solomon 1985).

Nevertheless, many colleges barred young women from matriculating for much of the nineteenth century. In 1837, Oberlin College began admitting women, "ostensibly to provide ministers with intelligent, cultivated and thoroughly schooled wives," and it is generally considered the first coeducational college to admit women (Graham 1978). When the Civil War led to a shortage of male students, more colleges became willing to enroll tuition-paying female students. By 1870, women comprised 21 percent of undergraduates in U.S. colleges and universities. Of course, this figure includes the many women who were enrolled in women's colleges or

the “coordinate colleges” adjacent to men’s colleges (including Radcliffe at Harvard, Barnard at Columbia, Evelyn at Princeton, Pembroke at Brown, and Jackson at Tufts). By 1900, however, more than twice as many women were enrolled in coeducational institutions as in women’s colleges (Solomon 1985). In the first decade of the twentieth century, the rapid rise of women in coeducational institutions precipitated a fear that women would take them over. As the women’s historian Barbara Miller Solomon (1985, 58) wrote:

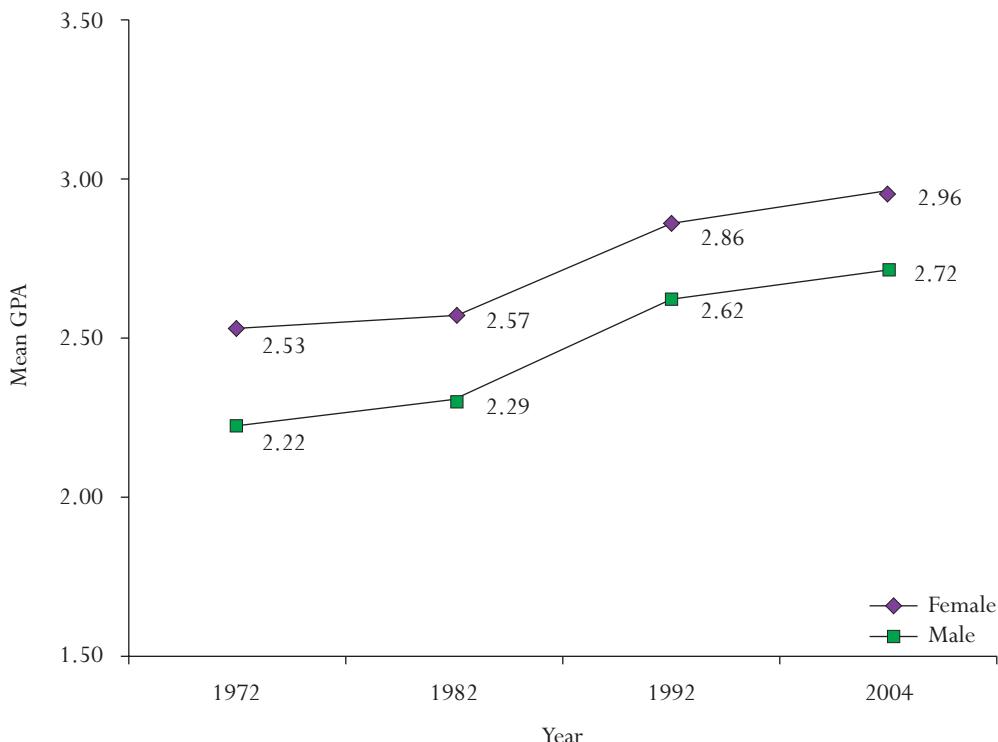
Chicago, Stanford, California, Wisconsin, Boston University, and even Oberlin had qualms; the impact on male enrollments was the central issue and complaints by some male students were noted. Academic achievement was held against females when they surpassed males in either sheer numbers or academic honors. Faculty members echoed the views of disgruntled or perhaps envious male students and charged that women interfered with male academic performance.¹⁵

Fast-forward to the current era, when the female advantage in academic performance at all levels of education is indisputable. As early as kindergarten, girls demonstrate more advanced reading skills than boys (Tach and Farkas 2006; West, Denton, and Reaney 2000), and boys have more problems with reading in elementary school (Trzesniewski et al. 2006). From kindergarten through high school and into college, girls get better grades than boys in all major subjects, including math and science (Perkins et al. 2004). To dig deeper into the gender gap in the grades of high school students, we analyzed data from four panel data sets derived from surveys designed to study the educational, vocational, and personal development of young people in the United States as they transition from high school into adulthood: the National Longitudinal Study of the High School Class of 1972 (NLS-72), the High School and Beyond (HSB) high school class of 1982 (first surveyed as sophomores in 1980), the National Education Longitudinal Study (NELS) of 1988, which surveyed the high school class of 1992, and the Education Longitudinal Study (ELS), which surveyed the high school class of 2004 in 2002.

We examined overall high school grade point average (GPA) for male and female high school seniors and gender gaps in GPA across the four decades represented by the surveys with data drawn from the high school transcripts included in these data sets. Because the NLS-72 does not include transcript data, we relied on student self-reports of their overall high school GPA for the seniors in 1972.¹⁶ Figure 12.13 reports trends in GPA over time for boys and girls in the graduating cohort from each survey. Several points are noteworthy. First, overall GPA increased between 1972 and 2004 by about 0.4 to 0.5 on a 4.0 GPA scale. This increase is in line with the rise in high school grades documented in some prior research.¹⁷ A statistically significant female-favorable grade gap exists for each time point, and the size of these gaps remains relatively constant, ranging from about 0.24 to 0.30 over the period.

In the 1950s, boys had a clear advantage over girls in the average rigor of their high school math and science coursework. For example, using data from the state of Wisconsin, Goldin and her colleagues (2006) found that boys in the 1957 high school graduating class took, on average, over a semester more math than did girls (4.02 semesters versus 2.89 semesters) and nearly a semester more science, which was largely concentrated in physics (1.01 semesters versus 0.30 semesters).¹⁸

Using the panel data sets, we compared boys and girls in their high school courses over the last four decades. Particularly striking is the clear pattern of a gender reversal from a statistically significant male advantage in mean number of math and science courses taken in 1972 (not shown) to a statistically significant female advantage by 2004 (see figure 12.14). In 1972 boys reported taking 0.29 more math courses and 0.19 more science courses than girls reported. This male advantage had declined by 1982. By 1992 high school transcripts revealed virtual parity in

FIGURE 12.13 *Mean Grade Point Average for High School Seniors, 1972–2004*

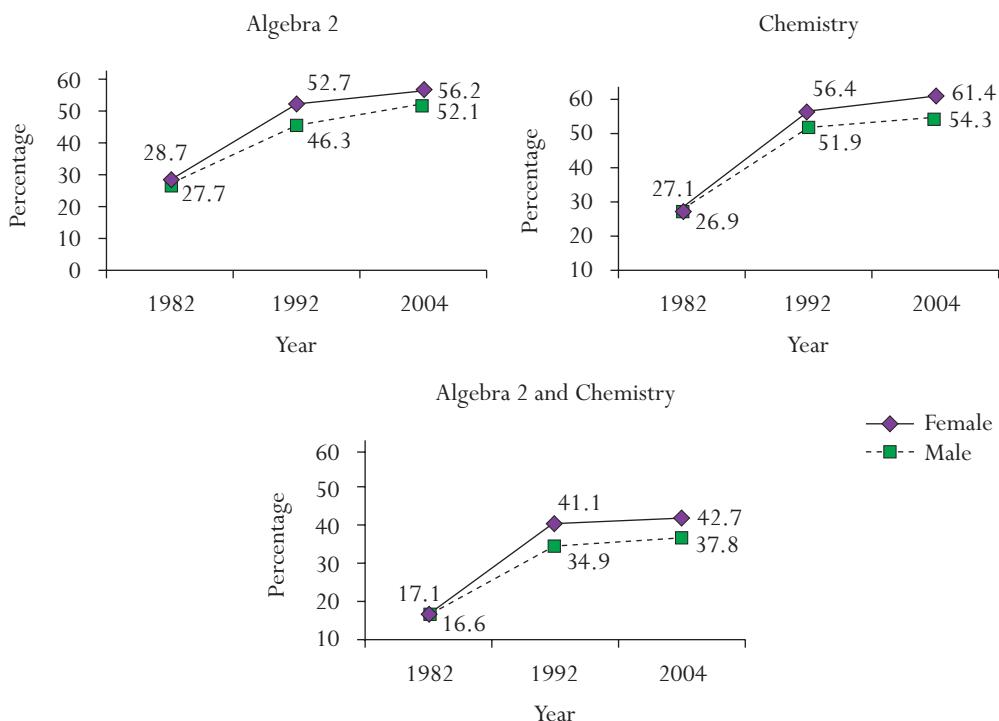
Source: Authors' compilation based on data from NLS-72, HSB, NELS, and ELS.

the mean number of math and science courses. Over the next twelve years, the mean number of math and science courses reported on the transcripts of girls exceeded the mean for boys—a statistically significant gap. Moreover, a female advantage in foreign language courses has persisted and appears to have grown over time (from a 0.28 female advantage in 1972 to a 0.34 female advantage in 2004).

Also, a higher percentage of students reported taking middle- to advanced-level math and science coursework in 2004 than in 1982 (figure 12.14). In 1982 fewer than 30 percent of graduating high school students had taken algebra 2 or chemistry and only 17 percent had completed both; by 2004 more than half of all students had completed either of these courses and more than one-third had completed both. Crucially, more girls completed middle- to advanced-level coursework in math and science (see Cho 2007). In 2004, 56 percent of girls completed algebra 2 (compared to 52 percent of boys); 61 percent completed chemistry (54 percent of boys), and almost 43 percent completed both of these advanced courses (37.8 percent of boys).

Figure 12.15 compares the GPAs of girls and boys in two categories: those who completed advanced courses (algebra 2 and chemistry) and those who did not. In both categories, girls earned higher average GPAs, and these gender gaps in GPA were stable over time. Among students enrolled in advanced courses, the average GPA for girls was roughly 0.20 points higher than boys' average GPA in 2004; for students not enrolled in advanced courses, the female-

FIGURE 12.14 *Female and Male High School Students Completing Advanced Courses, 1982–2004*



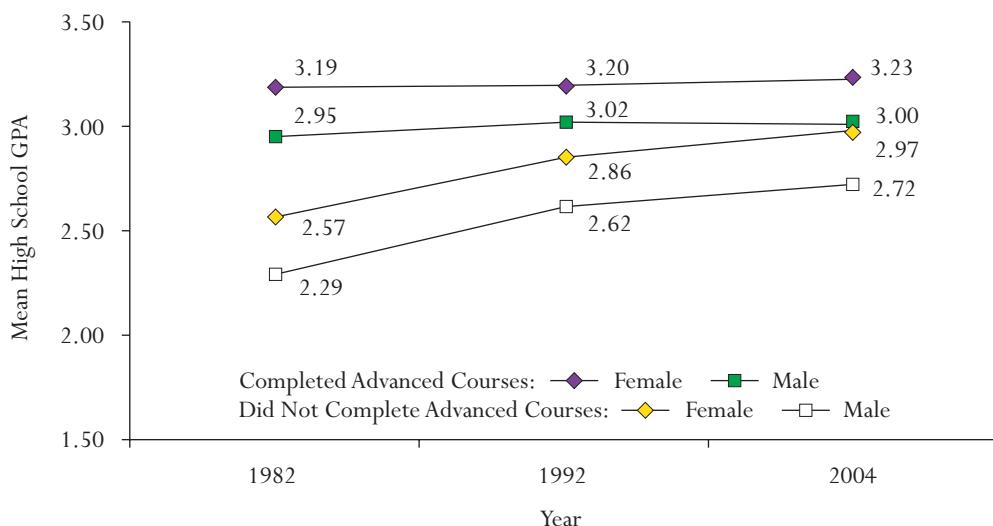
Source: Authors' compilation based on data from HSB, NELS, and ELS.

favorable GPA gap was slightly higher at 0.25. This finding underscores the stability of the female advantage in high school grades even when the rigor of coursework is held constant. In the next section, we consider how the higher average grades of girls relate to their advantage in college graduation.

Male Academic Underperformance

Why do boys underperform relative to their potential? We argue that the causes lie in the socio-cultural environment rather than in anatomy, hormones, or brain structure. Three facts are salient: First, boys disengage from school more easily than girls, and their disengagement seems to be connected with their masculine identity. Second, academically richer environments—whether at home or school—benefit all students, but appear to offer especially large benefits for boys. Third, the messages that parents give their children about the importance of school vary little by parental class or gender or by the gender of the student. Both boys and girls report that parents pressure them to perform well in school. Almost 99 percent of eighth-graders in the Early Childhood Longitudinal Study: Kindergarten Class of 1998–1999 (ECLS-K) reported that “good grades” were “important” to their parents, and 80 percent reported that “good grades” were “very important,” with no significant variation by gender, parental education, or parents’

FIGURE 12.15 *High School Grade Point Average, by Advanced Course-Taking and Gender, 1982–2004*



Source: Authors' compilation based on data from NLS-72, HSB, NELS, and ELS.

Note: Data are weighted and pertain to high school seniors who subsequently graduated from high school.

educational expectations. Parents, meanwhile, overtly supported academic success for their children in their answers to ECLS-K survey questions: parents thought it more important for their sons than their daughters to be “brilliant” (as opposed to school leaders, athletic stars, or most popular); in fact, more parents without a college education preferred for their sons to be “nerdy” than did college-educated parents.

A clue to understanding male disengagement from school may lie in extracurricular activities. Boys who participated regularly in music, art, drama, and foreign languages were more similar to girls in their level of school engagement. Not coincidentally, ethnographic research finds that preadolescent and adolescent boys, especially those from working- or lower-class backgrounds, often denigrate these activities as unmasculine. The fact that girls’ and boys’ expressive attachment toward school differs so markedly even for middle schoolers with similar academic performance suggests that these differences are tied to gender identity. Ethnographic research supports survey data to the effect that at least certain aspects of the adolescent masculine culture devalues academic engagement. In *Learning the Hard Way: Masculinity, Place, and the Gender Gap in Education* (2012), the sociologist Edward Morris reports that in one rural high school, “nerdy” boys—defined as those who put substantial effort into school and who participate in musical activities like band—were more likely to be labeled as “gay” or “pussies.”¹⁹ In contrast to intellectual activities like reading or cultural activities like playing a musical instrument, working-class boys in Morris’s ethnography perceived their fathers’ activities, like woodworking or construction, as more manly, even relative to professional and office work, which these boys recognized as being more lucrative. Similarly, Michael Kimmel (2008) reported that his male informants used “any taste in art and music” as an example of “stereotypically effeminate behavior.”

Not all boys act this way. Masculinity takes different forms, and boys enact masculinity in different ways. This fact is key to understanding both the problem of male underachievement and possible policy prescriptions. The different models for masculinity in the adolescent world correspond to the models of masculinity in the adult world. On the one hand, one conception of masculine power features manual labor, strenuous team sports, and symbolically masculine pursuits, like hunting and fishing, in which men exert their dominance over animals and nature. On the other hand, in the workaday world of adults, successful (hence powerful) men are those who earn money and status from prestigious, well-paid jobs that allow a middle- or upper-middle-class lifestyle, especially when—as a consequence of educational homogamy—their partners also have prestigious, well-paid jobs.²⁰ These men attained their success through education, and they provide a powerful model to adolescent boys. Boys who have adopted this model of masculinity, whether from the media, teachers, peers, or parents, can see modern masculine power emerging from academic engagement, not from disengagement or oppositional behavior. Not all boys encounter this model. Social class-related disengagement can be explained as an individual and collective determination that the promise of labor market success through academic success, like the Powerball lottery, is a game where the odds of a rich payoff are against you. But class-based theories of disengagement do not imply that boys need to disengage at greater rates than girls.

Success in academics, like success in sports, requires a considerable investment of time and effort. In general, the more you practice, the better you become. Boys do not universally accept this connection. Witness the relatively low grades and very high educational aspirations of the middle third of the boys in the academic hierarchy who expect to complete college but are unlikely to do so. Middle school girls likewise do not fully understand the connection between performance and educational attainment. After all, they overpredict their educational attainment to about the same extent as do boys. But even if their lack of understanding matches boys' (which we doubt), it is arguably less consequential because girls show greater expressive attachment to school. This attachment seems to arise more readily through the gratification they get from close relationships with their teachers and the greater satisfaction they get from pleasing their parents. Girls, in other words, probably work harder in school in part because they get greater intrinsic satisfaction from high academic performance than do boys.

Many boys, of course, succeed in school despite a deficit in expressive attachment. These boys often live in households that either attach high value to academic success or promote instrumental attachment to school. These households understand that school is like sports or music: one has to train for years to be a top performer as an adult. We find that boys who live in households with a biological father present as well as highly educated parents experience larger gains than girls in both their academically relevant social and behavioral skills and their academic performance. Research by Joscha Legewie and Thomas DiPrete (2012) demonstrates that boys receive especially large benefits from a strong academic climate at school. Boys in these environments may better understand the marathon character of education and therefore train harder to achieve long-term goals. But enhanced short-term motivation to perform well produces long-run benefits even for those who do not fully understand the extent to which academic excellence requires years of training. In other words, engagement does not flow from an individual calculus of means and ends. Like New Year's resolutions, engagement reflects not just personal goals and strategies but the social support for these strategies.

In a changing world, the old sources of masculine power—the power that comes from physical labor—are ebbing. So why do some boys still embrace the nostalgic model of masculine power, even with its deleterious effects on academic performance? One force, we suggest, is the continuing cultural power of the gender-segregated labor market of the 1960s and before. His-

torically, many American men worked in well-paid, blue-collar jobs. Some involved apprenticeship training as an entry into construction or a trade; others involved semiskilled factory work or truck driving. Thanks in part to the once-countervailing power of labor unions (Galbraith 1956), these jobs generally paid better than the jobs available to women without a college degree and even many of the professional jobs held by women college graduates. This world, which flourished into the 1960s and persisted through much of the 1970s, gradually faded during the 1980s and 1990s as the Baby Boomers worked through their prime years and had children of their own. This world transitioned to an era of deindustrialization, globalization, and the decline of union-supported blue-collar employment. In this new era, less-educated Baby Boomers increasingly struggled to achieve an acceptable standard of living. High school graduates could see that college graduates got the well-paying jobs. Yet even in these years, many high school graduates saw no “bright line” difference between the standard of living of those without and those with college degrees, especially degrees from local and state colleges or universities. Even when their own wages failed to keep pace, less-educated men often relied on their wives’ working increased hours. That extra income sustained the household standard of living for these men, while they hoped that their future prospects would brighten through an upturn in the broader economy.

Americans tend to be optimistic about the future. In “Is This a Great Country? Upward Mobility and the Chance for Riches in Contemporary America,” Thomas DiPrete (2007) analyzes Gallup survey data collected in 2003, more than two decades after the onset of a new era of deindustrialization, the decline of union power, the decline of real wages for high school-educated men, and the stagnation of market income for households at the median of the American income distribution (Burkhauser 2012). A generation of young people had grown up during this transformative economic period. Many, especially those without a college degree, should have been pessimistic about their future standard of living. Gallup interviewers asked: “Looking ahead, how likely is it that you will ever be rich?” The answers were surprising. Even though fewer than 30 percent of young American men at this time were earning bachelor’s or advanced degrees, 58 percent of eighteen- to twenty-nine-year-old men thought it was somewhat or very likely that they would be rich someday. The extent of the over-optimism among these men was striking. As for their female counterparts, only 43 percent of them expected to ever be rich, even though as a group they were better educated and had a greater chance than men of improving their standard of living through marriage (because husbands still make more money on average than do wives). The gender gap is even larger than these numbers imply, considering that the 2003 Gallup poll found that men thought one needed a higher income (a median of \$150,000 versus \$100,000 for women) and greater assets (a median of \$1,000,000 versus \$500,000 for women) to be considered “rich.” Clearly, many young men with only a high school diploma, who grew up during the decades when the wage returns to a high school diploma were falling, nonetheless believed that they had a good chance of earning a lot of money. Their misplaced optimism recalls Ely Chinoy’s (1955) sample of autoworkers in the 1950s who dreamed of saving enough to start a successful business, even though they rarely realized that American dream.

These Gallup poll data underscore that it can take more than one generation of durable change in the environment before parents absorb the implications and communicate them to children effectively. Why do attitudes take such a long time to catch up to reality? First, most people know less about the connection between labor markets and education than do specialists. Second, Americans know that individual outcomes can depend on many factors beyond education, making them overly optimistic. Compounding this inertia is the arguably tight connection between gender stereotypes in the workplace and the process of gender socialization in the family. Many blue-collar jobs in construction, transportation, and manufacturing have a strongly

masculine identity. Fathers in these jobs convey their masculinity to their sons in part through the physical aspects of their work lives. Sons internalize stereotypes as they develop their own masculine identity. This process can strengthen a boy's attachment to the career path of his blue-collar father, thereby slowing the rate of generational adaptation to a changing labor market that has increasingly devalued blue-collar work. When sons of blue-collar and lower-middle-class fathers recognize that financial success requires a different career path than the path taken by their fathers, these boys lack role models to chart an educational path toward occupations that would allow them to fulfill these financial goals. The regressive cultural force of the old male-dominated manufacturing economy may eventually lose its power to disengage adolescent boys from school, but we speculate that it will take at least another generation or two to die away.

INCENTIVES, PERFORMANCE, AND PARENTAL INVESTMENT

Although girls have long earned better average grades than boys, for much of the twentieth century young women (specifically young white women) had lower levels of educational attainment than did young men. From a global perspective, this gap can be attributed to a gendered culture that associated masculinity with labor market success and femininity with domestic work. In such a world, the link between education and status for most women ran through marriage; the exceptions were the relatively small number of women who entered professional occupations like teaching, nursing, or social work. In that world, it was plausible to expect class variation in the size of the gender gap. Families with fewer resources might "rationally" concentrate their educational investment in their sons. In contrast, higher-status families might spread their resources more equally among sons and daughters both because they had more resources to invest in their children and because highly educated adults generally had more egalitarian gender-role attitudes in the second half of the twentieth century (Cherlin and Walters 1981; Thornton, Alwin, and Camburn 1983; Thornton and Freedman 1979). These considerations might have produced differences in the educational gender gap by parental education or socio-economic status. This relationship, moreover, might have changed over time in response to the growing labor market opportunities for women and the continuing spread of gender-egalitarian values.

To determine whether the relationship between gender differences in college graduation and core family characteristics were changing, we analyzed data from the cumulative cross-sectional General Social Surveys (GSS) from 1972 through 2008.²¹ The twenty-seven annual General Social Surveys provide information on the educational attainment of respondents and their fathers and mothers, the socioeconomic status of the fathers, and several other measures of family background. We restricted the analysis of college completion to white respondents between the ages of twenty-five and thirty-four who were born between 1938 and 1977. (The black GSS sample is too small to support a similar analysis.) The dependent variable, college completion, is operationalized as the completion of at least sixteen years of education.

We examined the relationship between parents' education, fathers' absence, and rates of male and female college completion for two specific historical periods.²² The first period, which covers birth cohorts born between 1938 and 1965, includes people who grew up before the point at which women overtook men in their rates of college graduation. The second period, which covers birth cohorts between 1966 and 1981, includes those who grew up when women began to overtake men in their college graduation rates. These results are presented in table 12.4.

For cohorts born in 1965 or earlier, men were more likely than women to have completed college in all except one of the family types displayed (table 12.4). Only when both parents had

TABLE 12.4 *Rates of U.S. College Completion for Males and Females by Ages Twenty-Five to Thirty-Four, by Parents' Education, Presence of Father, and Birth Cohort*

Mother's Education	Father's Education					
	High School or Less		Some College or Higher		Father Not Present	
	Male	Female	Male	Female	Male	Female
1938–1965 birth cohorts						
High school or less						
Percentage	20	15	44	36	21	15
N	1,341	1,639	325	363	193	277
Some college or higher						
Percentage	39	26	62	66	37	31
N	182	238	373	427	77	70
1966–1981 birth cohorts						
High school or less						
Percentage	15	20	50	40	11	14
N	349	416	155	171	109	130
Some college or higher						
Percentage	34	42	67	66	32	42
N	104	135	301	320	77	89

Source: Cumulative General Social Surveys, 1972–2008.

at least some college education were women as likely as men to have completed college. When either fathers or mothers had a high school education or less, sons were more likely to complete college than daughters. If no father was in the household when the youth were sixteen years old, sons still were more likely to complete college than daughters. This pattern is consistent with the gender-egalitarian perspective. It provides little support for the gender-role socialization perspective, which predicts higher graduation rates for daughters of educated mothers. In fact, the female disadvantage is greater for families in which the mother has some college and the father has a high school education or less ($39\text{ percent} - 26\text{ percent} = 13\text{ percent}$) than it is for families in which the father has some college and the mother has a high school education or less ($44\text{ percent} - 36\text{ percent} = 9\text{ percent}$).

The 1966–1981 birth cohorts have a different pattern (table 12.4), one that suggests the emergence of a strong gender-role socialization effect. In cases involving parents who both had at least some college education, the completion rates for men and women look similar to those of the earlier cohorts in the top panel. But in all other cells the changes in graduation rates are quite large, and generally to the advantage of women. Where fathers had a high school education or less, daughters increased their rates of college graduation, whereas the graduation rates of sons dropped, regardless of the mothers' level of education. The graduation rates of sons who had no father present at age sixteen also dropped considerably. Only in families in which fathers had some college and mothers had a high school education or less did men maintain a considerable advantage over women. In contrast, daughters had a strong advantage in college graduation over sons in families with mothers who had some college and fathers who had a high school education or less. A shift appears to have taken place between these two periods: the mother's

level of education became more important for daughters, and the father's level of education more important for sons.

THE COMPETITION FOR COLLEGE ADMISSION

The educational system is sometimes viewed as an arena where students compete for prizes. Students with higher grades are perceived to have outcompeted students who earn low grades. Those admitted to elite colleges and universities or graduate and professional programs are the winners. Contests by their nature have a zero-sum character, and in the American educational system the zero-sum game is most visible in the annual admissions scramble at the highly selective colleges and universities. These institutions have many more applicants than spaces, and the competition for entry has been intensifying for many years.²³ Academically elite institutions, which are prominent on the U.S. educational landscape, enroll a small fraction of the students who attend four-year educational institutions. Only 14 percent of four-year colleges accept fewer than 50 percent of their applicants (Hawkins and Lautz 2007).

To what degree are constraints on the supply of admission spaces in U.S. institutions of higher education related to gender gaps in college enrollment rates today? The answer depends on the sector of American higher education. At less-selective colleges and universities (the large majority of higher education institutions in America), the overall gender imbalance in enrollment favors women. Of course, even less-selective colleges typically reject at least some applications: only about 20 percent of four-year, nonprofit colleges and universities in the United States accept more than 85 percent of their applicants (Hawkins and Lautz 2007). Nonetheless, the process of admission to less-selective colleges and universities consists mainly of meeting some baseline standards for high school grades and course curricula. In fact, selectivity has fallen for colleges outside the most selective 20 percent of institutions (measured by the mean SAT/ACT scores of matriculants). Hoxby (2009) finds that the ratio of the number of "freshman seats" (that is, the aggregate number of first-year students in four-year colleges) to the number of twelfth-grade students who score both at the relatively low "basic" level and at the higher "proficiency" level on the National Assessment of Education Progress (NAEP) mathematics and reading tests increased moderately from 1970 to the present. This ratio is greater than unity even when potential supply is measured in terms of students at "basic" levels of proficiency. The implication of the supply ratio trends and of the selectivity statistics is that the increase in the college-going population has been matched by increases in the supply of places. Thus, it is highly unlikely that males are being denied entry to the great majority of four-year colleges and universities because of competition from female applicants.²⁴

In highly selective colleges and universities, the "college squeeze" (Alon and Tienda 2007) is very real. Indeed, the colleges at this most-selective 10 percent tier have become more selective than they were thirty to forty years ago (Alon and Tienda 2007; Hoxby 2009; Bound, Hershbein, and Long 2009). Aside from the early years of coeducation at formerly male institutions, when female quotas were in place (Karabel 2005), these selective institutions have sought a balanced gender mix, which they can readily achieve from their deep pool of highly qualified applicants of both genders.²⁵ In the 2011 Inside Higher Ed Survey of College and University Admissions Officers, 11.1 percent of four-year colleges and universities responded that they admitted men with "lower grades and test scores than other applicants" in order to achieve gender balance, compared with 2.7 percent that responded similarly for women (Green 2011). But very few selective universities are included in this survey. Other data suggest that females' acceptance rates at highly selective colleges are lower than males' acceptance rates, but any comparison of acceptance rates cannot prove either gender-based affirmative action or discrimina-

tion. Student applications are hardly submitted at random, and we do not know whether the typical male applicant to a highly selective college is “equivalent” to the typical female applicant (Heriot and Somin 2011). It is certainly plausible that qualified female applicants are at greater risk of being denied admission at highly selective institutions because admissions offices desire gender balance, but we have no definitive analysis of this question.

EDUCATIONAL GENDER GAPS: A GLOBAL PHENOMENON

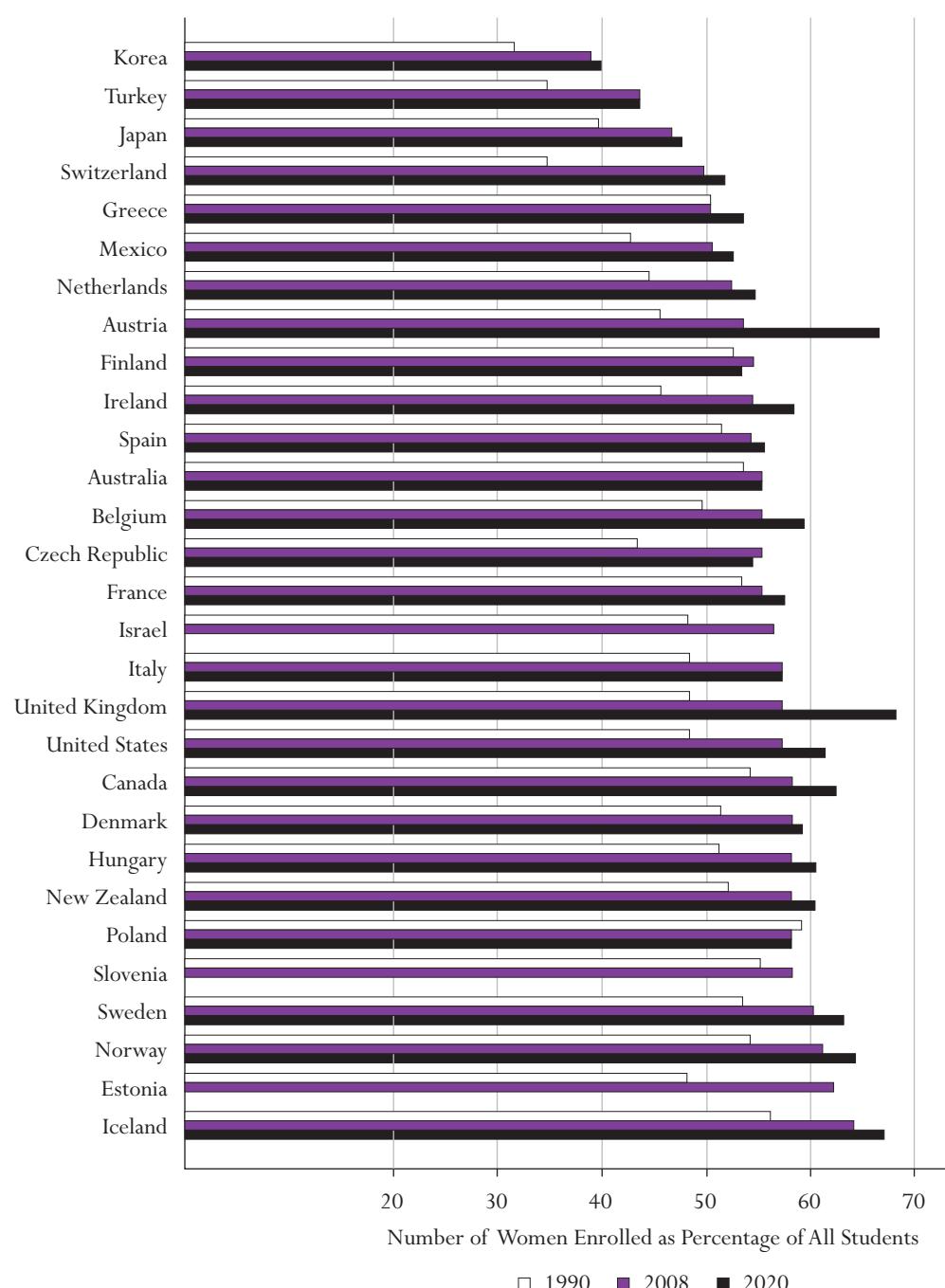
The striking reversal in the gender gap in higher education is not solely a U.S. phenomenon. Among the thirty member nations of the Organization for Economic Cooperation and Development (OECD), the once-prevalent male advantage in college completion has disappeared in all but four countries—Switzerland, Turkey, Japan, and Korea (OECD 2006). Women’s progress has been striking: thirty years ago women lagged behind men in completing college degrees nearly everywhere in the world. From 1965 to 1985, women’s share of higher education increased, on average, from 27 percent to 40 percent across a range of countries (Bradley and Ramirez 1996). In the 1980s, women began to reach parity with men and in many cases surpassed men in the amount of education they received. Figure 12.16 shows the rise of women’s share of enrollment in higher education in OECD countries between 1990 and 2008. Countries are ordered by women’s share of enrollment in 2008, from women’s smallest share (Korea) to their largest (Iceland). Projections suggest that women’s advantage will grow in most countries. By 2020, females are expected to make up at least 60 percent of tertiary students in Austria, Canada, Hungary, Iceland, New Zealand, Norway, Sweden, and the United Kingdom.

Note that several OECD countries have higher female shares of tertiary enrollment than the United States. This fact is related to another noteworthy comparison: after leading the world for much of the twentieth century, the United States has fallen behind other industrialized countries in terms of the percentage of the population attaining tertiary degrees. Figure 12.17 compares the fraction of the population at different age ranges who have completed a tertiary 5A degree.²⁶ Figure 12.18 shows the same data by gender. Figure 12.17 shows that the United States ranks first among the fraction of fifty-five- to sixty-four-year-olds with a tertiary-type A degree, but only eleventh among twenty-five- to thirty-four-year-olds with this degree.

Although the United States remains in the upper middle of the distribution, it has dropped substantially in the rankings. Figure 12.18 shows that for the 1945–1954 birth cohort, the United States had the highest rates of completion among industrialized countries for both women and men. By the 1975–1984 birth cohort, the percentage of U.S. women with a tertiary degree had risen dramatically, while the percentage of men with a tertiary degree actually declined. The progress made by U.S. men across cohorts was next to last among the thirty-four OECD countries, and American men ranked only tenth among these countries by 2009. However, while young American women had a much higher rate of tertiary degree completion than did older American women, the rise in other OECD countries was more dramatic: indeed, American women also ranked next to last among the thirty-four countries in the size of their increase in degrees across these cohorts. Women’s gains in Norway, Denmark, Finland, and Poland have been particularly impressive: more than 40 percent of all young women in these countries have a tertiary degree. Overall, American women—like American men—now rank tenth among OECD countries.

The fact that women have overtaken men in so many countries suggests a global explanation for the growing educational gender gap as well as nation-specific explanations for variation in the rate of overtaking or in the size of women’s advantage. More research is needed to identify the global and local components of this trend in the United States and elsewhere.

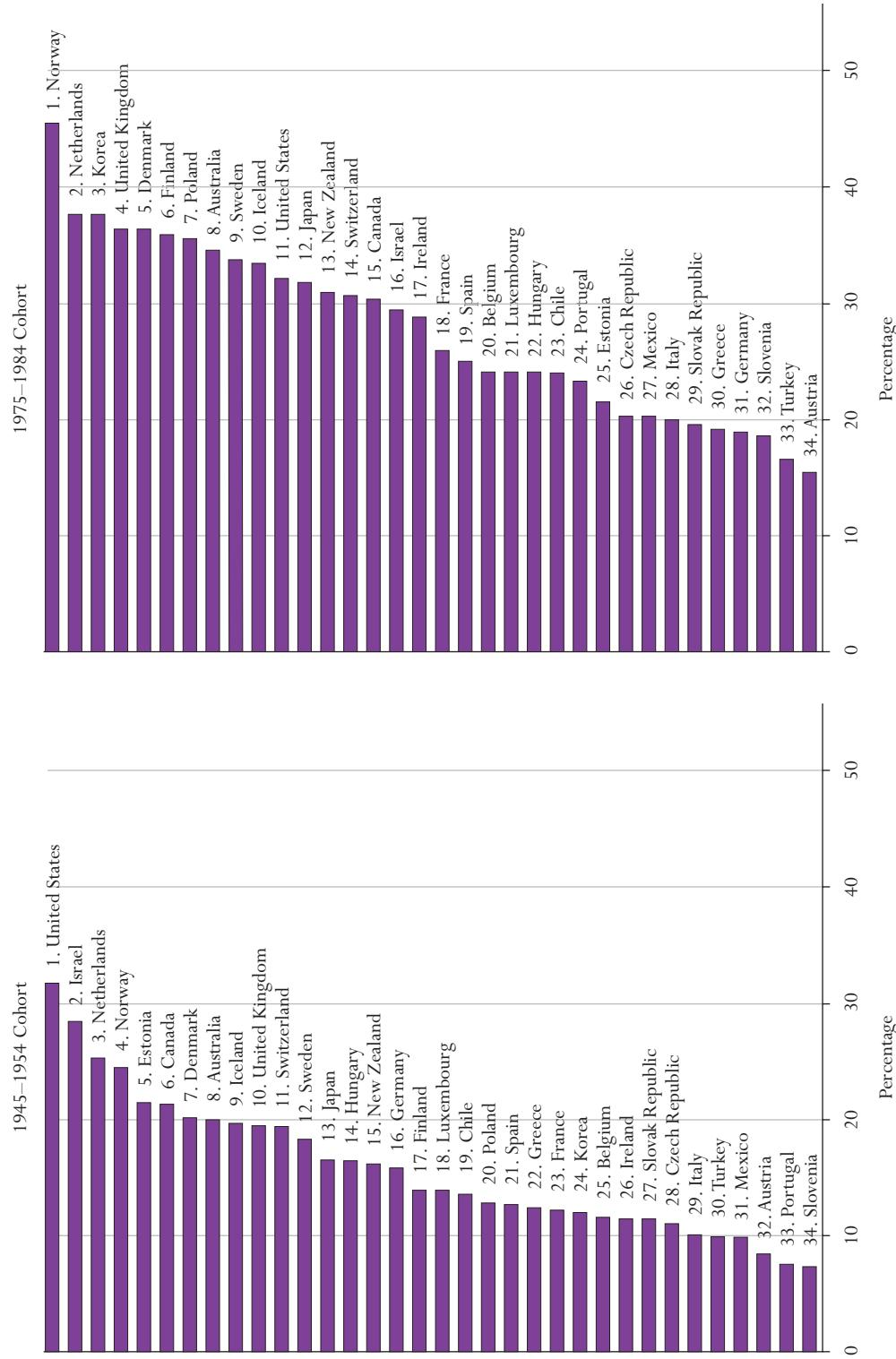
FIGURE 12.16 Women's Share of Tertiary Enrollment in OECD Countries, 1990 and 2008



Source: 1990–2006 data, UNESCO (2009); 2020 projection, Vincent-Lancrin (2008).

FIGURE 12.17

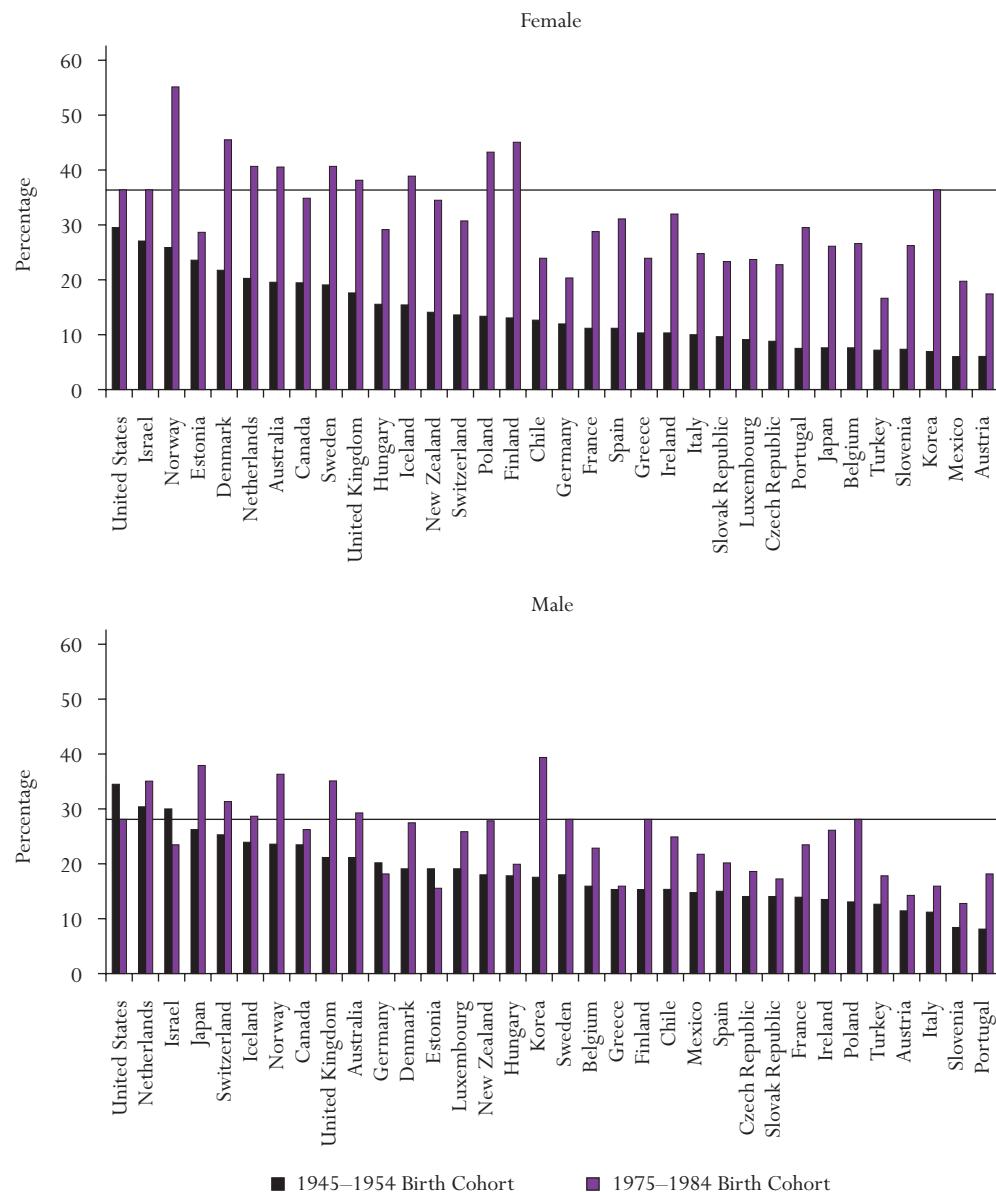
Ranking of OECD Countries, by Rate of Tertiary Completion, by the 1945–1954 Cohort and the 1975–1984 Cohort



Source: Authors' compilation based on data from OECD (2011).

FIGURE 12.18

Female and Male Members of the 1945–1954 and 1975–1984 Cohorts Who Obtained a Tertiary Type A Degree, 2009



Source: Authors' compilation based on data from OECD (2011).

CONCLUSIONS AND IMPLICATIONS

The recent reversal of the gender gap in educational attainment is a story about females' real gains, but also about a stagnation in males' education that raises daunting challenges for American society. What are the best strategies to ameliorate gender gaps in educational achievement in the United States today? We address this question in great detail in the book *The Rise of Women: The Growing Gender Gap in Education and What It Means for American Schools* (DiPrete and Buchmann 2013). Here we present some of our key recommendations.

If we want more American students to progress through college, we must do more than overcome gender-related barriers. First, we must lay down strong academic foundations in elementary and middle school to undergird success in high school and beyond. Second, we must provide clear pathways from secondary and postsecondary school into skilled well-paying jobs, so that students can plan their routes and are motivated to work hard to complete the educational journey. Third, we must make higher education affordable. The high cost today discourages students, especially those who do not see clear paths from education to good jobs. The problem is not with student aspirations. Many students have high aspirations but underinvest in developing their educational skills because they do not receive immediate rewards for high academic performance, because they do not understand the training needed to develop these educational skills in middle and high school, and perhaps also because they are overconfident about their chances of economic success.

A key ingredient in this formula is the climate in schools. We do not favor proposals from critics such as Christina Hoff Sommers (2000) that would restructure schooling around what we see as outmoded gender stereotypes that are more part of the problem than part of the solution. Instead, students require classrooms that teach academic skills and reward them emotionally for academic success.

Very few students understand the extent to which college graduation depends on academic performance. They have a hazy knowledge about fields of study and their connection to the labor market. Knowledge can enhance motivation and discipline, but social support remains necessary. In the case of male educational performance, the social support goes beyond discipline; it allows for forms of masculinity that align positive educational behaviors with environmental expectations and rewards. This support can come from parents (especially fathers) and peers, and it is probably strongest when it comes from multiple sources.

For much of the twentieth century, white ethnic immigrants spurred their sons to accomplish more than their fathers, both to fulfill their parents' ambitions for them and, in the process, become successful themselves. In the 1970s, that pattern of generational progress began to falter for American boys. Conversely, girls once idealized middle-class adult femininity as a ritual of dating, courtship, and marriage, followed by suburban living, child-rearing, and civic volunteerism. Today many girls want careers and see college and advanced degrees as the route to those careers. Boys almost seem weighed down by the lingering intergenerational memory of (white male) working-class affluence, which colors their conception of masculinity as well as their strategies to transition into adulthood. The fading reality of a blue-collar route to masculine success still weighs on the current generation of adolescent boys.

Getting both boys and girls through four-year college is not the be-all and end-all educational policy. We agree with James Rosenbaum (2001) that college is not the right goal for all students. For students struggling academically in middle and high school, a more appropriate policy is to ensure that they complete high school and then follow clear pathways to good jobs. But raising college graduation rates among "the middle third" of American students, most of whom already enroll in college in large numbers, is a laudable goal. These students do not enter

the workforce with the skills that they could have achieved and that would have enabled them to obtain higher-paying jobs. It is the situation of these students that we seek to improve.

NOTES

1. The material in this chapter is largely drawn from the book *The Rise of Women: The Growing Gender Gap in Education and What It Means for American Schools* by Thomas A. DiPrete and Claudia Buchmann (New York: Russell Sage Foundation, 2013). This research was supported in part by award number R01EB010584 from the National Institute of Biomedical Imaging and Bioengineering (NIBIB). The content is solely the responsibility of the authors and does not necessarily represent the official views of NIBIB or the National Institutes of Health (NIH).
2. See, for example, “Colleges Look for Ways to Reverse a Decline in Enrollment of Men,” *Chronicle of Higher Education*, November 26, 1999; “The Male Minority,” *Time*, December 2, 2000; “The New Gender Gap,” *Business Week*, May 26, 2003; and “Male Students’ College Achievement Gap Brings Concern,” *Washington Post*, August 31, 2003. See also “Diversity in Academe: The Gender Issue,” *Chronicle of Higher Education*, section B, November 2, 2012.
3. For convenience, we sometimes use “BA” as a shorthand for “bachelor’s degree,” though colleges and universities award many types of bachelor’s degrees—most notably a bachelor of science (BS), but also a bachelor of engineering (BE), a bachelor of science in engineering (BSE), a bachelor of business administration (BBA), a bachelor of nursing (BN), a bachelor of fine arts (BFA), and other variants—depending on a student’s major or university attended.
4. The appearance of crossing in the early birth cohorts for blacks is an artifact of the statistical smoothing of the graphs.
5. Small sample sizes for these three groups limit the ability to document trends prior to 1980.
6. The arts and sciences consist of psychology, economics, political science and public administration, sociology, anthropology, linguistics, history of science, area and ethnic studies, other social sciences, history, English and literature, foreign languages, other humanities, religion and theology, arts and music, and architecture and environmental design. The sciences consist of aerospace engineering, chemical engineering, civil engineering, electrical engineering, mechanical engineering, materials engineering, industrial engineering, other engineering, astronomy, chemistry, physics, other physical sciences, atmospheric sciences, earth sciences, oceanography, mathematics and statistics, computer science, biological sciences, and agricultural science. The “education-business-other” fields are science technologies, engineering technologies, health technologies, other science and engineering technologies, interdisciplinary or other sciences, communication and librarianship, law, social service professions, vocational studies and home economics, other nonsciences or unknown, medical sciences, other life sciences, education, science education, mathematics education, social science education, other science/technical education, nonscience education, and business and management.
7. The odds of an event is the ratio of the probability that an event will occur and the probability that the event will not occur; for example, when the odds are two-to-one in favor of the home team winning, they are twice as likely to win as to lose. If females in the 1918 birth cohort had two-thirds the odds of completing college as did white males, then the ratio of the odds for females and males (that is, the odds ratio) is 0.66.
8. Using the 1940–2000 Integrated Public Use Microdata Series (IPUMS) data, we compute the probabilities of enrolling in postsecondary education and completing college, given enrollment, for all observable birth cohorts of individuals ages twenty-two to twenty-eight. Because completed education at every age is known, we can compute the proportion of a group that has completed a specific number of years of education conditional on having completed a particular educational level. Thus, we can analyze differences in the rate of college completion between men and women, for whites and blacks, at any specific age, and for a particular birth cohort in terms of their relative probabilities of completing each of the transitions necessary to complete college. Figures 12.9 to 12.12 present the decompositions in terms of two transitions by gender and race: first, the unconditional probability of obtaining some college (college enrollment), and second, the probability of obtaining a bachelor’s degree, conditional on college enrollment. The figures show actual data points for each cohort as well as fitted proportions completing each of the transitions by birth cohort from a second-degree fractional polynomial regression.
9. Census data do not distinguish between these two routes to completing high school for most of the period cov-

- ered by these figures. Because adolescents following these two routes are not equivalent in terms of the probability that they will complete college, and because the composition of high school graduates over these two alternative routes has changed over time, we do not present trends in rates of high school completion.
10. Notably Title VII of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972.
 11. It is hard to predict how the gender wage gap will change in the future, even as women's educational attainment continues to rise. Blau and Kahn (2007) maintain that the remaining wage gap is almost completely unaccounted for by the main predictors of wages (education and labor market experience) contained in the classic human capital earnings function.
 12. Conor Dougherty, "Young Women's Pay Exceeds Male Peers," *Wall Street Journal*, September 1, 2010.
 13. The arithmetic impact can be obtained simply by comparing the year-specific rates of college completion estimated only for the non-institutionalized population with the estimate of completion rates obtained for the total population. The Current Population Surveys (CPS) are administered only to the non-institutionalized population. Estimates of the number of inmates in state prisons and federal correctional facilities by race, gender, education, and age were obtained from the Surveys of Inmates in State and Federal Correctional Facilities for the years 1974, 1979, 1986, 1991, 1997, and 2004. Using these data, we interpolated the results for the intermediate years. Since information for the jail population is less complete, we assumed that the jail population matched the prison population in race, gender, education, and age composition, and we scaled up the size of the prison samples to correspond to the size of the combined prison and jail population in each year. Finally, we rescaled the combined prison and jail samples so that they were the same proportion of the population as were the CPS samples, then combined the data sets in order to estimate rates for the total population.
 14. George Farkas and his colleagues (1990) reported that some studies had found evidence that girls receive higher grades than their aptitude scores would predict at various points in the school career (Brophy and Good 1974; Rehberg and Rosenthal 1978; Alexander and Eckland 1980), but that others had not found this to be true (Entwistle and Hayduk 1982; Natriello and Dornbusch 1983; Leiter and Brown 1985).
 15. Goldin, Katz, and Kuziemko (2006) found that the class rank of the median girl among Wisconsin high school seniors in 1957 was twenty-one percentile points higher than the rank of the median boy, and in 1992 the median senior girl in the NELS survey was sixteen percentile points ahead of the median boy.
 16. Because students tend to inflate their GPA relative to their transcript-reported GPA, we adjusted these self-reports downward by 0.4. We use 0.4 because it is the average difference between self-reported high school grades and transcript grades in HSB.
 17. Our findings differ from those of Daniel Koretz and Mark Berends (2001), who found only a slight increase in average grades between HSB and NELS—mainly among high-income students—but their study differs in sample and GPA measure from what we use here. Koretz and Berends excluded anyone who transferred during their high school years or for whom data were missing on the school administrator survey, on the student survey, or in cognitive testing. We included the entire sample of original tenth-graders who were twelfth-graders in 1982 and had valid transcript data. Also, we used the overall high school GPA (not academic GPA) provided by NCES in the HSB data. It appears that Koretz and Berends calculated their own GPA measure from the course grades in the high school transcripts.
 18. Goldin and her colleagues (2006) further showed that very little of the male advantage in college completion in the 1957 cohort could be accounted for by courses, test scores, or academic performance; in other words, the male advantage was statistically unrelated to the academic variables that would be expected to account for college completion rates.
 19. C. J. Pascoe (2006) and Jay MacLeod (2008) offer similar evidence that some adolescent males (or males in some social situations) treat "nerds" and mental work generally as unmasculine.
 20. Patricia McManus and Thomas DiPrete (2001) were the first to show that women's incomes by the early 1990s had risen to the point that the median male suffered a lower standard of living from marital breakup.
 21. Buchmann and DiPrete (2006) analyzed GSS data through 2004. We update that analysis here with more recent data.
 22. We operationalized "mother" to mean any female guardian and "father" to mean any male guardian.
 23. Caroline Hoxby (2009) notes that the increased selectivity applies to the top 10 percent of American colleges and universities when ranked by selectivity.
 24. Another form of competition that may be affecting completion rates and quality at less-selective universities is

- the competition to get into courses where the number of available seats in the class is lower than the number of students trying to register for the course. Students who are closed out of required or elective courses may well have lower probabilities of graduating (or of graduating within four or five years) as a consequence. Unfortunately, the necessary data are currently not available to determine the impact of supply shortages at the level of individual courses, either on overall college completion rates or on the gender gap in completion rates.
25. Early in the twentieth century, supply constraints primarily limited the college enrollments of female students. Claudia Goldin and Lawrence Katz (2010) show that the increased number of coeducational institutions in a state increased the ratio of college-educated women to college-educated men in that state for cohorts born around the turn of the twentieth century. Janet Currie and Enrico Moretti (2003) show that the opening of new public colleges in a county in the 1940–1996 period increased women's education by an average of 0.08 years, but they did not investigate whether the increase for women was larger than that for men.
 26. The OECD defines tertiary-type A programs (ISCED 5A) as "largely theory-based and . . . designed to provide sufficient qualifications for entry to advanced research programmes and professions with high skill requirements, such as medicine, dentistry or architecture" (OECD 2011).

REFERENCES

- Alexander, Karl L., and Bruce K. Eckland. 1980. "The Explorations in Equality of Opportunity Survey of 1955 High School Sophomores." *Research in Sociology of Education and Socialization* 1: 31–58.
- Alon, Sigal, and Marta Tienda. 2007. "Diversity, Opportunity, and the Shifting Meritocracy in Higher Education." *American Sociological Review* 72(4): 487–511.
- Appelbaum, Eileen, Annette D. Bernhardt, and Richard J. Murnane. 2003. *Low-Wage America: How Employers Are Reshaping Opportunity in the Workplace*. New York: Russell Sage Foundation.
- Armstrong, J. E. 1910. "The Advantages of Limited Sex Segregation in the High School." *The School Review* (2): 339–50.
- Autor, David H. 2010. "The Polarization of Job Opportunities in the U.S. Labor Market: Implications for Employment and Earnings." Technical report. Washington, D.C.: Center for American Progress and Hamilton Project.
- Averett, Susan L., and Mark L. Burton. 1996. "College Attendance and the College Wage Premium: Differences by Gender." *Economics of Education Review* 15(1): 37–49.
- Bailey, Martha J., and Susan M. Dynarski. 2009. "Inequality in Postsecondary Attainment: An Historical Perspective." In *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*, ed. Greg J. Duncan and Richard Murnane. New York and Chicago: Russell Sage Foundation and Spencer Foundation.
- Bergmann, Barbara R. 2005. *The Economic Emergence of Women*. London: Palgrave Macmillan.
- Blau, Francine D., and Lawrence M. Kahn. 2007. "The Gender Pay Gap: Have Women Gone as Far as They Can?" *Academy of Management Perspectives* 21(1): 7–23.
- Bound, John, Brad Hershbein, and Bridget T. Long. 2009. "Playing the Admissions Game: Student Reactions to Increasing College Competition." Working Paper 15272. Cambridge, Mass.: National Bureau of Economic Research.
- Bowen, William G., Matthew M. Chingos, and Michael S. McPherson. 2009. *Crossing the Finish Line: Completing College at America's Public Universities*. Princeton, N.J.: Princeton University Press.
- Bradley, Karen, and Francisco O. Ramirez. 1996. "World Polity and Gender Parity: Women's Share of Higher Education, 1965–1985." *Research in Sociology of Education and Socialization* (11): 63–91.
- Brophy, Jere E., and Thomas L. Good. 1974. *Teacher-Student Relationships: Causes and Consequences*. New York: Holt, Rinehart and Winston.
- Buchmann, Claudia, and Thomas A. DiPrete. 2006. "The Growing Female Advantage in College Completion: The Role of Family Background and Academic Achievement." *American Sociological Review* 71(4): 515–41.
- Burkhauser, Richard V. 2012. "A 'Second Opinion' on the Economic Health of the American Middle Class." *National Tax Journal* 65(1): 7–32.
- Card, David, and Thomas Lemieux. 2001. "Going to College to Avoid the Draft: The Unintended Legacy of the Vietnam War." *American Economic Review* 91(2): 97–102.

- Charles, Kerwin K., and Ming-Ching Luoh. 2003. "Gender Differences in Completed Schooling." *Review of Economics and Statistics* 85(3): 559–77.
- Charles, Maria, and Karen Bradley. 2002. "Equal but Separate? A Cross-National Study of Sex Segregation in Higher Education." *American Sociological Review* 67(4): 573–99.
- Charles, Maria, and David B. Grusky. 1995. "Models for Describing the Underlying Structure of Sex Segregation." *American Journal of Sociology* 100(4): 931–71.
- Cherlin, Andrew, and Pamela B. Walters. 1981. "Trends in United States Men's and Women's Sex-Role Attitudes: 1972 to 1978." *American Sociological Review* 46(4): 453–60.
- Chinoy, Ely. 1955. *Automobile Workers and the American Dream*. Garden City, N.Y.: Doubleday.
- Cho, Donghun. 2007. "The Role of High School Performance in Explaining Women's Rising College Enrollment." *Economics of Education Review* 26(4): 450–62.
- Clarke, Edward Hammond. 1875. *Sex in Education: Or, A Fair Chance for the Girls*. Boston: J. R. Osgood.
- Currie, Janet, and Enrico Moretti. 2003. "Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings." *Quarterly Journal of Economics* 118(4): 1495–1532.
- DiPrete, Thomas A. 2007. "Is This a Great Country? Upward Mobility and the Chance for Riches in Contemporary America." *Research in Social Stratification and Mobility* 25(1): 89–95.
- DiPrete, Thomas A., and Claudia Buchmann. 2006. "Gender-Specific Trends in the Value of Education and the Emerging Gender Gap in College Completion." *Demography* 43(1): 1–24.
- . 2013. *The Rise of Women: The Growing Gender Gap in Education and What It Means for American Schools*. New York: Russell Sage Foundation.
- England, Paula, and Su Li. 2006. "Desegregation Stalled: The Changing Gender Composition of College Majors, 1971–2002." *Gender and Society* 20(5): 657–77.
- Entwistle, Doris R., and Leslie A. Hayduk. 1982. *Early Schooling: Cognitive and Affective Outcomes*. Baltimore, Md.: Johns Hopkins University Press.
- Farkas, George, Robert Grobe, David Sheehan, and Yuan Shuan. 1990. "Cultural Resources and School Success: Gender, Ethnicity, and Poverty Groups Within an Urban School District." *American Sociological Review* 55(1): 127–42.
- Fischer, Claude S., and Michael Hout. 2006. *Century of Difference: How America Changed in the Last One Hundred Years*. New York: Russell Sage Foundation.
- Freeman, Richard B. 1976. *The Overeducated American*. Orlando, Fla.: Academic Press.
- Galbraith, John K. 1956. *American Capitalism: The Concept of Countervailing Power*. Boston: Houghton Mifflin.
- Gerber, Theodore P., and Sin Yi Cheung. 2008. "Horizontal Stratification in Postsecondary Education: Forms, Explanations, and Implications." *Annual Review of Sociology* 34: 299–318.
- Goldin, Claudia D. 1977. "Female Labor Force Participation: The Origin of Black and White Differences, 1870 and 1880." *Journal of Economic History* 37: 87–108.
- . 1990. *Understanding the Gender Gap: An Economic History of American Women*. New York: Oxford University Press.
- Goldin, Claudia D., and Lawrence F. Katz. 2000. "The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions." Working Paper 7527. Cambridge, Mass.: National Bureau of Economic Research.
- . 2008. *The Race Between Education and Technology*. Cambridge, Mass.: Harvard University Press.
- . 2010. "Putting the Co in Education: Timing, Reasons, and Consequences of College Coeducation from 1835 to the Present." Working Paper 16281. Cambridge, Mass.: National Bureau of Economic Research.
- Goldin, Claudia, Lawrence F. Katz, and Ilyana Kuziemko. 2006. "The Homecoming of American College Women: The Reversal of the College Gender Gap." *Journal of Economic Perspectives* 20(4): 133–56.
- Goldrick-Rab, Sara. 2006. "Following Their Every Move: How Social Class Shapes Postsecondary Pathways." *Sociology of Education* 79(1): 61–79.
- Graham, Patricia A. 1978. "Expansion and Exclusion: A History of Women in American Higher Education." *Signs* 3(4): 759–73.
- Green, Kenneth C., with Scott Jaschik and Doug Lederman. 2011. "The 2011 Inside Higher Ed Survey of College and University Admissions Directors." Inside Higher Ed report. Available at: www.insidehighered.com/sites/default/server_files/files/9-20finaladmissionsreport.pdf (accessed September 23, 2014).
- Hansot, Elisabeth, and David Tyack. 1988. "Gender in American Public Schools: Thinking Institutionally." *Signs* 13(4): 741–60.

- Hawkins, David A., and Jessica Lautz. 2007. "State of College Admission." Alexandria, Va.: National Association for College Admission Counseling.
- Heriot, Gail, and Alison Somin. 2011. "Affirmative Action for Men? Strange Silences and Strange Bedfellows in the Public Debate over Discrimination Against Women in College Admissions." *Engage* 12(3): 14–22.
- Hogan, Dennis P. 1981. *Transitions and Social Change: The Early Lives of American Men*. New York: Academic Press.
- Hoxby, Caroline M. 2009. "The Changing Selectivity of American Colleges." *Journal of Economic Perspectives* 23(4): 95–118.
- Hubbard, William H. J. 2011. "The Phantom Gender Difference in the College Wage Premium." *Journal of Human Resources* 46(3): 568–86.
- Jacobs, Jerry A. 1995. "Gender and Academic Specialties: Trends Among Recipients of College Degrees in the 1980s." *Sociology of Education* 68(2): 81–98.
- Karabel, Jerome. 2005. *The Chosen: The Hidden History of Admission and Exclusion at Harvard, Yale, and Princeton*. Boston: Houghton Mifflin.
- Kimmel, Michael S. 2008. *Guyland: The Perilous World Where Boys Become Men*. New York: HarperCollins.
- Kleykamp, Meredith A. 2006. "College, Jobs, or the Military? Enlistment During a Time of War." *Social Science Quarterly* 87(2): 272–90.
- . 2010. "Where Did the Soldiers Go? The Effects of Military Downsizing on College Enrollment and Employment." *Social Science Research* 39(3): 477–90.
- Koretz, Daniel, and Mark Berends. 2001. *Changes in High School Grading Standards in Mathematics, 1982–1992*. No. RAND/MR-1445-CB. Santa Monica, Calif.: Rand Corporation.
- Langan, Patrick A. 1991. "America's Soaring Prison Population." *Science* 251(5001): 1568–73.
- Laub, John H., and Robert J. Sampson. 1993. "Turning Points in the Life Course: Why Change Matters to the Study of Crime." *Criminology* 31(3): 301–25.
- Legewie, Joscha, and Thomas A. DiPrete. 2012. "School Context and the Gender Gap in Educational Achievement." *American Sociological Review* 77(3): 463–85.
- Leiter, Jeffrey, and James S. Brown. 1985. "Determinants of Elementary School Grading." *Sociology of Education* 58(3): 166–80.
- MacLean, Alair. 2005. "Lessons from the Cold War: Military Service and College Education." *Sociology of Education* 78(3): 250–66.
- MacLean, Alair, and Glen H. Elder Jr. 2007. "Military Service in the Life Course." *Annual Review of Sociology* 33: 175–96.
- MacLeod, Jay. 2008. *Ain't No Makin' It: Aspirations and Attainment in a Low-Income Neighborhood*. Boulder, Colo.: Westview Press.
- Mann, Allison, and Thomas A. DiPrete. 2013. "Trends in Gender Segregation in the Choice of Science and Engineering Majors." *Social Science Research* 42: 1519–41.
- Mare, Robert D. 1981. "Change and Stability in Educational Stratification." *American Sociological Review* 46(1): 72–87.
- McDaniel, Anne, Thomas A. DiPrete, Claudia Buchmann, and Uri Shwed. 2011. "The Black Gender Gap in Educational Attainment: Historical Trends and Racial Comparisons." *Demography* 48(3): 889–914.
- McManus, Patricia A., and Thomas A. DiPrete. 2001. "Losers and Winners: The Financial Consequences of Separation and Divorce for Men." *American Sociological Review* 66(2): 246–68.
- Morris, Edward W. 2012. *Learning the Hard Way: Masculinity, Place, and the Gender Gap in Education*. New Brunswick, N.J.: Rutgers University Press.
- National Center for Education Statistics. 1994. "Digest of Education Statistics." Available at: nces.ed.gov/pubssearch/pubsinfo.asp?pubid=94115 (accessed September 23, 2014).
- . 1995. "Digest of Education Statistics." Available at: http://nces.ed.gov/programs/digest/1995menu_tables.asp (accessed September 23, 2014).
- . 2003. "Digest of Education Statistics." Available at: http://nces.ed.gov/programs/digest/2003menu_tables.asp (accessed September 23, 2014).
- . 2007. "Digest of Education Statistics." Available at: http://nces.ed.gov/programs/digest/2007menu_tables.asp (accessed September 23, 2014).
- . 2012. "Digest of Education Statistics." Available at: http://nces.ed.gov/programs/digest/2011menu_tables.asp (accessed September 23, 2014).

- Natriello, Gary, and Sanford M. Dornbusch. 1983. "Bringing Behavior Back In: The Effects of Student Characteristics and Behavior on the Classroom Behavior of Teachers." *American Educational Research Journal* 20(1): 29–43.
- Newcomer, Mabel. 1959. *A Century of Higher Education for American Women*. New York: Harper.
- Office of the Under Secretary for Personnel and Readiness. 2012. "Population Representation in the Military Services, Fiscal Year 2010." Available at: <http://prhome.defense.gov/RFM/MPP/AP/POPREP.aspx> (accessed September 23, 2014).
- Organisation for Economic Co-operation and Development (OECD). 2006. *Education at a Glance 2006*. Paris: OECD.
- . 2011. *Education at a Glance 2011*. Paris: OECD.
- Pallas, Aaron M. 2003. "Educational Transitions, Trajectories, and Pathways." In *Handbook of the Life Course*, ed. Jeylan Mortimer and Michael Shanahan. New York: Springer USA.
- Pascoe, C. J. 2006. "Dude, You're a Fag": *Masculinity in High School*. Berkeley: University of California Press.
- Perkins, Robert, Brian Kleiner, Stephen Roey, and Janis Brown. 2004. *The High School Transcript Study: A Decade of Change in Curricula and Achievement, 1990–2000*. Washington: U.S. Department of Education.
- Pettit, Becky, and Bruce Western. 2004. "Mass Imprisonment and the Life Course: Race and Class Inequality in U.S. Incarceration." *American Sociological Review* 69(2): 151–69.
- Rehberg, Richard A., and Evelyn R. Rosenthal. 1978. *Class and Merit in the American High School: An Assessment of the Revisionist and Meritocratic Arguments*. White Plains, N.Y.: Longman.
- Rosenbaum, James E. 2001. *Beyond College for All: Career Paths for the Forgotten Half*. New York: Russell Sage Foundation.
- Ruggles, Steven, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. 2010. *Integrated Public Use Microdata Series: Version 5.0* (machine-readable database). Minneapolis: University of Minnesota.
- Rury, John L. 2008. *Education and Social Change: Contours in the History of American Schooling*. New York: Taylor & Francis US.
- Segal, David R., and Mady Wechsler Segal. 2004. "America's Military Population." *Population Bulletin* 59(4): 3–40.
- Snyder, Thomas D., and Sally A. Dillow. 2007. *Digest of Educational Statistics, 2006*. Washington, D.C.: National Center for Education Statistics.
- Solomon, Barbara Miller. 1985. *In the Company of Educated Women: A History of Women and Higher Education in America*. New Haven, Conn.: Yale University Press.
- Sommers, Christina Hoff. 2000. *The War Against Boys: How Misguided Feminism Is Harming Our Young Men*. New York: Touchstone.
- Stanley, Marcus. 2003. "College Education and the Midcentury GI Bills." *Quarterly Journal of Economics* 118(2): 671–708.
- Tach, Laura M., and George Farkas. 2006. "Learning-Related Behaviors, Cognitive Skills, and Ability Grouping When Schooling Begins." *Social Science Research* 35(4): 1048–79.
- Thistle, Susan. 2006. *From Marriage to the Market: The Transformation of Women's Lives and Work*. Berkeley: University of California Press.
- Thornton, Arland, Duane F. Alwin, and Donald Camburn. 1983. "Causes and Consequences of Sex-Role Attitudes and Attitude Change." *American Sociological Review* 48(2): 211–27.
- Thornton, Arland, and Deborah Freedman. 1979. "Changes in the Sex Role Attitudes of Women, 1962–1977: Evidence from a Panel Study." *American Sociological Review* 44(5): 831–42.
- Trzesniewski, Kali H., Terrie E. Moffitt, Avshalom Caspi, Alan Taylor, and Barbara Maughan. 2006. "Revisiting the Association Between Reading Achievement and Antisocial Behavior: New Evidence of an Environmental Explanation from a Twin Study." *Child Development* 77(1): 72–88.
- Turner, Sarah, and John Bound. 2003. "Closing the Gap or Widening the Divide: The Effects of the GI Bill and World War II on the Educational Outcomes of Black Americans." *Journal of Economic History* 63(1): 145–77.
- Turner, Sarah E., and William G. Bowen. 1999. "Choice of Major: The Changing (Unchanging) Gender Gap." *Industrial and Labor Relations Review* 52(2): 289–313.
- UNESCO. 2009. Institute for Statistics Data Center [Machine-readable database]. Montreal: UNESCO. Available at: <http://stats UIS.unesco.org/unesco/tableviewer/document.aspx?ReportId=143> (accessed August 31, 2012).
- U.S. Department of Labor. 2010. *Women in the Labor Force: A Databook*. Report 1026. Washington: U.S. Government Printing Office.
- Vincent-Lancrin, Stephan. 2008. "The Reversal of Generational Inequalities in Higher Education—An On-Going Trend." *Higher Education to 2030, Volume 1: Demography*. Paris: Organisation for Economic Co-operation and Development.
- West, Jerry, Kristen Denton, and Lizabeth Reaney. 2000. "The Kindergarten Year." Washington: U.S. Department of Education.

Chapter 13

Is Ethnoracial Residential Integration on the Rise? Evidence from Metropolitan and Micropolitan America Since 1980

Barrett A. Lee, John Iceland, and Chad R. Farrell

The United States has a well-earned reputation as a nation of immigrants.¹ This tradition is eloquently conveyed by the Emma Lazarus sonnet that appears on a plaque enshrined in the pedestal of the Statue of Liberty: “Give me your tired, your poor, your huddled masses yearning to breathe free.” From the colonial era through the midtwentieth century, the vast majority of people heeding Lady Liberty’s call came from Europe, a fact that facilitated their—or their descendants’—eventual incorporation into the societal mainstream (Alba and Nee 2003). However, another significant group of newcomers was forced to move here, the Africans victimized by the slave trade, and they faced more difficult circumstances upon arrival and across subsequent generations than their European-origin counterparts (Lieberson 1980). A variety of fateful consequences followed from these distinct migration streams.

Part of the legacy was demographic—a racial and ethnic landscape painted in two colors. As recently as a half-century ago, whites were still numerically dominant, making up over four-fifths of all U.S. residents. African Americans constituted the only large minority, with a population roughly double that of Hispanics and Asians combined (Hirschman 2005). Because of the symbolic and instrumental barriers posed by the color line, blacks and whites for the most part led separate lives (Myrdal 1944/1962). They held different kinds of jobs, attended different schools, and worshiped at different churches. Of greatest relevance for our purposes, they were concentrated in different regions, communities, and neighborhoods.

Obviously, much has changed during the last fifty years. The civil rights movement, fair housing legislation, and declines in discrimination and prejudice have increased opportunities for blacks, reducing their social and economic distance from whites (Farley and Allen 1987). Another aspect of ethnoracial transformation can be traced to critical shifts in immigration policy. The bracero program, implemented as a temporary fix for agricultural labor shortages during World War II, lasted into the 1960s and strengthened the tradition of Mexicans heading northward in search of work. With the passage of the Immigration and Nationality Act of 1965 (the Hart-Celler Act), exclusionary quotas were replaced by a system that gave preference to applicants who possessed desired skills or who had relatives already living in the United States. Once the door was opened to the world beyond Europe, large flows of immigrants began arriving from Asia as well as Latin America and the Caribbean (Daniels 2004; Lee 2004). These immigrants have done more than alter the dichotomous black-white composition of the host country: they are dramatically affecting all of its major institutions.

Education represents an institutional domain where the impact of the new racial-ethnic order is often visible. One need only pay a visit to Queensborough Community College (QCC) for a vivid illustration. A two-year open-admissions school in the City University of New York (CUNY) system, QCC has a student body comprising nearly equal shares of whites, blacks, Hispanics, and Asians, and it boasts a major immigrant presence: one-third of its students are foreign-born, drawn from 129 countries and speaking 99 different languages.² Of course, schools such as QCC—not to mention workplaces, religious congregations, civic and political organizations, and the like—are influenced by their community contexts. Queens ranks as the most ethnoracially diverse county in the nation, and it is part of a metropolitan area (New York–northern New Jersey–Long Island) that has long been a gateway for immigrants and home to a number of sizable minority groups.³ However, while these groups (along with whites) share the same metropolis, they are less likely to reside in the same neighborhoods. New York is highly segregated compared to other areas (Iceland et al. 2010; Logan and Stults 2011). Even when members of different groups do live side by side, their neighborhood-level mixing may be temporary. Gentrification, succession, and other forms of neighborhood change have continuously reshaped the racial and ethnic geography of New York (Alba et al. 1995; DeSena and Shortell 2012; Lobo, Flores, and Salvo 2002).

The New York case raises the more general issue of just how common intergroup residential proximity has become. Thus, rather than focus exclusively on a single mega-metropolis, we include all metropolitan areas (large, medium, and small) and their nonmetropolitan cousins, micropolitan areas, in our study. We examine both the panethnic populations (such as Hispanics and Asians) and the detailed groups (such as Mexicans and Chinese) inhabiting these areas.⁴ The temporal window of interest to us extends from 1980 through 2010, when the interplay of race, nativity, and residence may have produced less uniform outcomes than in the previous black-white era. Our approach is anchored in a broadened conceptualization of “integration,” a term we use to indicate the sharing of community environments by racial-ethnic groups at different geographic scales (in neighborhoods and places as well as areas). Our analysis addresses the following three questions about key manifestations of integration:

1. Which metropolitan and micropolitan areas have experienced increasing overall (area-wide) ethnoracial diversity during the last three decades?
2. To what extent has residential segregation declined across all types of areas for panethnic populations and their component groups?
3. How prevalent and stable over time are neighborhoods with racially diverse or mixed compositions?

Although we pose these questions in an optimistic, pro-integration direction, the theoretical perspectives framing our research differ about which answers seem most reasonable. Moreover, the answers could depend on the history and attractiveness of areas as destinations for immigrants, a possibility considered throughout the chapter.

LIVING TOGETHER, LIVING APART

In a fundamental sense, residential integration—expressed either as high diversity or as low segregation—is about the physical proximity of members of different racial-ethnic groups. Despite this unifying thread, diversity and segregation are not identical concepts. Diversity refers to the overall composition of a community—for instance, its percentages of white, black, Hispanic, and Asian inhabitants. Segregation reflects the degree to which two or more groups are

differentiated across spatial subunits composing some larger unit—in our case, how groups are spread across the census tracts that make up a metro or micro area. Following these definitions, a diverse area may be more or less segregated if members of various races live in isolation or share the same neighborhoods. Diversity and segregation thus remain distinct, a point reinforced by the modest empirical association between the two (DeFina and Hannon 2009; Farrell 2005; Iceland 2004).

Though conceptually distinguishable, ethnoracial diversity and segregation are both consequential features of community sociospatial organization. The implications of diversity have been examined not only for educational institutions but also for the economy, housing market, health care, human services, and taxes (Bean and Stevens 2003; Borjas 1999; Smith and Edmonston 1997). Research also analyzes the relationship between city or neighborhood diversity and social capital, trust, place attachment, crime, and intergroup relations (Hou and Wu 2009; Lee and Bean 2010; Putnam 2007). Overall, the empirical record concerning these issues is mixed, leading to positive, neutral, and negative assessments of diversity's impact (for overviews, see Lichter 2013; Lindsay and Singer 2003). In the case of segregation, the evidence is less equivocal. When minority groups (especially African Americans and Hispanics) are concentrated in neighborhoods separate from those occupied by whites, group members tend to suffer from deficits in health, safety, school performance, and employment, among other outcomes (Card and Rothstein 2006; Kramer and Hogue 2009; Peterson, Krivo, and Browning 2009). Simply put, their spatial isolation heightens their exposure to problems and reduces their access to resources and opportunities.⁵

Theoretical Perspectives

This range of effects justifies our task of documenting the direction and pervasiveness of trends in diversity and segregation over an extended period and for different types of communities. Two theoretical perspectives drawn from the racial segregation and locational attainment literatures can be used to formulate expectations about what kinds of trends we will find. The spatial assimilation model holds that as minority groups become more socially and economically integrated, their likelihood of sharing residential environments with whites and each other increases. With upward mobility and—for immigrants—increasing acculturation, blacks, Hispanics, and Asians are predicted to pursue better-quality housing and communities (Alba and Logan 1991; Rosenbaum and Friedman 2007; South, Crowder, and Pais 2008). Evidence of the kinds of advancement believed to drive spatial assimilation is abundant. Numerous investigations document that, over time and across generations, most ethnoracial groups have registered gains in educational and occupational attainment, earnings, citizenship status, English-language proficiency, voting participation, and rates of intermarriage (Alba and Nee 2003; Bean and Stevens 2003; Clark 2003; Park and Myers 2010; White and Glick 2009; Xie and Goyette 2004).

The assimilation model has been employed primarily to understand spatial integration and group dispersion across neighborhoods, but it is germane to the residential options available to minority groups at higher geographic scales. Assimilation logic implies a future in which all groups are widely and similarly distributed across metropolitan and micropolitan areas and places in addition to neighborhoods. Over time, then, the racial-ethnic diversity of most community units should rise while segregation declines. That logic is qualified in the segmented variant of the assimilation model, which maintains that chances for minority immigrant incorporation vary by attributes such as race (dark skin tone), national origin, and age at arrival (Portes and Zhou 1993; Zhou 1999). All else equal, groups falling on the “right” and “wrong” sides of the color line should exhibit different residential patterns, with those on the “wrong” side unable to climb the socioeconomic and locational ladders of American society.

The ethnic stratification model goes further, citing significant barriers to spatial assimilation across the board. Audit studies show that minority home-seekers still face pernicious housing market discrimination (Pager and Shepherd 2008; Turner and Ross 2005). Another barrier is density zoning—also known as “snob” zoning—which can make it prohibitively expensive for minority households of modest means to enter white communities (Rothwell and Massey 2009). Even when they manage to do so, some whites appear sufficiently averse to the presence of other races that they exit in response (Crowder, Hall, and Tolnay 2011; Frey 1995). The stratification model also notes that own-group residential preferences, which are strong among newly arrived immigrants drawn to enclave-based resources and support, often persist over time (Charles 2006, 2007; Clark 2002).

In short, the model casts doubt on the prospects for increasing diversity or decreasing segregation as long as external constraints and self-selective processes operate. It predicts, at the extreme, that ethnoracial groups will live largely apart from each other at the community and neighborhood levels, clustered in different residential environments. This prediction need not be incompatible with spatial assimilation reasoning. A particular group, for example, may remain overrepresented in a handful of traditional metropolitan gateways (consistent with the stratification perspective) but move to a growing number of integrating suburban destinations within those gateways over time (evidence of spatial assimilation).

Previous Research

Neither the assimilation nor stratification models have seen much duty in research on racial-ethnic diversity, perhaps because the varied approaches to diversity obscure their relevance. One approach gauges the spread of a particular racial-ethnic group across locations (such as the percentage of all Asians nationally living in each metropolitan area). This research, which we refer to as “group-centric,” suggests that, despite persistent tendencies toward concentration (Portes and Rumbaut 2006), the dispersion of most groups is under way, with increasing shares of Asians and especially Hispanics residing in rural settings, suburbs, and nongateway states and metro areas (Durand, Massey, and Charvet 2000; Licher and Johnson 2006, 2009; Massey and Capoferro 2008). Here we take a “geocentric” approach that emphasizes the ethnoracial diversification of communities rather than group dispersion. Geocentric studies of large metropolises and cities document changes in racial-ethnic mix due to minority gains and, in some instances, white losses; such changes are now occurring beyond traditional metro “melting pots” (Berube 2003; Frey 2006, 2011b; Singer 2005; Suro and Singer 2003). Other studies find a rise in black, Hispanic, and Asian proportions—and, by implication, a rise in diversity—in suburban rings and places (Frey 2011a; Li 2009; Logan 2001; Wen, Lauderdale, and Kandula 2009).

Geocentric researchers often operationalize diversity rather crudely, calculating the proportion of minority residents in a community or employing arbitrary thresholds to establish group presence. We opt instead to highlight the number of ethnoracial groups that make up a community population and the sizes of the groups relative to each other (White 1986). Intuitively, a population marked by *evenness*—the presence of many groups of equal size—would be highly diverse. Statistical measures that conform to this refined meaning of diversity are available but rarely used in geocentric investigations (for exceptions, see Allen and Turner 1989; Johnson and Licher 2010; Lee and Bean 2010). We rely on one such measure, the entropy index, throughout the chapter. However, an evenness-based approach can stress the magnitude of diversity to the neglect of a community’s racial-ethnic structure, that is, the specific groups represented. As a precaution, our analysis incorporates complementary measures to capture both

dimensions (magnitude and structure) over the last three decades. The result is a more thorough and up-to-date portrait of diversity trends than previously provided.

In contrast to diversity, residential segregation has been heavily studied since the midtwentieth century (Iceland, Weinberg, and Steinmetz 2002; Massey and Denton 1993; Taeuber and Taeuber 1965). Investigators now rely on well-established statistical tools such as the index of dissimilarity, the P^* family of exposure and isolation measures, and the information theory index to capture distinct aspects of segregation (Massey and Denton 1988; Reardon and Firebaugh 2002). Despite variation in which measures are used and how neighborhoods and groups are defined, research supports a few basic conclusions about post-1980 segregation patterns (Farley and Frey 1994; Iceland 2009; Logan and Stults 2011; Logan, Stults, and Farley 2004; Reardon et al. 2009). Perhaps the clearest conclusion is that blacks continue to be the most segregated minority group and Asians the least, while Hispanics occupy an intermediate position. Over time, however, differences among the groups have narrowed to some extent.

Black segregation declines are apparent in the majority of metropolitan areas, although scholars debate their magnitude (Glaeser and Vigdor 2012; Logan 2013). Average levels of Hispanic and Asian segregation, on the other hand, have held stable or, on the isolation dimension, have risen. The Hispanic and Asian trends appear to be due to the rapid growth of both groups (through natural increase as well as immigration), coupled with the gradual pace of household or individual assimilation; together, these processes have fostered the development and expansion of ethnic enclaves. Decreases in African American segregation are partly a function of redistribution dynamics—such as black migration to metropolitan areas in less-segregated regions of the country (Iceland, Sharp, and Timberlake 2013)—but black segregation tends to be lower in communities with a particular constellation of structural or ecological characteristics. Examples of these characteristics include small total and black populations, a high minority-to-white income ratio, recent housing construction activity, location in the West or South, and functional specialization as a government or military center (Farley and Frey 1994; Lee et al. 2008; Logan et al. 2004).

Our purpose is to fill some significant gaps in the segregation literature. For example, we move beyond the metropolitan emphasis in that literature and assess trends in micropolitan areas as well. Such areas, which consist of one or more nonmetro counties anchored by an urban core, have received scant attention but are assumed to be less segregated than their metropolitan counterparts. This assumption deserves closer scrutiny in light of block-level evidence reported by the sociologist Daniel Licherter and his associates (2007) that the levels of black and Hispanic segregation in nonmetro places are on a par with those in metro settings (for contrary Hispanic results, see Wahl, Breckenridge, and Gunkel 2007). In addition to an expanded geographic scope, we cover a greater number of groups than normal. First, unlike many previous studies, our research explicitly considers the segregation of whites rather than treating them as an unexamined referent. This approach is pertinent to the stratification model, which predicts a lag in white integration compared to other panethnic populations. Second, we analyze some of the detailed ethnoracial groups that constitute the broad panethnicities (see Crowder 1999; Galster, Metzger, and Waite 1999; Kim and White 2010). That is, we describe segregation patterns for Mexicans, Chinese, and other specific Hispanic and Asian groups across decades to determine how many of them are becoming more integrated.

Increasing integration should produce more neighborhoods with diverse compositions. Several investigators have confirmed this, showing a rise in multiethnic census tracts and a shrinking number of all-white and all-black tracts as a concomitant of Hispanic and Asian growth (Denton and Massey 1991; Farrell and Lee 2011; Holloway, Wright, and Ellis 2011; Logan and Zhang 2010, 2011). We focus on the long-term fate of multiethnic or mixed neighborhoods,

following them from 1980 through 2010. Comparative case studies identify the conditions under which mixed neighborhoods are able to preserve their multigroup structures over time (Maly 2005; Nyden, Maly, and Lukehart 1997), and some tract-based investigations reveal substantial persistence from one census year to the next (Ellen 2007; Fasenfest, Booza, and Metzger 2006).

In general, these findings adhere to spatial assimilation logic. Yet the ethnic stratification perspective—not to mention the succession model of racial-ethnic change—suggests that diversity should be considered a temporary phenomenon that occurs as a neighborhood transitions between two homogeneous states. The potentially fragile nature of diversity within neighborhoods is implied by the sensitivity of whites to mixed residential settings, manifested in their exits from such settings, their disinclination to move into them in the first place, and subsequent white population losses (Charles 2006; Crowder, Hall, and Tolnay 2011; Crowder, Pais, and South 2012; Friedman 2008).

Perhaps the most compelling recent work on neighborhood diversity has been conducted by the sociologists John Logan and Charles Zhang (2010, 2011), who document a dramatic increase and impressive degree of stability in what they term “global” neighborhoods, which contain nontrivial proportions of white, black, Hispanic, and Asian residents. However, they restrict their search for such neighborhoods to a handful of very ethnically diverse metropolitan areas. We take the next step, tracing the trajectories of mixed neighborhoods drawn from metropolitan and micropolitan areas throughout the United States. This more inclusive approach allows us to assess the generalizability of Logan and Zhang’s results across a variety of settings. We also operationalize the concept of mixed neighborhood in a couple of different ways. We classify census tracts separately on the basis of racial-ethnic structure and diversity magnitude, paying particular attention to those tracts in which no group achieves majority status (Farrell and Lee 2011).

Type of Immigrant Context

No-majority neighborhoods may appear more often in communities boasting a large foreign-born population, especially if the members of that population hail from Latin America or Asia. Community racial diversity and segregation can be shaped by the number and origins of immigrant residents as well (Alba et al. 1995; White and Glick 1999). In recognition of these possibilities—and to gain additional comparative leverage—our analysis considers the kind of context that an area provides for immigrants. We benefit from the efforts of fellow scholars to develop typologies of “gateway” and “new destination” communities that take into account the historical settlement patterns of all immigrants or of the immigrant segments of selected ethnoracial groups (Hall 2013; Licher et al. 2010; Singer 2005; Suro and Singer 2003). Some major metropolises such as New York and Chicago constitute what Audrey Singer (2005) refers to as continuous gateways. They have long histories of receiving and incorporating newcomers. Other metro areas formerly served that function or are only recently beginning to do so. Of course, the same area can be an established gateway and a new destination, depending on the group in question (Hall 2013).

Although elaborate typologies offer a valuable degree of precision, we opt to distinguish among three fundamental types of immigrant contexts. “Gateway” areas, marked by a high proportion of foreign-born, presumably have local economies, organizational infrastructures, support networks, and traditions that are attractive to immigrants. At the other extreme, we identify “native” contexts as those with a minimal immigrant presence. The remaining areas qualify as “outposts,” at least in a relative sense: nontrivial shares of foreign-born people live in these

settings, but they lack the critical mass of coethnics and resources available in gateways. Sticking to fewer and simply defined types of contexts allows us to classify micropolitan as well as metropolitan areas as gateway, outpost, or native-dominant communities. The scheme also facilitates the formulation of hypotheses about ethnoracial diversity levels and trends. According to the spatial assimilation model, both community and neighborhood diversity should be highest in gateways but increasing in all types of contexts. From an ethnic stratification perspective, however, fewer mixed neighborhoods should exist, and neighborhoods in gateway areas are especially likely to become more homogeneous over time.

The implications of the two theoretical perspectives for context-specific differences in residential segregation (as distinct from diversity) are less straightforward. In line with assimilation reasoning, gateways might facilitate the local dispersion of Hispanics and Asians, allowing them to take advantage of enclave resources while living in suburbs and neighborhoods not dominated by coethnics (Hardwick and Meacham 2008; Price et al. 2005; Zelinsky and Lee 1998). Whites in gateway areas may also be more willing to share neighborhoods with minority group members, given the blurred ethnoracial boundaries and elevated intergroup exposure common to such areas. Each of these processes could contribute to a decline in segregation. But large concentrations of immigrants in gateway settings could just as easily fuel resistance to integration by native-born whites, which in turn might increase the appeal of enclave residences to Hispanics and Asians. This scenario, consistent with the principles of the stratification perspective, suggests stable or increasing segregation over time.

Following the same principles, it is possible that the arrival of immigrant groups in native contexts threatens incumbent residents. Any negative or hostile reactions from the incumbents may amplify immigrants' tendency to consolidate ethnic resources and band together residentially when they are few in number. Once again, however, a plausible alternative hypothesis can be posited: that the movement of Hispanic and Asian households to outpost and native areas is the spatial expression of upward socioeconomic mobility and acculturation. Households undertaking this kind of move should thus be the best able to attain favorable residential outcomes, including residential integration with other groups.

Suffice it to say that the range of alternative hypotheses available makes the comparison of segregation patterns across types of immigrant contexts a worthwhile objective, in both metropolitan and micropolitan areas. A comparative approach is further recommended by the unsettled empirical record to date. Some investigations document higher segregation levels among Hispanics and Asians in new destinations (akin to our outpost and native contexts) than in gateways (Hall 2013; Lichter et al. 2010). In other analyses, immigrants tend to be more segregated in the gateway areas (Alba et al. 2010; Fischer and Tienda 2006; Park and Iceland 2011).

GROUPS AND COMMUNITIES

Our assessment of trends in local racial-ethnic integration requires decisions about the groups and communities to be used in the analysis. With respect to groups, we rely on a handful of general categories that are panethnic in nature and widely recognized by researchers and the public. The race by Hispanic origin cross-tabulation in Summary File 1 of the 1990 through 2010 decennial censuses and in Summary File 2A of the 1980 census yields counts of Hispanics of any race and of non-Hispanic whites, blacks, Asians, Pacific Islanders (tabulated separately from Asians since 2000), Native Americans (American Indians and Alaska Natives), multi-race individuals (since 2000), and those reporting some other race. Small numbers in certain categories and modifications of the census classification scheme over time necessitate some recoding. Specifically, we combine Asians and Pacific Islanders into a single category (hereafter labeled

“Asians”), and we create a combined “other” category made up of Native Americans and multi-race and other-race individuals. These adjustments leave us with five panethnic populations that are exhaustive, mutually exclusive, and comparable across censuses from 1980 through 2010: Hispanics and non-Hispanic whites, blacks, Asians, and “others.”

Though practical, such broadly defined categories can mask variation in the residential experiences of people who belong to the same panethnic population but differ in their specific ethnoracial identity. Previous investigations, for example, have found nontrivial levels of segregation among specific Asian groups and among specific Hispanic groups (Kim and White 2010; Lobo et al. 2007; Zhou and Logan 1991). In recognition of this heterogeneity, our analysis periodically distinguishes among thirteen detailed Hispanic and Asian groups. These groups merit attention because they are the largest in their respective panethnic categories (accounting for 86 percent of all Hispanics and 85 percent of all Asians in 2010) and include many recent immigrants, making them of interest from a public policy standpoint. The seven Hispanic groups are Mexicans, Puerto Ricans, Cubans, Dominicans, Salvadorans, Guatemalans, and Colombians. We also examine six Asian groups: Chinese, Filipinos, Asian Indians, Vietnamese, Koreans, and Japanese. Data on each Asian group and on three of the detailed Hispanic groups are available from 1980 forward. (Dominicans, Salvadorans, Guatemalans, and Colombians were not tabulated separately until 1990.)

Both panethnic and detailed racial-ethnic groups must be situated in communities to assess trends in their proximity to one other. Four types of census-recognized community units serve as cases during our analysis. Toward the higher end of the geographic scale, we focus on metropolitan and micropolitan areas. These areas qualify as communities because most of them have achieved a degree of self-sufficiency and approximate functional domains (such as housing and labor markets) where people live and work. Metropolitan areas contain at least one urbanized population of 50,000 or more, the central county (or counties) in which that population is located, and any surrounding counties that share strong commuting ties with the central county. Micropolitan areas are similar but smaller, comprising at least one urban cluster of 10,000 to 50,000 residents, the host core county, and any contiguous counties linked to the core via commuting (Frey et al. 2006). Although micro areas are core-based like metro areas, they are officially considered nonmetropolitan by the Census Bureau.

We impose December 2009 Office of Management and Budget (OMB) spatial definitions throughout the 1980–2010 period to obtain a constant number of cases with constant boundaries: 366 metropolitan areas and 576 micropolitan areas in each year, together capturing over nine-tenths of the total U.S. population.⁶ (The remainder of the population inhabits stand-alone nonmetro nonmicro counties that are excluded from our study.) Despite the emphasis on areas, we occasionally refer to a third type of community: the “places” that exist within areas. The large majority of all places are incorporated municipalities—cities, suburbs, towns, and villages—and many coincide with school districts and service delivery zones. As government jurisdictions, they have fiscal and policy responsibility for any issues associated with shifts in racial-ethnic diversity or segregation that occur within their territory.

The last kind of community unit featured here is the census tract. Conceptually, tracts are among the census units (along with blocks and block groups) that correspond in a rough way to the popular notion of neighborhood. The U.S. Census Bureau (1997) defines a tract as a relatively compact, recognizable, and homogeneous territorial unit with stable boundaries and an optimum population of about 4,000, but deviations from the ideal exist on each of these criteria (Lee et al. 2008). In particular, boundary changes are common, leading us to impose 2010 boundaries throughout the three-decade span.⁷ We employ tracts to address two of our guiding questions about trends in residential integration. They serve as building blocks across which we

calculate dissimilarity and information theory indexes in order to chart the degree to which metropolitan and micropolitan areas have become less segregated. We also utilize the magnitude and structure of tract diversity to identify ethnoracially mixed neighborhoods in 1980 and 1990 and to monitor their fate during subsequent decades.

Compositional patterns in tracts and places are expected to be contingent on the type of immigrant context provided by the surrounding area. As noted earlier, we have developed a simplified alternative to the increasingly complex typologies available. The first step in constructing our own typology involves classifying each metropolitan area as a gateway, outpost, or native context based on its foreign-born population at the end of each decade. The gateway designation is reserved for a metropolis with a percentage of foreign-born residents that is at least 1.75 times greater than the mean calculated across all metro areas in a given census year. At the other extreme, the percentage foreign-born in a native metropolis is one-fourth or less the mean for all areas. Outpost metro areas constitute an intermediate type of context, attracting some immigrants but lacking the critical mass present in gateways.⁸

Of the 366 metropolitan areas in our sample, 79 percent are classified the same way at the end of all three decades—as a gateway, outpost, or native context. The remaining 21 percent have a consistent designation for two of the three decades. In these instances, we assign an area to its majority type for the entire 1980–2010 period. We follow the same procedure with micropolitan areas, but the end-of-decade comparison of an area’s foreign-born percentage is to the mean calculated across all micro areas. (The mean micro foreign-born share is only about one-half the size of the metro mean at each time point.) Like their metropolitan counterparts, virtually all of the micro areas (573 out of 576) qualify as consensus or majority types over the three decades of interest. The overall classification of the three micro areas that fall in a different category each year (for example, 1990 native, 2000 outpost, 2010 gateway) is based on their most recent (2010) type.

The potential utility of the immigrant context typology can be inferred by comparing the areas included in each type (see table 13.1). Although just 53 metropolises are defined as gateways, their average proportions of foreign-born, Hispanic, and Asian residents dwarf the proportions in outpost and native contexts. Moreover, these three groups exhibit high degrees of gateway concentration: among metropolitan dwellers nationally, three-fourths of all foreign-born persons, Hispanics, and Asians now live in gateway settings. What distinguishes the 110 outpost and especially the 203 native areas are their robust shares of whites and blacks. Similar differences by type of context occur for micropolitan areas, but the average micro foreign-born percentages lag well behind the metro percentages. As in the metro case, the distribution of micro areas across contexts is skewed toward the outpost ($N = 162$) and native ($N = 338$) types, with the remaining 76 areas meeting the gateway criterion.

DIVERSITY: MASTER TREND WITH VARIATIONS

Local diversity trends are embedded within a larger demographic landscape that has undergone a major transformation in racial-ethnic composition. Over the last thirty years, whites’ share of the U.S. population has declined from four-fifths to less than two-thirds and blacks’ share has remained nearly stable, but the Hispanic, Asian, and “other” slices of the population pie have tripled in size. Hispanics now constitute the largest minority group, surpassing African Americans. Some of the key forces fueling the rise of nonblack minorities include higher fertility rates, youthful age structures, intermarriage (and the ensuing multiracial offspring), switches in racial-ethnic self-identification, and, of course, large-scale immigration (Lee and Bean 2010; Licher 2013).

TABLE 13.1 *Mean Population Characteristics of Metropolitan Areas in 1980 and 2010, Total and by Immigrant Context*

	1980 Mean	2010 Mean	1980–2010 Difference
All areas (N = 366)			
Population	499,907	705,786	205,879
Foreign-born	3.9%	7.8%	4.0%
White	83.3	71.5	-11.8
Black	9.4	10.5	1.1
Hispanic	5.4	12.4	7.0
Asian	0.9	2.8	1.9
Gateway areas (N = 53)			
Population	1,422,882	2,166,926	744,044
Foreign-born	10.8%	21.6%	10.8%
White	69.3	45.4	-23.9
Black	6.3	6.4	0.1
Hispanic	19.9	37.9	18.0
Asian	3.1	7.2	4.1
Outpost areas (N = 110)			
Population	479,332	690,436	211,104
Foreign-born	4.1%	8.7%	4.6%
White	84.6	71.3	-13.3
Black	8.3	9.3	0.9
Hispanic	5.2	13.5	8.3
Asian	0.8	3.0	2.2
Native areas (N = 203)			
Population	270,081	332,624	62,543
Foreign-born	1.9%	3.7%	1.8%
White	86.2	78.4	-7.8
Black	10.8	12.2	1.5
Hispanic	1.7	5.1	3.4
Asian	0.4	1.5	1.1

Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

In light of the national transformation under way, the diversity trajectory for communities might seem inevitable. But there are good reasons to reserve judgment. The empirical literature, which shows group-specific patterns of spatial concentration amid dispersion, is mixed, giving us pause about rushing to local-level conclusions. So does the fact that few studies conceptualize or measure diversity directly or examine its trend line over multiple decades through 2010. Finally, our guiding theoretical perspectives lead to different predictions—one (spatial assimilation) pointing toward diversity increases across communities, and the other (ethnic stratification) toward stable or even declining diversity. Thus, a central question is worth asking: in which metropolitan and micropolitan areas are racial-ethnic groups more likely to live together than they were thirty years ago?

We address this question by examining the two dimensions of diversity noted previously. The magnitude of diversity is measured with the entropy index, symbolized by E (for more detail, see Massey and Denton 1988; Reardon and Firebaugh 2002; White 1986). The index reflects how evenly members of a population are spread across categories on some variable of

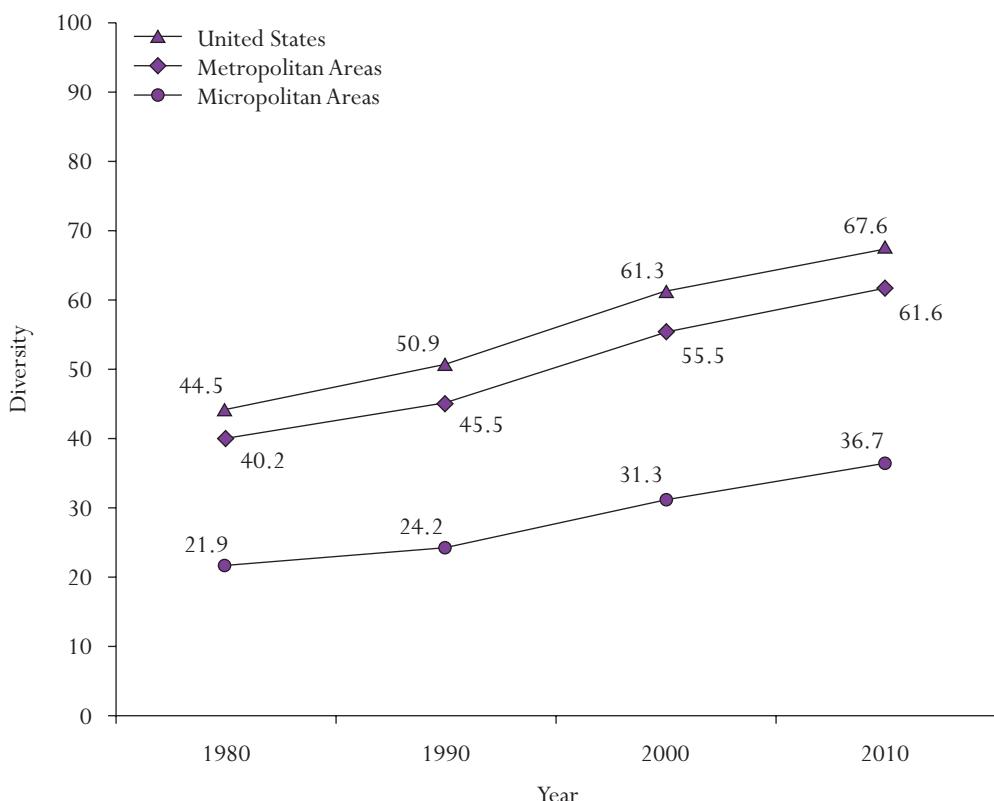
interest; in our case, the categories correspond to the five panethnic groups. E achieves its maximum value (the natural log of the number of groups) only when all groups are of equal size. Because E has no fixed upper limit, a community consisting of more equal-sized groups produces a higher E score than one with fewer equal-sized groups. To standardize the entropy index, we divide it by its maximum (1.609 for five groups), then multiply by 100. Fine-tuned in this way, an E value of 100 indicates complete heterogeneity, with each of the five panethnic groups representing one-fifth of the community population. At the opposite extreme, an E of 0 denotes complete homogeneity, with all residents belonging to the same group.

The second diversity dimension, racial-ethnic structure, refers to the specific groups present. Taking structure into account becomes important when one realizes that a community with equal numbers (thirds) of white, Asian, and Hispanic inhabitants receives the same E score as another community where Hispanics, blacks, and “others” each make up one-third of the population. We therefore supplement the entropy index with pie charts, bar graphs, and a “majority rule” typology (introduced shortly) that summarize the group proportions underlying the magnitude of diversity. Throughout the aggregate parts of the analysis, both group percentages and E values are weighted by a community’s population size relative to the summed population of all communities with which it is classified (for example, all micropolitan areas or all gateway metropolitan areas). This weighting procedure generates means depicting the diversity magnitude and panethnic group proportions experienced by the average resident of a particular class of communities.

The entropy index is put to work in figure 13.1, which makes the master trend in one form of residential integration easy to see: just as the United States as a whole has become more diverse, so have its metropolitan and micropolitan areas. The weighted mean metro E scores closely shadowed the scores for the national population, climbing by over twenty points between 1980 ($E = 40$) and 2010 ($E = 62$). Micropolitan diversity increased steadily as well, although to levels only one-half to three-fifths those of metro areas. Indeed, the magnitude of diversity observed for the average micropolitan dweller in 2010 was less than that to which his or her metropolitan counterpart was exposed three decades prior. Patterns vary a bit by community population size and region. Larger, Western, and Southern metro and micro areas register higher diversity magnitudes at each time point (not shown).

Perhaps the most impressive aspect of the diversification trend is its prevalence: 98 percent of all metro areas and 97 percent of all micro areas exhibited upward movement during the thirty-year span, their increases in E ranging from negligible to extreme. The pervasiveness of this upward shift can be readily seen in figure 13.2, which displays scatterplots of 1980 diversity by 2010 diversity separately for individual metro and micro areas. In both plots nearly all of the cases fall above the diagonal line, reflective of diversity’s ascent. As anticipated, the concentrations of micro areas in the lower left corner and close to the diagonal highlight their modest levels of and increases in E relative to those for metros. The biggest diversity jumps, however, are apparent for the handful of micropolitan areas close to and midway up the Y axis: they display 2010 E values in the 50 to 60 range, a sharp increase over the single-digit E s of 1980. Such increases in smaller communities may have been driven by new employment opportunities, such as the opening of a meat processing operation, a manufacturing plant, or a casino, each of which would draw members from a variety of ethnoracial groups in search of work. No metropolis experienced so substantial a rise during the same period.

Despite the almost universal diversification occurring among areas, a countertrend is evident for some of the census-defined places (cities, suburban municipalities, towns) located within them. Sociologists Barrett Lee and Lauren Hughes (forthcoming) have divided places with populations of 1,000 or more from 1980 through 2010 into “peak cohorts,” based on the

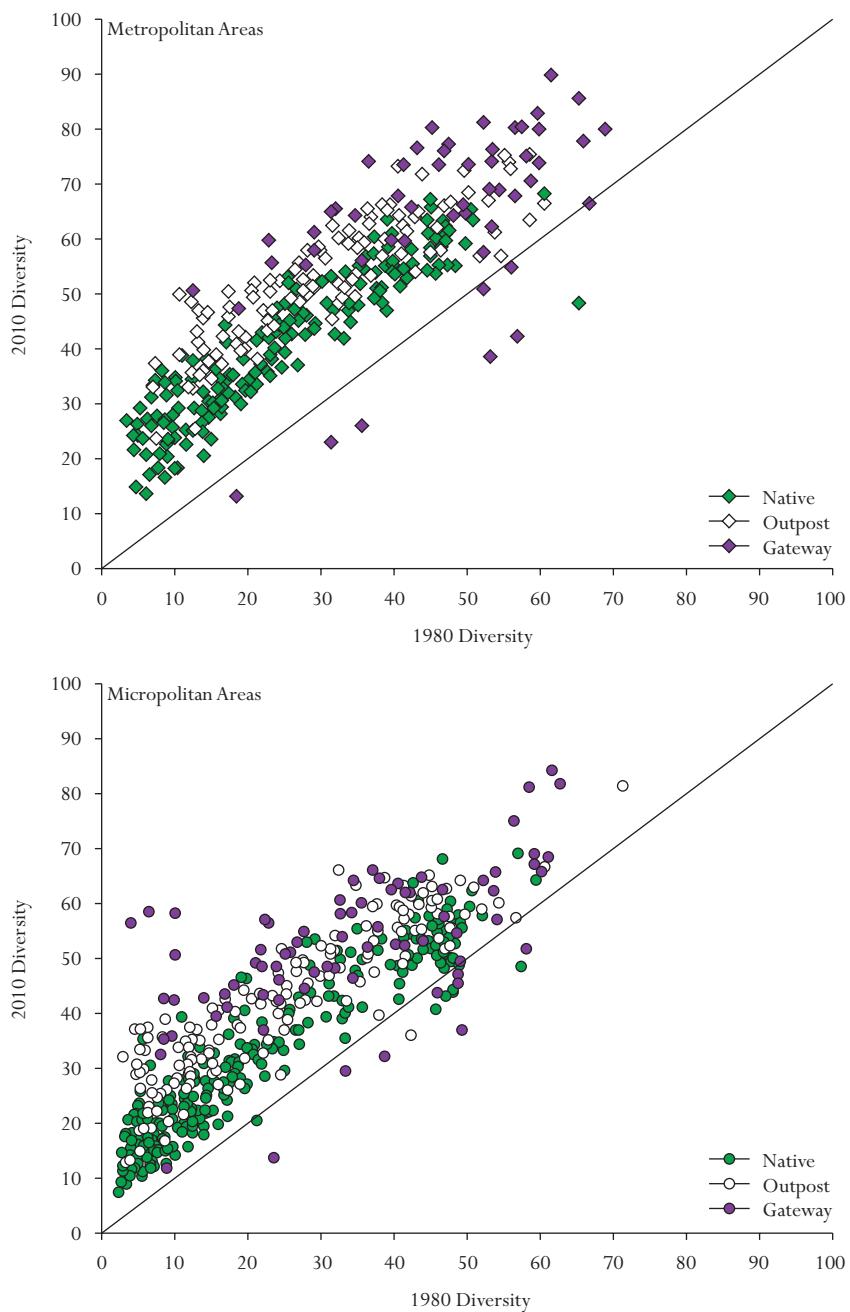
FIGURE 13.1 *Weighted Mean Diversity of Metropolitan and Micropolitan Areas, 1980–2010*

Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

census year of their maximum or peak diversity (highest E value). Both the 1980 and 1990 peak cohorts reach mean E values of approximately 50 in 1980, then the E s for the 1980 cohort decline to 37 by 2010, while those for the 1990 cohort rise to 60 in 1990 before returning to the near-50 level twenty years later. Simply put, the places in these cohorts have become more homogeneous than heterogeneous over an extended period. They did so when an ethnoracial group already in the majority became more dominant, when one majority group succeeded another, or when a complex compositional structure lacking any majority group eroded in the face of a surge by a particular segment of the population, often Hispanics. The key fact about the 1980 and 1990 peak cohorts, however, is how small they were, together containing fewer than 6 percent of all places. By contrast, the 2010 cohort alone captured roughly nine out of ten places. We thus conclude that a countertrend to diversification exists but amounts, relatively speaking, to a drop in the bucket at present.

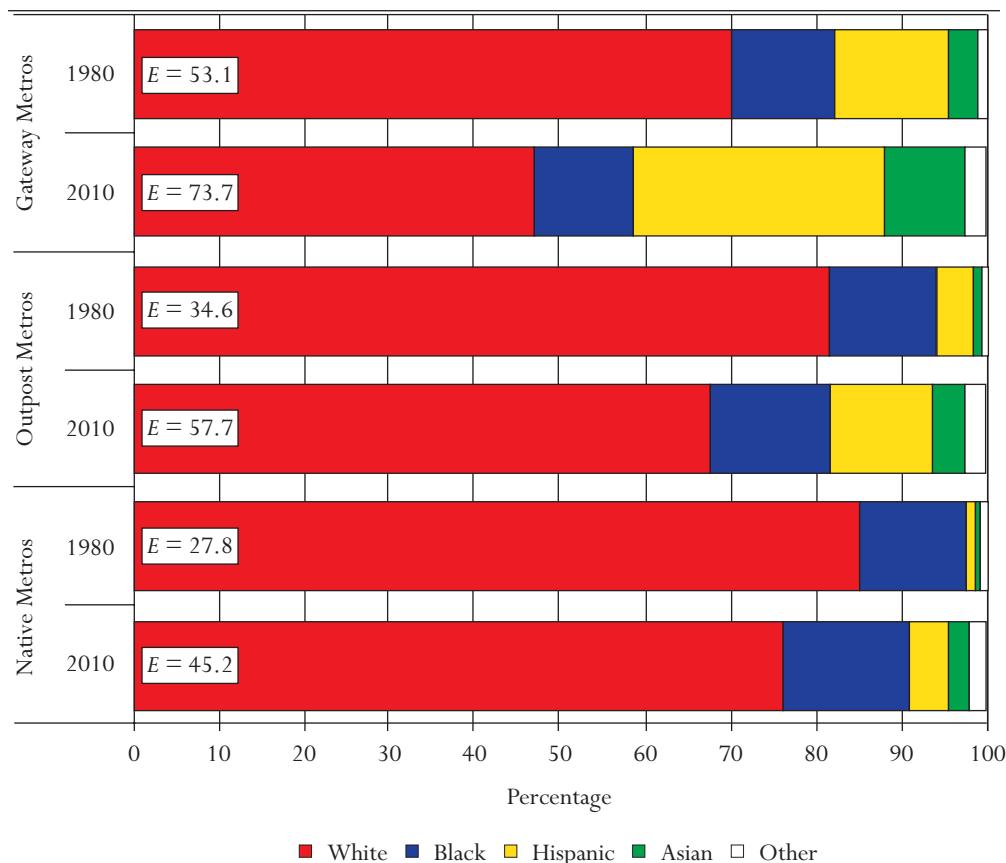
How does racial-ethnic diversity differ across our three types of immigrant contexts? The results for metropolitan areas in figure 13.3 best correspond to the expectations of spatial assimilation theory. According to the 1980 mean entropy scores (in the boxes at the left edge of

FIGURE 13.2 1980 and 2010 Diversity of Metropolitan and Micropolitan Areas, by Immigrant Context



Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

FIGURE 13.3 *Weighted Mean Racial-Ethnic Composition of Metropolitan Areas, by Immigrant Context, 1980 and 2010*

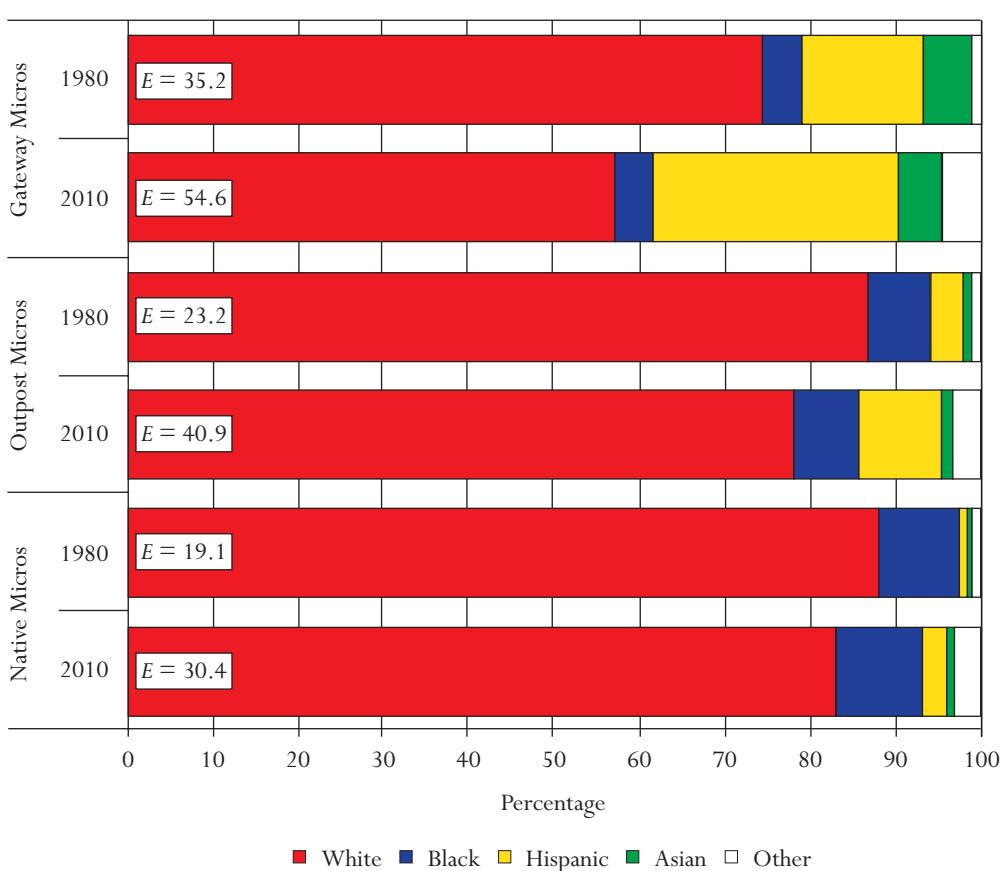


Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

the horizontal bars), the magnitude of diversity diminishes as one moves from gateway through outpost to native metro contexts. This order holds in 2010: outpost and native areas registered major percentage changes in E , but they still lagged far behind the gateway settings. The persistent diversity advantage enjoyed by gateways manifests itself in micropolitan areas (see figure 13.4) as well as metropolitan ones. Gateway advantages in diversity magnitude and change are also visible in disaggregated form, via the shading of areas by type of immigrant context in the figure 13.2 metro and micro scatterplots.

Gateway communities have especially rich racial-ethnic structures (reflected in the segments of the figures' horizontal bars). Compared to outpost and native contexts, the white share of the population in immigrant gateways is lower and has shrunk more substantially, to the point that whites on average account for fewer than half of all residents in gateway metro areas. The relative decline of whites can be traced to a major rise in the number of Hispanics, not only in gateways but in outposts as well. As of 2010, Hispanics constituted about three-tenths of both metro gateway and micro gateway populations. Mean Asian representation has also increased in marked fashion in metro gateways and outposts. The percentage of black inhabitants was fairly

FIGURE 13.4 *Weighted Mean Racial-Ethnic Composition of Micropolitan Areas, by Immigrant Context, 1980 and 2010*



Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

stable between 1980 and 2010 across all types of metro and micro contexts. Not surprisingly, blacks remain the largest minority in native metropolitan and micropolitan areas, which are less likely to host immigrant-rich groups.

The kind of context offered by an area should shape the ethnoracial diversity of the cities, suburbs, and towns within its boundaries. But in what ways? A simple “majority rule” typology allows us to shed light on this issue. Table 13.2 classifies metropolitan places with at least 1,000 residents in 1980 and 2010 into white, black, Hispanic, Asian, and other majority types depending on which group made up more than 50 percent of the local population. White-majority places are further subdivided into dominant (90 percent or more white) and shared (51 to 89 percent white) subtypes. Finally, in no-majority communities, three or four racial-ethnic groups are present but none has achieved more than a plurality.

A comparison of the 1980 and 2010 distributions of all metro places (top panel of the table) reveals three noteworthy patterns: a decline in the percentage of white-majority places, an increase in no-majority and minority-majority places, and rising diversity levels for every type of

TABLE 13.2 *Distribution and Diversity of Metropolitan Places by Racial-Ethnic Structure and Immigrant Context, 1980 and 2010*

	Percentage of Places		Weighted Mean Diversity	
	1980	2010	1980	2010
All metro places				
White majority	93.8	82.4	35.3	49.3
Dominant	65.6	31.9	13.3	19.9
Shared	28.2	50.6	48.6	54.2
Black majority	2.4	4.1	49.5	55.3
Hispanic majority	2.1	5.9	49.0	50.1
Asian majority	0.3	0.4	60.0	68.2
Other majority	0.1	0.2	18.1	26.4
No majority	1.4	7.2	71.8	78.8
N of places	7,439	10,166		
Places in gateway metros				
White majority	87.7	66.1	44.0	55.2
Dominant	49.9	10.5	16.1	21.3
Shared	37.7	55.6	54.1	57.4
Black majority	2.6	4.0	51.3	56.1
Hispanic majority	5.7	14.4	46.5	48.8
Asian majority	0.9	1.1	60.0	68.2
Other majority	0.1	0.1	19.7	26.6
No majority	3.2	14.5	73.2	80.3
N of places	2,351	3,448		
Places in outpost metros				
White majority	96.4	88.8	30.3	49.8
Dominant	70.2	31.3	13.0	20.9
Shared	26.2	57.5	44.0	54.1
Black majority	1.6	2.9	50.2	55.9
Hispanic majority	1.0	3.1	56.3	57.7
Asian majority	0.0	0.0	—	76.5
Other majority	0.1	0.1	71.9	5.8
No majority	0.8	5.0	60.9	74.7
N of places	2,199	2,998		
Places in native metros				
White majority	96.7	92.4	27.1	43.0
Dominant	74.9	52.1	11.2	18.9
Shared	21.9	40.4	41.6	50.7
Black majority	2.8	5.1	43.4	54.3
Hispanic majority	0.0	0.2	—	62.8
Asian majority	0.0	0.0	—	—
Other majority	0.1	0.2	24.2	31.1
No majority	0.3	2.1	49.7	67.0
N of places	2,889	3,720		

Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

place save those with a Hispanic majority, which exhibited stable mean E values. These patterns are amplified significantly in gateway metro areas (second panel): as of 2010, two-thirds of all gateway places fell in the white-majority category, down from nine-tenths in 1980, and white-dominant places dropped from one-half to one-tenth of the total. Hispanic-majority and no-majority communities, on the other hand, have become much more common, each constituting 14 percent of the 2010 gateway sample. Moreover, average diversity reached its highest magnitude in no-majority places located in the metro gateways. A quite different profile emerges for outpost and native metro areas, where both Hispanic-majority and no-majority places remain uncommon.

A separate analysis (not shown) suggests that the shift toward diverse types of places is more pronounced in micropolitan gateways than in their metropolitan counterparts. White-dominant places, for example, made up one-third of the 1980 micro gateway sample but only one-twentieth three decades later, while the share of no-majority places climbed from less than 3 percent to over 20 percent. However, few micro places are located in gateway settings (one-seventh of the micro total versus one-third of all metro places). Most can be found in native micro areas, where over half of the places still qualify as white-dominant and both no-majority and Hispanic-majority communities continue to be rare. At the same time, the proportion of black-majority places in native micro areas has increased and is greater than in native metro contexts.

The aggregate trends documented so far are important, but they mask differences in the diversity dimension of integration across specific communities. We bring the extent of such differences into sharp relief by comparing the most and least diverse metropolitan and micropolitan areas nationally. Metro gateways in the West and South are disproportionately represented among the twenty-five areas with the highest 2010 E scores in table 13.3. Three California metro areas—Vallejo–Fairfield, San Francisco–Oakland, and Stockton—sit atop the list, which includes seven other areas from the Golden State. The California areas typically have higher proportions of Asian residents than do other metropolises, accompanied by sizable white and Hispanic populations. Blacks are more prominent than Asians in areas outside of California, with the exception of Honolulu. The distinctive racial-ethnic structure of Honolulu features an Asian majority and a substantial percentage of “others” (primarily mixed-race individuals). Consistent with their gateway status, most of the top twenty-five metropolitan communities house large shares of immigrants, led by Miami–Fort Lauderdale (38 percent foreign-born), San Jose (36 percent), and Los Angeles (34 percent).

Contrary to popular perception, high levels of diversity are not limited to metropolitan America. The twenty-five most diverse micropolitan areas in table 13.4 have 2010 entropy scores in the 63 to 84 range. Hawaiian micro gateways Hilo, Kahului–Wailuku, and Kapaa rank first, second, and fourth, respectively, and their multigroup compositions and large numbers of foreign-born residents resemble what we have described for metropolitan settings. But Lumberton, North Carolina, the third most diverse micro area, illustrates another common pattern: few immigrants but a high percentage of “others,” typically Native Americans. Diverse micropolitan areas similar to Lumberton are found in California, Arizona, New Mexico, and Oklahoma. These communities highlight the distinction between a very diverse population and a large foreign-born population: it is possible to have the former without the latter.

A large foreign-born population can also exist without an extremely diverse population, as an inspection of the *least* diverse metro and micro areas demonstrates. Laredo, Texas, exhibits the lowest E score (13) of any metropolis, thanks to an overwhelmingly Hispanic majority (96 percent) that contains many immigrants; a few other Texas areas are homogeneously Hispanic as well. Usually, however, the most homogeneous metropolitan and micropolitan communities are all-white and qualify as native contexts. They tend to be concentrated in the Midwest and North-

TABLE 13.3 *Population Characteristics of Twenty-Five Most Diverse Metropolitan Areas, 2010*

	Diversity	Percentage White	Percentage Black	Percentage Hispanic	Percentage Asian	Percentage Other	Percentage Foreign-Born	Immigrant Context
Vallejo–Fairfield, Calif.	89.3	40.8	14.2	24.0	15.1	5.9	19.9	Gateway
San Francisco–Oakland, Calif.	85.3	42.4	8.1	21.7	23.6	4.2	29.8	Gateway
Stockton, Calif.	82.5	35.9	7.1	38.9	14.3	3.9	23.3	Gateway
Washington, D.C.	80.8	48.6	25.2	13.8	9.3	3.1	21.0	Gateway
New York, N.Y.	80.5	48.9	16.1	22.9	9.9	2.3	28.3	Gateway
San Jose, Calif.	80.1	35.3	2.3	27.8	31.2	3.4	36.5	Gateway
Las Vegas, Nev.	79.8	48.0	10.0	29.1	9.1	3.8	22.1	Gateway
Houston, Tex.	79.6	39.7	16.8	35.3	6.5	1.7	22.0	Gateway
Los Angeles–Long Beach, Calif.	79.6	31.6	6.7	44.4	14.7	2.5	34.4	Gateway
Honolulu, Hawaii	77.6	19.1	1.9	8.1	52.1	18.9	19.5	Gateway
Sacramento, Calif.	76.9	55.7	7.0	20.2	12.4	4.7	17.2	Gateway
Trenton–Ewing, N.J.	76.3	54.5	19.5	15.1	8.9	2.0	19.7	Gateway
San Diego, Calif.	76.2	48.5	4.7	32.0	11.0	3.7	23.1	Gateway
Dallas–Fort Worth, Tex.	75.9	50.2	14.8	27.5	5.4	2.1	17.3	Gateway
Fayetteville, N.C.	75.3	46.4	35.3	9.8	2.3	6.2	5.7	Outpost
Miami–Fort Lauderdale, Fla.	74.9	34.8	19.7	41.6	2.2	1.7	37.8	Gateway
Killeen, Tex.	74.9	54.0	18.6	20.3	3.2	3.9	7.7	Outpost
Orlando, Fla.	73.9	53.3	15.0	25.2	4.0	2.5	16.2	Gateway
Lawton, Okla.	73.9	58.9	16.8	11.2	2.7	10.5	5.3	Outpost
Chicago, Ill.	73.7	55.0	17.1	20.7	5.6	1.7	17.5	Gateway
Riverside–San Bernardino, Calif.	73.5	36.6	7.1	47.3	6.2	2.8	22.0	Gateway
Fresno, Calif.	73.2	32.7	4.8	50.3	9.4	2.7	21.7	Gateway
Atlantic City, N.J.	73.0	58.6	14.9	16.8	7.5	2.2	15.4	Gateway
Yuba City, Calif.	73.0	54.0	2.3	27.1	11.2	5.3	18.3	Gateway
Atlanta, Ga.	73.0	50.7	31.9	10.4	4.8	2.2	13.5	Outpost

Source: Authors' calculations based on U.S. decennial census data (Summary File 1).

TABLE 13.4 *Population Characteristics of Twenty-Five Most Diverse Metropolitan Areas, 2010*

	Diversity	Percentage White	Percentage Black	Percentage Hispanic	Percentage Asian	Percentage Other	Percentage Foreign-Born	Immigrant Context
Hilo, Hawaii	83.7	31.2	0.5	11.6	32.7	24.0	11.2	Gateway
Kahului-Wailuku, Hawaii	81.5	31.8	0.5	10.1	37.9	19.7	15.8	Gateway
Lumberton, N.C.	81.1	27.0	24.1	8.1	0.8	40.0	5.7	Outpost
Kapaa, Hawaii	80.8	30.7	0.4	9.4	38.8	20.7	13.7	Gateway
Kodiak, Alaska	74.7	52.5	0.6	7.3	19.9	19.6	16.5	Gateway
Grants, N.M.	70.4	21.5	0.8	36.5	0.6	40.6	2.7	Native
Laurinburg, N.C.	68.8	45.9	38.4	2.1	0.8	12.8	1.8	Native
Clewiston, Fla.	68.6	34.9	12.9	49.2	0.7	2.3	27.8	Gateway
Bay City, Tex.	68.1	47.4	11.1	38.3	1.9	1.3	10.2	Gateway
Muskogee, Okla.	67.6	58.3	11.2	5.2	0.6	24.8	2.8	Native
Alamogordo, N.M.	66.8	52.8	3.2	34.5	1.3	8.1	10.5	Gateway
Safford, Ariz.	66.3	51.6	1.6	33.6	0.6	12.6	4.9	Outpost
Crescent City, Calif.	65.7	64.7	3.4	17.8	3.4	10.7	7.3	Outpost
Huntsville, Tex.	65.7	58.5	22.2	16.8	0.9	1.6	8.3	Gateway
Sanford, N.C.	65.6	59.3	19.6	18.3	0.8	1.9	11.0	Gateway
El Campo, Tex.	65.4	47.7	13.7	37.4	0.4	0.8	7.9	Gateway
Wilson, N.C.	64.8	49.4	38.7	9.5	0.8	1.5	6.8	Outpost
Corsicana, Tex.	64.5	59.9	13.6	23.8	1.3	1.5	10.7	Gateway
Nacogdoches, Tex.	64.4	61.5	17.9	17.6	1.2	1.7	8.4	Outpost
Moultrie, Ga.	64.2	58.8	22.3	17.1	0.7	1.2	10.6	Gateway
Show Low, Ariz.	64.0	43.9	0.8	10.8	0.6	44.0	2.6	Native
Clovis, N.M.	63.9	50.7	5.7	39.5	1.2	2.8	7.9	Gateway
Morgan City, La.	63.8	57.2	32.3	5.3	1.7	3.4	3.7	Outpost
Mount Pleasant, Tex.	63.8	49.2	9.3	39.6	0.7	1.2	19.3	Gateway
Arcadia, Fla.	63.4	56.1	12.4	29.9	0.5	1.1	19.6	Gateway

Source: Authors' calculations based on U.S. decennial census data (Summary File 1).

east, although five of the twenty-five least diverse metro areas fall wholly or partly within the state of West Virginia. Pennsylvania stands out with five of the least diverse micro areas and three of the least diverse metro areas nationally. Maine, Indiana, Michigan, and Wisconsin are among the other states containing multiple areas of high homogeneity.

These extremely diverse and highly homogeneous communities anchor the upper and lower portions of hierarchies that have remained quite stable in recent decades. Little shifting is apparent between 1980 and 2010 in where all 366 metropolitan areas ranked with respect to the magnitude of racial-ethnic diversity (Spearman $r = 0.89$). A comparison of 1980 and 2010 diversity ranks for all micropolitan areas reveals an equally impressive degree of stability (Spearman $r = 0.88$). Among subsets of metro and micro areas distinguished by type of immigrant context, rank-order correlations are weaker (in the 0.60 to 0.62 range) for gateways, presumably owing to the compositional effects of differential Hispanic and Asian growth rates in the more dynamic gateway settings. For the most part, however, the near-universal increases in diversity experienced by communities of every type have only nominally altered the relative positions of these communities—that is, how they stack up against each other over time.

Given the parallel paths followed, it seems reasonable to speculate that the community characteristics associated with ethnoracial diversity might also be temporally robust. Elsewhere we have confirmed that speculation, estimating 1980 and 2010 cross-sectional regression models for metropolitan areas, micropolitan areas, and places of 10,000 or more (Lee, Iceland, and Sharp 2012; Lee, Farrell, and Sharp 2013). A consistent profile of the correlates of diversity emerges, irrespective of year or census geography. In general, more diverse areas and places tend to be located in coastal or Southern border states and have larger populations, lower minority incomes (relative to whites), plentiful rental-occupancy housing, higher rates of government or military employment, and smaller proportions of retirees and college students. Many of these correlates are identified as theoretically or empirically relevant in the diversity literature (Allen and Turner 1989; Farrell 2005; Hall and Lee 2010).

Immigrant context matters as well. In a respecification of the original models for this chapter, we use dummy variables to capture type of context for areas (not shown). The 2010 metro and micro equations reveal that the gateway and outpost indicators exhibited significant positive associations with ethnoracial diversity (compared to the native reference category) even when controlling for other characteristics of areas. Similar but weaker findings for immigrant context can be observed in 1980, with only the metro gateway type achieving statistical significance. The continued growth of supportive institutions, networks, and enclaves across both gateway and outpost areas may partly explain the more prominent role of immigrant context in 2010 than in 1980. Another possibility is that the shifting origins of immigrants in recent decades—most now come from Latin America and Asia—have increased the empirical overlap between foreign-born and minority populations, which are captured in our immigrant context and diversity measures, respectively.⁹

Overall, the results in this section provide a tentative answer to our initial question about trends in residential integration. Consistent with the spatial assimilation perspective, virtually all communities have changed in the same direction as the nation has over the last thirty years, becoming more diverse owing to Hispanic and Asian growth. Levels of and gains in diversity have been greater in metro than in micro areas and in gateway settings than in other types of immigrant contexts. Marked differences also exist in diversity magnitude and racial-ethnic structure across individual areas. However, the 2010 diversity hierarchy—where communities rank in relation to each other—looked much as it did in 1980, as did the community characteristics associated with diversity.

SEGREGATION: PERVASIVE DECLINE?

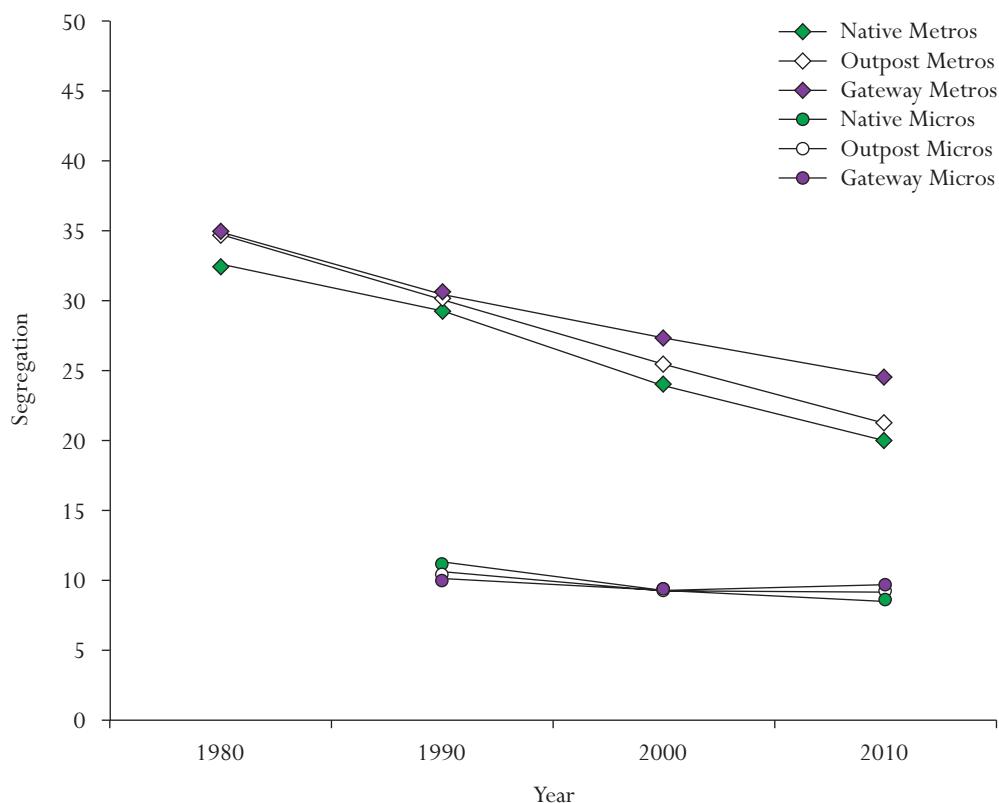
Increasing diversification in metropolitan and micropolitan areas across the country does not necessarily mean that people of different ethnoracial groups are now more apt to share neighborhoods. It could be that whites continue to prefer to live with other whites and minority group members likewise feel more comfortable living with coethnics. According to the spatial assimilation perspective, however, we should expect to see diminishing residential segregation over time as minority residents experience socioeconomic gains and—in the case of immigrants—become more acculturated. Both of these processes are anticipated to result in improved housing and neighborhood outcomes, including closer proximity to members of other racial-ethnic groups. In contrast, the ethnic stratification model emphasizes the continuing salience of race and discrimination. It predicts that high levels of segregation, even in the face of nationwide increases in diversity, will remain pervasive or rise further. Here we evaluate the relevance of each perspective to our second guiding question: does integration, broadly construed, manifest itself as declining segregation?

To address this question, we spatially disaggregate the racial-ethnic compositions of metro and micro areas, examining how different groups are distributed across the census tracts that make up an area. Only tracts that approximate residential neighborhoods—those that have at least 100 residents, fewer than one-fourth of whom occupy institutionalized group quarters such as prisons or hospitals—are eligible for the analysis. The areas in which the tracts are located also have to meet certain eligibility criteria. For a metropolitan area, the rule is simple: its population must contain 1,000 or more members of the ethnoracial group of interest in a given year. Because of the smaller size of micropolitan areas, we set the group bar lower, requiring a minimum of 100 members. But each micro area still needs to be substantial overall, with 10 or more tracts and a total population of at least 10,000. Because much micropolitan territory was untracted in 1980, the temporal window on micro areas is limited to the 1990–2010 period.

Our examination of census data for eligible areas, tracts, and groups indicates that, consistent with the assimilation perspective, increasing diversity has been accompanied by steady declines in residential segregation. We illustrate these declines in metropolitan and micropolitan areas using the multigroup information theory index (or Theil's H), which measures how evenly multiple ethnoracial groups are distributed across neighborhoods within the broader area. More specifically, H reflects the extent to which the diversity of census tracts (tapped by the entropy index E) differs from the diversity of the area as a whole (for more detailed treatments, see Farrell 2008; Reardon and Firebaugh 2002). If every tract is about as diverse as its metro or micro area, then segregation is very low. Conversely, if every tract is homogeneous (containing just one group), then segregation is very high. The information theory index varies from 0 to 100, with higher numbers indicating greater segregation. Weighting mean H values by the population size of metro areas or micro areas allows us to interpret these values as the magnitude of multigroup segregation that the average resident of each type of area experiences in a particular year.

We find that H has declined substantially in metropolitan areas, from 34 in 1980 to 23 in 2010 (figure 13.5). That is, metro residents now live in census tracts that, on average, are 23 percent less diverse (or more segregated) than the metropolis as a whole, down from 34 percent less diverse three decades earlier. This decline can be seen in all immigrant contexts, but it is a little less pronounced for gateway metro areas. By 2010, the highest average H values were evident in gateway metro areas and the lowest in native areas. Levels of multigroup segregation for micropolitan areas were quite modest (H_s in the 9 to 11 range) throughout the 1990–2010 period, indicating small differences between mean tract diversity and micro-wide diversity. This pattern is consistent with previous work finding lower racial-ethnic segregation in smaller metro

FIGURE 13.5 *Weighted Panethnic Multigroup Segregation in Metropolitan and Micropolitan Areas, by Immigrant Context, 1980–2010*



Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

areas and places than in larger ones (Farley and Frey 1994; Iceland et al. 2002; Logan et al. 2004). Beyond slight decreases in H , not much change occurred during the two decades. Neither did overall levels and trends vary much by type of micropolitan immigrant context. Native micro areas were about as segregated as micro outposts and gateways, and all experienced minimal changes. In general, then, different ethnoracial groups now live in fairly similar census tracts across micropolitan America.

One concern with multigroup segregation measures such as H is that they can mask the variation in segregation experienced by specific groups. To guard against this possibility, we turn to the popular index of dissimilarity, symbolized by D (Massey and Denton 1988). The dissimilarity index, like the information theory index, is a measure of evenness. It describes the proportion of a group's population that would have to change residences for each neighborhood (census tract) to have the same ethnoracial composition as the metropolitan or micropolitan area as a whole. The scores in table 13.5 reveal the segregation of metropolitan whites, blacks, Hispanics, Asians, and "others" from all nongroup members over the last thirty years. A common rule of thumb is that dissimilarity scores exceeding 60 are high, those from 30 to 60 are moderate, and those below 30 are low. The D s in the table are weighted by the metro or context-specific popu-

TABLE 13.5 *Weighted Mean Dissimilarity Indices for Panethnic Groups, by Metropolitan Immigrant Context, 1980–2010*

	1980	1990	2000	2010	2010–1980 Difference
White					
All metros	56.3	52.5	49.2	45.5	-10.8
Gateway metros	57.3	52.9	51.5	49.0	-8.3
Outpost metros	56.1	52.0	48.5	44.2	-11.9
Native metros	55.4	52.5	47.4	42.9	-12.5
Black					
All metros	71.5	66.0	61.1	55.0	-16.5
Gateway metros	74.6	67.2	61.7	55.6	-19.0
Outpost metros	71.9	67.2	61.7	54.8	-17.1
Native metros	66.4	62.9	59.4	54.3	-12.1
Hispanic					
All metros	47.6	46.2	46.3	43.5	-4.1
Gateway metros	49.3	47.6	47.7	45.2	-4.1
Outpost metros	44.0	42.4	42.7	39.7	-4.3
Native metros	30.4	31.9	34.7	34.9	4.5
Asian					
All metros	38.1	39.1	39.3	39.2	1.1
Gateway metros	38.6	39.4	40.2	40.3	1.7
Outpost metros	34.9	37.0	36.1	35.4	0.5
Native metros	37.7	39.3	37.1	36.9	-0.8
Other					
All metros	32.1	31.4	25.5	23.6	-8.5
Gateway metros	30.6	29.5	26.0	24.8	-5.8
Outpost metros	32.2	30.0	22.7	19.6	-12.6
Native metros	36.5	37.1	28.4	26.5	-10.0

Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

lation size of the group in question, capturing the magnitude of segregation experienced by the average group member who lives in that type of setting. The results in each row are based on a constant sample of metro areas that satisfy our eligibility criterion: namely, they contain 1,000 or more members of the group at every time point.¹⁰

According to the top panel of the table, average white segregation from all nonwhites declined from 56 to 46 between 1980 and 2010. White segregation remained moderate across all kinds of immigrant contexts, although it was slightly higher in metropolitan gateways. Declines in these gateways were larger for whites than for any group save blacks, and white declines reached double digits in outpost and native areas. Blacks (second panel) represented the most segregated group in each year; at the same time, they experienced the greatest decreases over the three-decade period. In 1980 mean black segregation from nonblacks was quite high in absolute terms ($D = 72$), but by 2010 segregation had fallen into the more moderate range ($D = 55$). The largest decline in black segregation took place in gateway metro areas (nineteen points) and the smallest in native metros (twelve points). This finding aligns with previous research showing that growing diversity is associated with declines in black segregation, particularly in metro areas of the South and West (Iceland 2004; Iceland et al. 2013). In such areas, other

groups—Hispanics in particular—may have softened the color lines and served as buffers between historically separate white and black populations, resulting in less segregation of blacks from nonblacks (Frey and Farley 1996).

The buffering mechanism can take several forms. For example, Hispanics may adopt a spatially intermediate position between whites and blacks at the neighborhood level and thus increase intergroup exposure. The presence of Hispanics may also alert real estate agents, lenders, and residents to a new, more diverse housing market in which discriminatory practices that target any single minority group are less likely to have the intended impact. Finally, the presence of multiple groups may serve to reduce black-white tensions in what had been rigidly divided black-white cities.

The rest of table 13.5 shows that metropolitan Hispanics and Asians were moderately segregated from all others in 2010 ($D = 44$ for Hispanics and 39 for Asians). However, modest declines occurred in Hispanic segregation during the preceding thirty years, while Asian segregation remained essentially stable. Among both groups, average D scores tended to be higher in gateway metros than in other immigrant contexts. Hispanic segregation declined in gateway and outpost metro areas by about four points but increased in native areas by nearly five points. We are not certain what explains this pattern, but it does have the effect of narrowing the differences in Hispanic segregation across the three types of immigrant contexts over time (see Park and Iceland 2011). Finally, the “other” racial-ethnic group (bottom panel) exhibited a low level of segregation in 1980, and that level decreased over time for all immigrant contexts.

Micropolitan residential segregation, reported in table 13.6, resembles its metropolitan counterpart in some respects but diverges in others.¹¹ As is the case with the information theory index, mean segregation levels for whites, blacks, Hispanics, and Asians are lower in micro areas than metro areas. We also observe declines in black and white segregation in almost all immigrant contexts. Micro gateways constitute the lone exception, where white D values have been basically constant from 1990 to the present. In contrast, black declines were once again largest in gateway areas. Unlike the metro case, Hispanic segregation increased, if slightly, in micro areas in general and in gateway and outpost settings in particular, while Asian segregation decreased across most types of contexts. Nontrivial declines in micropolitan segregation are apparent for the “other” group, similar to the metro trend in table 13.5.

Beyond the mean patterns just described, progress toward residential integration can be inferred from how widespread declining segregation is geographically. Figure 13.6 focuses on the percentage of metropolitan areas experiencing declines in segregation overall and for each panethnic population. Slightly more than four-fifths of metro areas underwent declines in multigroup H from 1980 through 2010, and such declines were most prevalent in the last decade. Shifting to D , four-fifths of metro areas also witnessed a drop in white segregation, and black segregation decreased in virtually all metro areas (96 percent) during the past thirty years. The percentage of metro areas with downward-trending Hispanic and Asian segregation was closer to half. Micropolitan patterns paralleled those for metropolitan areas. Substantial majorities of micro areas experienced a 1990–2010 decline in multigroup (73 percent), white (69 percent), and black (82 percent) segregation. Roughly one-half of all micro areas exhibited a decline in Hispanic segregation (49 percent), but decreases in Asian (82 percent) and “other” (91 percent) segregation are apparent for many more over the past two decades.

Examining residential segregation for Hispanic and Asian panethnic populations ignores potential differences among the specific groups that make up these populations. In table 13.7, we drill below the panethnic level. The left half of the table reports the average extent of segregation between detailed Hispanic groups and nongroup members in metro areas as of 2010. Dominicans, many of whom have at least partial African ancestry, were the most segregated

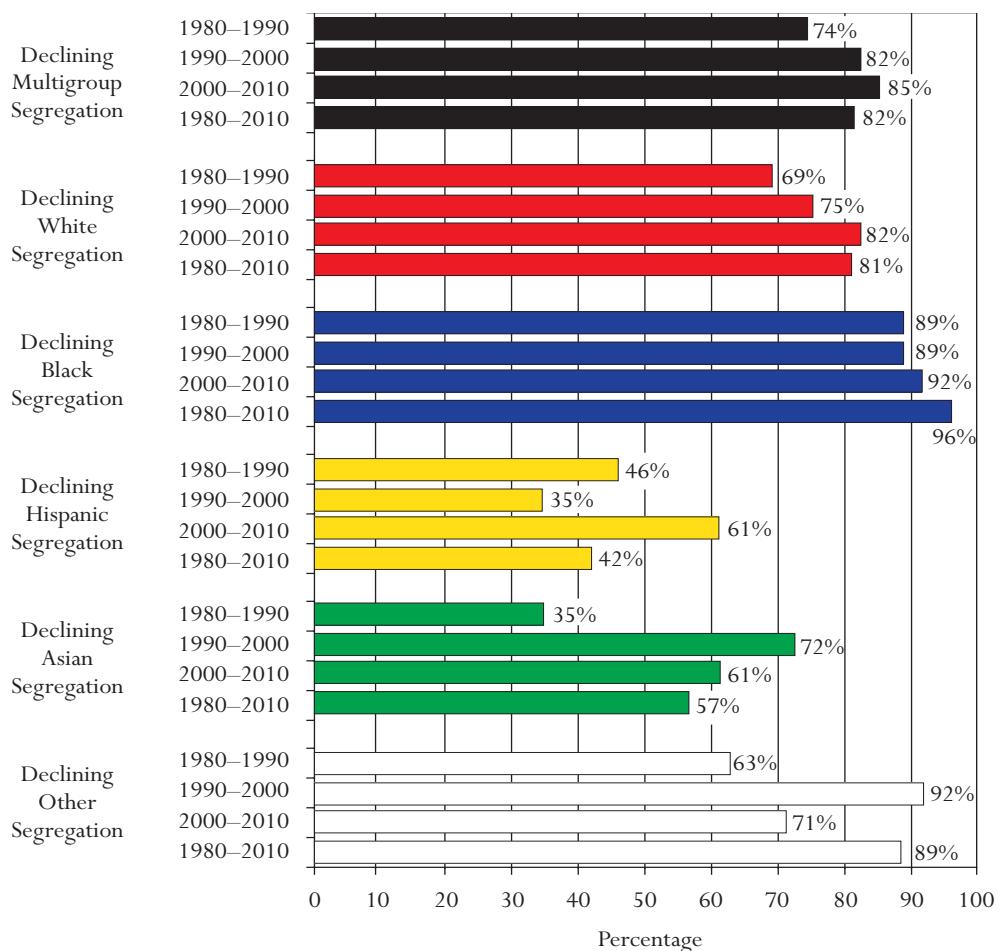
TABLE 13.6 *Weighted Mean Dissimilarity Indices for Panethnic Groups, by Micropolitan Immigrant Context, 1990–2010*

	1990	2000	2010	2010–1990 Difference
White				
All micros	31.5	28.7	28.3	-3.2
Gateway micros	30.0	29.5	29.9	-0.1
Outpost micros	29.6	28.4	28.3	-1.3
Native micros	32.7	28.7	28.1	-4.6
Black				
All micros	40.0	38.1	37.1	-2.9
Gateway micros	42.8	35.8	32.3	-10.5
Outpost micros	37.6	35.5	35.5	-2.1
Native micros	40.8	39.4	38.4	-2.4
Hispanic				
All micros	28.3	30.1	30.2	1.9
Gateway micros	28.5	29.7	30.7	2.2
Outpost micros	28.7	32.4	31.2	2.5
Native micros	27.3	27.6	27.8	0.5
Asian				
All micros	30.6	28.6	27.8	-2.8
Gateway micros	28.6	28.1	28.4	-0.2
Outpost micros	34.8	28.0	26.4	-8.4
Native micros	35.2	30.8	27.9	-7.3
Other				
All micros	46.2	37.7	36.1	-10.1
Gateway micros	34.9	22.5	23.6	-11.3
Outpost micros	45.2	35.1	35.4	-9.8
Native micros	48.0	42.0	38.7	-9.3

Source: Authors' calculations based on U.S. decennial census data (Summary File 1).

group ($D = 57$), followed by Guatemalans and Cubans (both around 50) and Salvadorans (49). Mexicans (42), Puerto Ricans (41), and Colombians (40), on the other hand, had the lowest dissimilarity scores. There was no uniform pattern across groups by type of immigrant context. Among many groups (Colombians, Dominicans, Guatemalans, and Salvadorans) segregation was highest in native metro areas, but two of the more prominent groups (Cubans and Mexicans) were most segregated in gateway contexts. Mirroring general declines in panethnic Hispanic metro segregation, every detailed Hispanic group experienced decreasing segregation from 1990 through 2010 (not shown).¹² The decrease was smallest for Mexicans (only two points) and in the thirteen- to nineteen-point range for every other group except Cubans (eight-point drop). Declines tended to be larger in outpost metropolises than elsewhere, although this pattern did not hold across all groups.

Among Asian ethnic groups (right half of table 13.7), segregation in 2010 was lowest for the Japanese ($D = 34$), who have not been replenished by recent immigration flows. Mean D scores were also low for Filipinos (36) and in the 47 to 51 range for the rest of the Asian groups. Again, differences by immigrant context are inconsistent, with segregation being higher in gateway metro areas for some groups but higher in native metros for other groups. The magnitude

FIGURE 13.6 *Metropolitan Areas Experiencing Declining Segregation, 1980–2010*

Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

of metropolitan segregation has declined for most groups since 1990 (not shown).¹³ Exceptions to this rule include Asian Indians, who experienced a two-point increase in dissimilarity, and Koreans, whose segregation level remained stable. Among all of the detailed groups, declines have been most prominent in native metro areas, reflecting the pattern for Asians as a whole.

To further enrich our results for specific ethnic groups, we examine segregation in six large metro areas located throughout the United States: New York, Los Angeles, Chicago, Washington, D.C., Atlanta, and Denver. The first two are high-profile immigrant gateways that rank among the ten most diverse metropolises nationally. However, New York has also traditionally had substantial levels of black and white segregation, and despite declines in recent decades, both of these groups remained highly segregated (in the 60 to 65 range) in 2010, as table 13.8 documents. Hispanic and Asian *D* scores (49 for both groups in 2010) were also above their respective national averages. All of the detailed Hispanic groups became less segregated between 1990 and 2010 except Mexicans, who are relative newcomers to metropolitan New York. The

TABLE 13.7 *Weighted Mean Dissimilarity Indices for Detailed Hispanic and Asian Groups, by Metropolitan Immigrant Context, 2010*

	Dissimilarity	N		Dissimilarity	N
Colombian			Asian Indian		
All metros	39.6	66	All metros	47.9	170
Gateway metros	39.9	24	Gateway metros	47.4	40
Outpost metros	37.5	33	Outpost metros	47.5	66
Native metros	42.4	9	Native metros	52.6	64
Cuban			Chinese		
All metros	50.2	77	All metros	47.4	160
Gateway metros	52.9	23	Gateway metros	48.8	40
Outpost metros	36.5	37	Outpost metros	40.6	71
Native metros	42.2	17	Native metros	44.2	49
Dominican			Filipino		
All metros	56.8	62	All metros	36.2	161
Gateway metros	57.4	20	Gateway metros	37.5	47
Outpost metros	50.6	31	Outpost metros	30.4	66
Native metros	63.9	11	Native metros	29.8	48
Guatemalan			Japanese		
All metros	50.4	91	All metros	33.8	98
Gateway metros	49.2	31	Gateway metros	34.4	37
Outpost metros	53.8	37	Outpost metros	29.6	41
Native metros	60.3	23	Native metros	35.3	20
Mexican			Korean		
All metros	41.8	309	All metros	47.4	125
Gateway metros	42.5	51	Gateway metros	49.7	33
Outpost metros	40.5	96	Outpost metros	41.5	54
Native metros	36.5	162	Native metros	40.3	38
Puerto Rican			Vietnamese		
All metros	40.9	164	All metros	50.9	126
Gateway metros	39.0	39	Gateway metros	52.0	34
Outpost metros	43.9	63	Outpost metros	48.1	48
Native metros	41.7	62	Native metros	49.0	44
Salvadoran					
All metros	48.7	77			
Gateway metros	48.1	34			
Outpost metros	51.6	31			
Native metros	58.1	12			

Source: Authors' calculations based on U.S. decennial census data (Summary File 1).

patterns for Asian ethnic groups appear more mixed, with some experiencing increasing segregation (Asian Indians, Chinese, and Koreans) and others declines in segregation (Filipinos, Japanese, and Vietnamese).

Los Angeles provides an interesting contrast to New York in that white, black, and Hispanic segregation levels were all similar in 2010 (D_s between 52 and 55), but only black segregation had decreased over the preceding two decades. Asian segregation, though still lower than among other groups (2010 $D = 44$), increased by a small amount. Two Hispanic ethnic groups in Los

TABLE 13.8 *Dissimilarity Indices for Panethnic and Detailed Groups in New York, Los Angeles, and Chicago, 1990–2010*

	New York			Los Angeles			Chicago		
	1990		2010–	1990		2010–	1990		2010–
	D	D	1990 Difference	D	D	1990 Difference	D	D	1990 Difference
White	66.4	60.3	−6.1	55.4	54.9	−0.5	66.5	54.9	−11.6
Black	72.7	64.7	−7.9	65.0	53.8	−11.2	82.2	72.0	−10.2
Hispanic	55.4	49.3	−6.1	50.5	51.6	1.1	59.6	54.0	−5.6
Colombian	61.8	47.3	−14.5	55.9	31.0	−25.0	75.9	41.3	−34.6
Cuban	50.9	36.7	−14.1	37.9	30.0	−7.8	52.1	36.2	−15.9
Dominican	70.9	59.7	−11.1	89.3	50.2	−39.1	92.4	55.0	−37.4
Guatemalan	78.8	55.9	−22.9	55.9	45.3	−10.6	81.2	50.9	−30.3
Mexican	50.4	54.4	4.0	49.6	48.0	−1.5	59.4	55.1	−4.3
Puerto Rican	56.9	43.3	−13.6	23.8	22.6	−1.2	66.9	44.9	−22.0
Salvadoran	74.7	62.1	−12.6	56.5	45.0	−11.5	88.3	53.6	−34.7
Other Hispanic	40.0	38.7	−1.3	24.8	21.1	−3.7	40.8	32.8	−8.0
Asian	45.9	48.9	3.0	40.1	43.7	3.6	50.2	47.3	−2.9
Asian Indian	47.5	50.0	2.6	39.4	43.5	4.1	56.6	55.3	−1.3
Chinese	56.4	58.6	2.1	53.7	58.4	4.7	58.1	53.9	−4.2
Filipino	49.3	43.1	−6.2	42.8	37.5	−5.3	51.4	40.9	−10.5
Japanese	63.7	52.9	−10.8	43.7	42.6	−1.1	55.9	44.8	−11.1
Korean	58.2	59.6	1.4	52.4	56.5	4.1	58.6	53.2	−5.4
Vietnamese	62.7	50.3	−12.3	54.5	61.8	7.3	67.8	53.0	−14.8
Other Asian	52.8	48.6	−4.2	47.1	55.7	8.6	56.0	36.2	−19.8
Other	37.4	31.9	−5.4	17.7	18.9	1.2	32.2	20.1	−12.1

Source: Authors' calculations based on U.S. decennial census data (Summary File 1).

Angeles, Colombians and Dominicans, experienced dramatic downturns in segregation. However, the small size of these groups may make their results prone to large fluctuations associated with random data variability. While the Chicago metro area (like New York) has a history of very high black and white segregation (Taeuber and Taeuber 1965), we observe substantial declines (ten to twelve points) in the *D* values for both groups from 1990 to 2010. Chicago has also had a large Hispanic presence for years, and segregation levels for this panethnic population and its component groups are moderate and declining. Asian segregation is moderate and declining as well.

The nation's capital, Washington, D.C., is another city with a long-standing black-white divide. Yet in recent decades it has become among the most diverse metropolitan areas in the United States, thanks to an influx of immigrants from many different Latin American, Asian, and African countries (Price et al. 2005). As shown in the left portion of table 13.9, the segregation magnitudes of white and black Washingtonians fell in the moderate range by 2010 (*D*s = 46 and 56, respectively) after declines during the previous two decades. Hispanic segregation inched up slightly, from 38 in 1990 to 40 in 2010. Asian segregation is lower and fairly stable over time. Most but not all of the specific Hispanic and Asian ethnic groups in metropolitan Washington have experienced segregation declines since 1990.

The final two case study sites qualify as outposts in our immigrant context typology. Atlanta is a southern metropolitan hub where white and black segregation levels decreased markedly between 1990 and 2010 (by eleven and fourteen points). Meanwhile, Hispanic segregation

TABLE 13.9 *Dissimilarity Indices for Panethnic and Detailed Groups in Washington, D.C., Atlanta, and Denver, 1990–2010*

	Washington, D.C.			Atlanta			Denver		
	1990		2010–	1990		2010–	1990		2010–
	D	D	1990 Difference	D	D	1990 Difference	D	D	1990 Difference
White	52.3	46.2	−6.1	61.9	50.8	−11.1	42.7	42.7	0.0
Black	63.9	55.6	−8.3	68.1	54.5	−13.5	63.8	55.2	−8.7
Hispanic	38.3	40.3	2.0	30.9	43.4	12.5	44.9	45.4	0.5
Colombian	60.7	32.1	−28.6	69.3	42.7	−26.7	N/A	33.7	N/A
Cuban	33.9	24.4	−9.5	35.9	23.4	−12.6	37.0	27.3	−9.7
Dominican	78.5	42.8	−35.7	N/A	38.2	N/A	N/A	N/A	N/A
Guatemalan	69.6	50.2	−19.4	N/A	62.9	N/A	N/A	44.9	N/A
Mexican	30.4	33.9	3.5	42.9	51.1	8.2	45.8	47.2	1.4
Puerto Rican	27.3	24.0	−3.3	29.9	20.6	−9.4	32.5	22.9	−9.7
Salvadoran	66.6	51.0	−15.6	87.7	56.5	−31.2	N/A	50.9	N/A
Other Hispanic	37.5	35.2	−2.3	29.6	31.9	2.3	38.9	27.6	−11.3
Asian	35.9	36.3	0.4	40.7	43.4	2.7	26.4	26.3	−0.1
Asian Indian	40.0	40.1	0.1	45.3	47.3	2.0	43.2	41.7	−1.5
Chinese	41.6	41.2	−0.4	48.5	46.7	−1.7	36.5	30.7	−5.8
Filipino	34.8	27.0	−7.8	37.1	25.3	−11.8	33.4	24.3	−9.1
Japanese	38.0	31.7	−6.3	47.3	37.1	−10.2	22.0	17.9	−4.0
Korean	45.9	46.3	0.4	47.2	56.0	8.8	39.8	38.0	−1.7
Vietnamese	51.7	45.9	−5.8	60.9	55.3	−5.7	51.6	43.1	−8.5
Other Asian	40.0	28.9	−11.1	53.0	35.3	−17.7	50.7	45.3	−5.4
Other	21.2	15.3	−5.9	21.2	16.8	−4.4	26.0	14.6	−11.4

Source: Authors' calculations based on U.S. decennial census data (Summary File 1).

climbed by thirteen points during the same period. Mexicans appear to be responsible for this trend. They are the lone Hispanic ethnic group with a rise in D , and their numbers increased from roughly 22,000 to 289,000. Shifting from the South to the Mountain West, Denver exhibits rather low levels of white and black segregation (D s = 43 and 55, respectively) compared to other large metro areas, and black segregation has declined significantly during the twenty-year observation window. Hispanic and Asian panethnic D scores remained stable in Denver, despite a majority of specific groups undergoing segregation declines.

Several important messages emerge from the foregoing analysis. One is that the dominant trend in multigroup residential segregation has been downward during the last few decades, driven mainly by declines in black and white segregation. For most of the period Hispanics and Asians have been less segregated than whites and blacks, although levels for the former two groups changed little over time. By 2010, Hispanic and white segregation levels had nearly converged. Among Hispanics, we see small declines in metropolitan segregation and increases in micropolitan segregation. Among Asians the pattern is reversed, with small increases in metro segregation and declines in micro segregation. Although there is significant variation in segregation magnitudes and trends among detailed Hispanic and Asian ethnic groups, their dissimilarity scores have tended to be in the moderate range. For some groups segregation is higher in metro gateways, while for others it is higher in native metro areas; thus, generalizations about how the type of immigrant context shapes segregation patterns are difficult.

What we can conclude in terms of theory is that growing ethnoracial diversity across metropolitan and micropolitan America does *not* go hand in hand with consistently high (or rising) levels of neighborhood segregation, as anticipated by the ethnic stratification perspective. In fact, greater diversity may help soften the traditional black-white color line, rendering housing market dynamics more complex and ultimately reducing segregation for these two groups in many communities.¹⁴ Neither do diversification and immigration appear to be elevating segregation to a notable extent among Hispanics and Asians. Even as immigrant newcomers settle in enclaves, it is likely that ethnic group members and their children who have been in the United States for longer periods of time are living in more integrated settings, consistent with the logic of spatial assimilation (Iceland 2009; Iceland and Scopilliti 2008; White and Glick 2009).

THE FATE OF MIXED NEIGHBORHOODS

Rising metropolitan and micropolitan diversity confirms that members of different ethnoracial groups are not averse to sharing residential environments at a macro-geographic scale. Moreover, recent segregation trends point to increasing similarity in how these groups are distributed across neighborhoods. In this section, we consider a third and final question about integration broadly construed: what happens to individual neighborhoods inhabited by multiple groups? Such neighborhoods, though historically a small proportion of the total, deserve attention because of theoretical disagreement about their prevalence and future. Namely, is racial and ethnic mixing at the neighborhood level becoming more common over time (as predicted by the spatial assimilation perspective), or is it still rare and temporary, giving way to greater homogeneity (as predicted by ethnic stratification)? We bring new evidence to bear on this debate by considering the universe of all metro and micro neighborhoods (census tracts) in the United States. The tracts that first achieved a mixed state in 1980 or 1990 are featured to take advantage of the longer period over which their trajectories can be observed.

We operationalize mixed neighborhood in two ways. Within our majority rule typology, no-majority tracts qualify as mixed. These tracts, which lack any group that constitutes more than 50 percent of the population, tend to have very diverse racial-ethnic compositions. The second definitional strategy entails identifying mixed tracts based on their diversity magnitude. If the range of possible standardized entropy index values is divided into quintiles (0–19, 20–39, 40–59, 60–79, 80–100), mixed tracts are those with *E* scores that equal or exceed 60. The 60-or-greater standard means that a tract was at least as diverse as the average metropolitan area in 2010 (see figure 13.1). Both the majority rule and diversity magnitude approaches have been successfully employed in a recent study of neighborhood change in the 100 largest metropolises (Farrell and Lee 2011).

Our presentation of results emphasizes the no-majority version of a mixed neighborhood. Not only does the no-majority empirical story closely correspond to the story for high-diversity tracts, but the categories in the majority rule typology convey more information about ethnoracial structure than do *E* score quintiles. We take one other shortcut here: focusing on metropolitan rather than micropolitan tracts. As pointed out in the segregation analysis, the large portion of micropolitan territory not tracted in 1980 constrains the period during which mixed tracts can be observed. More important, however, is the fact that mixed neighborhoods are few and far between in micropolitan America. Of the 5,361 eligible census tracts, only a relative handful satisfied either the no-majority ($N = 63$) or high-diversity ($N = 75$) definition of a mixed neighborhood in 1990, although their numbers did climb modestly by 2010 (to 165 and 340, respectively). This paucity of mixed tracts in micro areas is in itself a significant substantive finding.

TABLE 13.10 *Transitions in Racial-Ethnic Structure of Metropolitan Tracts, 1980–2010*

1980 Type of Structure	2010 Type of Structure								N of Tracts
	White Dominant	White Shared	Black Majority	Hispanic Majority	Asian Majority	Other Majority	No Majority		
White dominant	31.4%	60.5%	1.9%	1.1%	0.1%	0.0%	5.0%	29,045	
White shared	1.1	48.2	8.3	16.7	1.9	0.0	23.8	16,947	
Black majority	0.0	3.7	80.1	8.0	0.2	0.0	8.0	4,079	
Hispanic majority	0.1	2.8	0.5	91.2	0.7	0.0	4.7	1,901	
Asian majority	0.0	0.5	0.5	0.0	94.7	0.0	4.3	187	
Other majority	0.0	4.2	0.0	0.0	0.0	87.5	8.3	24	
No majority	0.0	8.4	12.3	43.4	8.9	0.3	26.9	1,461	
N of tracts	9,308	26,061	5,436	5,838	674	32	6,295	53,644	

Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

The transition matrix in table 13.10 classifies all metropolitan census tracts by their majority rule type in 1980 (rows) and 2010 (columns). One clear lesson from the matrix concerns the dramatic increase in the prevalence of no-majority tracts. As reported in the table marginals, some 1,461 tracts (out of 53,644) lacked a majority racial-ethnic group in 1980, but their number had more than quadrupled—to 6,295, or approximately 12 percent of all metro tracts—three decades later. Hispanic- and Asian-majority neighborhoods also became much more common; indeed, by 2010 Hispanic-majority tracts outnumbered those with a black majority. At the other extreme, white-dominant neighborhoods (in which the white share of residents equaled or exceeded 90 percent) experienced a precipitous decline. Only 9,308 tracts qualified as white-dominant in 2010, compared to three times that many—and over half of all tracts—at the beginning of the period.

Another key finding speaks to the persistence of no-majority neighborhoods: whether they remain mixed or shift to a different type of ethnoracial composition. The seventh row of table 13.10 captures tracts meeting the no-majority definition in 1980; entries indicate the percentage of the tracts in each majority rule type thirty years later. Just over one-fourth (27 percent) of the tracts in the 1980 no-majority cohort were still mixed (that is, no-majority) as of 2010. Most of the rest (43 percent) transitioned to the Hispanic-majority type, while others wound up in black-majority, Asian-majority, and white-shared (50 to 89 percent white) "destinations." At first glance, then, mixed neighborhoods appear fairly unstable. This point is reinforced by the high persistence of the other neighborhood types. As the diagonal percentages show, four-fifths or more of the 1980-defined black-, Hispanic-, and Asian-majority tracts retained the same classification over an extended time. When Hispanic- and Asian-majority tracts did change, their most likely 2010 destination was the no-majority type. Black-majority tracts were equally likely to become no-majority or Hispanic-majority in composition.¹⁵

To develop a fuller picture of mixed neighborhoods, we examine their prevalence and persistence across our three kinds of immigrant contexts (table 13.11). Our focus is on 1980–2010 transitions in majority rule type for no-majority tracts located in gateway, outpost, and native metropolitan areas. Younger cohorts of no-majority tracts, which first satisfy the definitional criterion in 1990 or 2000, are included along with the 1980 cohort for comparative purposes. This exercise reveals that cohort size increased each census year. We can also see that no-majority neighborhoods were far more prevalent in gateway metro areas than in other contexts.

TABLE 13.11 *Transitions in Racial-Ethnic Structure for Cohorts of Metropolitan No-Majority Tracts, Total and by Immigrant Context*

Context/Cohort	2010 Type of Structure							Mean Diversity		
	White Dominant	White Shared	Black Majority	Hispanic Majority	Asian Majority	Other Majority	No Majority	Time 1	2010	N of Tracts
All areas										
1980	0.0%	8.4%	12.3%	43.4%	8.9%	0.3%	26.8%	69.7	59.5	1,461
1990	0.0	4.5	10.5	44.2	9.6	0.2	31.0	70.2	63.7	1,817
2000	0.0	4.8	8.5	28.9	3.2	0.1	54.6	73.4	70.9	3,266
Gateway areas										
1980	0.1	7.0	8.6	46.1	10.4	0.1	27.8	71.3	60.4	1,232
1990	0.0	3.1	5.6	47.9	11.6	0.1	31.7	71.7	64.2	1,477
2000	0.0	4.3	3.8	32.5	4.4	0.0	54.9	75.0	72.0	2,338
Outpost areas										
1980	0.0	16.2	24.7	36.4	1.3	1.3	20.1	62.7	55.2	154
1990	0.0	10.3	24.6	33.7	1.2	0.4	29.8	65.3	62.5	252
2000	0.0	4.7	16.2	23.4	0.1	0.0	55.5	71.4	69.5	679
Native areas										
1980	0.0	14.7	46.7	13.3	0.0	1.3	24.0	58.0	54.1	75
1990	0.0	10.2	53.4	12.5	0.0	1.1	22.7	57.6	57.8	88
2000	0.0	9.6	31.3	9.6	0.0	0.8	48.6	64.4	64.6	249

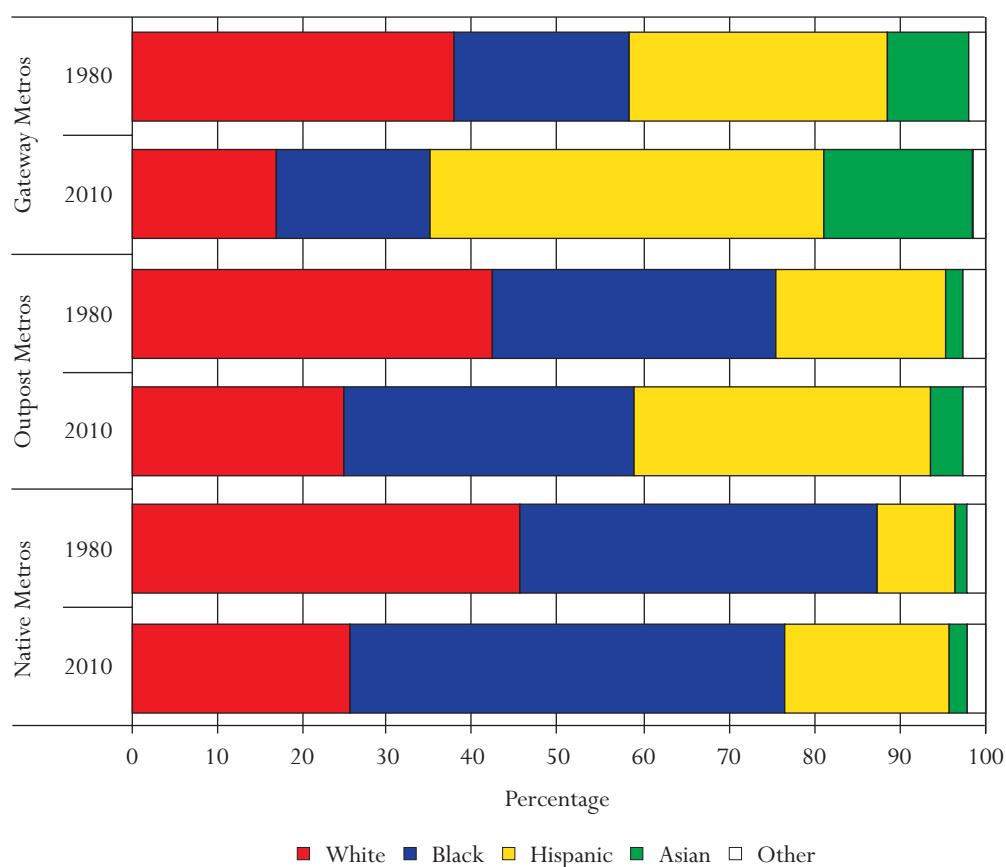
Source: Authors' calculations based on U.S. decennial census data (Summary Files 1 and 2A).

Of the 23,374 total gateway tracts, 1,232 (or a little over 5 percent) qualified as no-majority in 1980, compared to 154 (0.9 percent) and 75 (0.5 percent) in outpost and native areas, respectively. The gaps between contexts widened for the 1990 and 2000 cohorts.

Gateway no-majority neighborhoods are distinctive in three additional ways. First, the 1980 and 1990 gateway cohorts exhibited somewhat greater persistence than their outpost and native counterparts. That is, they were more likely to sustain their no-majority racial-ethnic structures for multiple decades. The second difference has to do with the destinations of tracts that lost their no-majority status. Nearly half of the tracts in the 1980 and 1990 gateway cohorts changed to Hispanic-majority and another tenth to Asian-majority. In outpost metropolises, the most common destinations were (in order of frequency) Hispanic- and black-majority and white-shared types. Roughly one-half of the 1980 and 1990 no-majority tracts in native metro areas became black-majority neighborhoods by 2010.

The third thing to note about the gateway no-majority neighborhoods is that they stayed racially and ethnically diverse despite rather low persistence rates. Mean diversity levels (*E* scores) had decreased by 2010, but the 1980 and 1990 gateway cohorts manifested higher diversity at the beginning and end of their observation periods than no-majority tracts in other kinds of immigrant contexts. We should stress, however, that mixed neighborhoods in all contexts have managed to maintain complex albeit evolving multigroup compositions over a long time span. Figure 13.7 documents this fact in a visually compelling manner. Each pair of horizontal bars provides a comparison between the average 1980 and 2010 racial-ethnic structures of gateway, outpost, and native tracts defined as no-majority in 1980.

FIGURE 13.7 Mean Racial-Ethnic Composition of 1980 Metropolitan No-Majority Tracts in 1980 and 2010, by Immigrant Context



Source: Author's calculations based on U.S. decennial census data (Summary Files 1 and 2A).

Once again the variation by immigrant context is striking. Tracts in the gateway metro areas approximate Logan and Zhang's (2010) global neighborhoods, in which the four principal pan-ethnic groups constitute nontrivial shares of the population. Their four-group structure is the result of marked gains in the size of the Hispanic and Asian shares and a substantial shrinkage of the white share over time. Outpost and native 1980 no-majority tracts also experienced Hispanic expansion and white contraction. However, the Asian share remained small in the outpost and native tracts, and the black share—larger to begin with than in the gateway areas—stayed the same or increased. In outpost settings, these shifts eroded whites' plurality and produced a composition that is now roughly one-third Hispanic, one-third black, and one-fourth white. The mean composition of no-majority neighborhoods in the native areas changed from primarily white and black to a three-group structure that now includes Hispanics and is dominated by blacks.

The group-specific population gains and losses underlying these compositional transformations are fairly intuitive. The number of whites, for example, decreased by three-fifths or more during the study period in 1980 no-majority tracts located in each type of immigrant context.

Also as expected, Hispanic populations exhibited 80 to 100 percent growth rates across all three contexts. Asian growth was most impressive in outpost no-majority neighborhoods, doubling the Hispanic rate, but it operated on a small 1980 base and thus had boosted Asians' proportional representation only modestly by 2010. Black populations in no-majority tracts were far more stable than those of the other panethnic groups. Yet the greatest average 1980–2010 black decline (−11.9 percent) occurred in native areas where African Americans increased their proportional share of no-majority neighborhood residents from two-fifths to one-half between the two census years.

In sum, the results for no-majority neighborhoods are consistent with aspects of both spatial assimilation and ethnic stratification. The rising number of such neighborhoods and their greater persistence in gateway areas than in other kinds of immigrant contexts aligns with expectations based on the assimilation perspective. Yet the low overall persistence rate for the 1980 cohort of no-majority tracts conforms to ethnic stratification reasoning, as does the loss of white residents from these tracts as they transition to Hispanic-, Asian-, or black-majority types (see also Holloway et al. 2011). Our assessment of the evidence favoring stratification should be tempered by the conservative approach taken here, namely, defining mixed neighborhoods in no-majority terms. When mixing is operationalized as a high level of diversity (a tract *E* score in the 60-or-greater range), the 1980 high-diversity tracts were more likely than the no-majority tracts to retain a mixed status through 2010.¹⁶ Nevertheless, the changes in the racial-ethnic structure of the former are similar to those in no-majority neighborhoods, most notably a substantial decline over three decades in the proportion of high-diversity tracts that exhibited white-majority or plurality compositions. The potential for long-term stability in neighborhoods with mixed racial-ethnic compositions thus remains far from certain. An obvious next step involves looking beneath the panethnic level to see if particular combinations of detailed groups make such stability more or less likely.

CONCLUSION

Viewed in its entirety, the evidence presented here offers an affirmative response to the question posed in our chapter's title. Integration—a concept we define as the likelihood of different ethnoracial groups sharing the same community environments—has increased in important respects since 1980. A near-universal trend toward greater diversity is under way across metropolitan and micropolitan areas as their racial-ethnic structures become more complex owing to Hispanic and Asian growth. During the same period, multigroup segregation has decreased, fueled by substantial declines in the extent to which whites and blacks live in separate neighborhoods. Indeed, the proliferation of mixed, no-majority neighborhoods constitutes one of the most striking changes documented, and it accompanies a sharp contraction in the number of white-dominant tracts. These results suggest a shift from homogeneity to heterogeneity at both macro and local geographic scales.

From a theoretical vantage point, our findings seem most consistent with the spatial assimilation perspective. This perspective predicts rising community diversity as minority households gradually translate socioeconomic mobility and acculturation into desirable residential outcomes, achieving closer proximity to whites (and to other groups) with the passage of time. There are reasons to be cautious, however, about unconditionally embracing assimilation. One concern centers on group-specific patterns that diverge from the hypothesized path, such as the minimal changes in segregation experienced by Hispanic and Asian panethnic populations over the last three decades. Another concern is that support for the assimilation perspective varies by scale. In the smallest environments that we examine (tracts), three or more groups are often

present. The most diverse of these settings, no-majority neighborhoods, have become relatively common in metropolitan gateways. Yet their distinctive racial-ethnic compositions appear fragile, presumably because of whites' aversion to integration. As the number of white residents dwindle, no-majority neighborhoods move toward a minority-majority structure, in line with the logic of the ethnic stratification model.

At the opposite end of the scale continuum, marked differences in integration exist between metropolitan and micropolitan areas. Micro areas lag thirty years or more behind metro areas in average diversity magnitude, and micro segregation levels are lower and exhibit smaller gains and losses over time. It is also difficult to find mixed, multigroup neighborhoods in micropolitan America. Additional differences occur by type of immigrant context, with metro gateways standing out as more diverse, more segregated, and more likely to contain no-majority census tracts than their outpost or native-dominated counterparts. We conclude that, despite the recent outpouring of research on minority dispersion to new destinations, New York, Los Angeles, and other large gateway metropolises with a history of incorporating ethnic newcomers will remain attractive for a long time. Not coincidentally, Hispanics and Asians will continue to concentrate in these locations.

Gateway residential patterns raise a final issue, about the pace of integration. On one integration dimension (diversity), impressive increases are apparent across the board. But declines in segregation have been more modest and uneven, and relatively few no-majority neighborhoods remain stably mixed for as long as twenty years. Some scholars warn that this combination—rapid ethnoracial diversification coupled with stubborn segregative tendencies—portends a troublesome future for American communities, which will have to confront problems ranging from minority disadvantages in education and economic opportunity to decreasing social cohesion and stressed municipal budgets (Clark 1998; Lichter 2013; Oliver 2010; Putnam 2007). Such problems make it tempting to propose a comprehensive plan, bridging numerous policy domains, that would accelerate integration. Possible elements of the plan include improved employment options, stronger enforcement of fair housing and lending laws, steps to promote English-language proficiency, feasible pathways to citizenship, and reductions in immigration flows. Perhaps if these elements could be implemented immediately, spatial and other forms of assimilation might begin to catch up with rates of Hispanic and Asian growth.

In reality, however, there is no easy solution. Just as individual or family assimilation may take generations, the process of ethnoracial residential integration will unfold over many more decades than the three on which we focus. Keeping the need for patience in mind, some social and demographic trends can be discerned that offer reasons for optimism. Cohort succession, in which older, more prejudiced whites are replaced by younger people with greater exposure to members of other groups, bodes well for racial attitudes in general and residential preferences in particular. Persons still resistant to integration will find fewer homogeneous (all-white) neighborhoods and communities that constitute suitable "escape" destinations.

The growth of interracial households is another potentially consequential trend. Such households, whether formed through intermarriage, adoption, or other means, create residential diversity at an intimate scale. This fact, complemented by household members' preferences for multiethnic environments, may serve to reduce segregation and increase the frequency and persistence of mixed neighborhoods (Ellis et al. 2012). Moreover, the offspring of interracial unions blur the color lines that underpin residential manifestations of inequality. So do the descendants of immigrants who see themselves—and who are seen by others—in a less distinctively ethnic light. We suspect that the rate at which integration proceeds will ultimately hinge on the salience of traditional racial-ethnic categories. As these categories and their associated identities soften over time, the impediments to living side by side will further diminish.

NOTES

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2. The many ethnic heritage-oriented clubs and events on the QCC campus reflect this diversity, as does a busy immigration center that provides legal advice and a range of other services. In addition to the standard curriculum, QCC offers English language and remedial skills courses to help students build a foundation essential to later academic and career success. More information about the school is available at: <http://www.qcc.cuny.edu/> (accessed May 1, 2014).
3. This rank is based on a standardized entropy index score of 92.5 (with scores ranging from 0 to 100), which means that Queens County has very similar proportions of white (28 percent), black (18 percent), Hispanic (28 percent), and Asian (23 percent) residents. We provide a fuller introduction to the entropy index elsewhere in the chapter.
4. We refer to the Hispanic and Asian populations (and to their black and white counterparts) as “panethnic” because they each span multiple subpopulations that qualify conceptually as ethnic groups. Members of an “ethnic group” recognize a common ancestry, history, and cultural tradition, although the strength of identification with this shared background varies across individuals and over time. People in a “racial group” are less able to choose membership. Instead, they tend to be assigned to it by outsiders based on perceived physical attributes (like skin color, hair type, or facial features) that are considered inherent (Cornell and Hartmann 1998). The socially constructed nature of race and ethnicity contributes to an overlap in definitions; some groups can be both racial and ethnic in nature. Indeed, many of the panethnic populations that are covered by our analysis—as well as the detailed groups within them—have this dual character. For that reason, we use the terms “ethnoracial” and “racial-ethnic” interchangeably throughout the chapter.
5. Despite general agreement about the disadvantages of segregation, the relevant literature occasionally identifies benefits. In immigrant-heavy enclaves, for example, Hispanics may experience reduced crime (Kubrin and Ishizawa 2012) and lower levels of morbidity and mortality (Eschbach et al. 2004; Klinenberg 2002) than their coethnics living outside of such settings. Similarly, residence in segregated Chinatowns can provide social and organizational support and adult supervision, boosting children’s academic performance (Zhou 2000).
6. The 1980 sample consists of 575 rather than 576 areas because Cibola County—the sole county comprising the Grants, New Mexico, micropolitan area—did not exist until 1981.
7. We achieve constant tract boundaries with the aid of bridging tools obtained from the US2010 Project’s Longitudinal Tract Data Base (LTDB). For more details about this resource, see US2010, “Census Geography: Bridging Data from Prior to the 2010 Tract Boundaries,” available at: <http://www.s4.brown.edu/us2010/Researcher/Bridging.htm> (accessed May 1, 2014).
8. Following these guidelines, the 1980 foreign-born share needed to qualify as a gateway metro area is 6.83 percent or greater, the share for a native area is 0.98 percent or less, and the share for an outpost falls between these two cutpoints, based on a 3.9 percent foreign-born mean calculated across all 366 metro areas. By 2010, the cutpoint for a gateway area rises to 13.65 percent or greater, and the cutpoint for a native area rises to 1.95 percent or less.
9. Despite this overlap, a nontrivial proportion of immigrants to the United States still originate in Europe. As of 2010, nearly one of every eight foreign-born residents hailed from a European nation (U.S. Census Bureau 2012). Moreover, a conceptual distinction remains between nativity and race.
10. The white, black, Hispanic, Asian, and “other” segregation scores in table 13.5 are based on the same 330, 281, 253, 166, and 159 metro areas, respectively. Context-specific Ns range from 42 (for “other” segregation in gateway metros) to 181 (for white segregation in native metros). The general patterns reported in the table hold when the number of metro areas is allowed to vary from one year to the next.

11. Of the 576 total micropolitan areas, 328 meet our eligibility requirements at every time point for the estimation of white D values, 276 for black D s, 325 for Hispanic D s, 273 for Asian D s, and 235 for “other” D s. As with the metro results, the micro findings reported here parallel those obtained when area eligibility is determined on a year-by-year basis (that is, when variable samples of micro areas are substituted for constant ones).
12. The over-time patterns for Colombians, Dominicans, Guatemalans, and Salvadorans should be interpreted with caution because the constant samples employed in the calculation of D score differences consist of fewer than twenty-five metro areas for each of these groups. However, the directions in which their segregation levels have changed remain the same whether constant or variable samples are used.
13. The constant samples underlying these trends range in size from fifty-seven metro areas (for Japanese segregation) to ninety-one (for Chinese segregation).
14. Although our analysis covers black-nonblack and white-nonwhite patterns of segregation, we do not directly examine segregation between blacks and whites. Other studies, however, have documented gradual but steady declines in black-white dissimilarity and isolation measures over multiple decades (Logan and Stults 2011; Marsh et al. 2010).
15. In the rows of table 13.10 above the diagonal, white-dominant and white-shared census tracts in 1980 were especially likely to change to another racial-ethnic structure. Three-fifths of the white-dominant tracts became white-shared; that is, their white residents remained a majority in 2010, though a smaller one than three decades prior. Among white-shared neighborhoods, nearly three in ten wound up in the no-majority category, but non-trivial percentages shifted to Hispanic-majority (17 percent) and black-majority (8 percent) as well. Aside from the volatility of the 1980 no-majority tracts (discussed in the text), few transitions are apparent below the diagonal.
16. Roughly three-fifths of all 1980 high-diversity tracts still had E scores of 60 or above three decades later, and diverse tracts located in metropolitan gateway, outpost, and native contexts experienced a similar degree of persistence.

REFERENCES

- Alba, Richard D., Nancy A. Denton, Donald J. Hernandez, Ilir Disha, Brian McKenzie, and Jeffrey Napierala. 2010. “Nowhere Near the Same: The Neighborhoods of Latino Children.” In *Growing Up Hispanic: Health and Development of Children of Immigrants*, ed. Nancy S. Landale, Susan McHale, and Alan Booth. Washington, D.C.: Urban Institute Press.
- Alba, Richard D., Nancy A. Denton, Shu-Yin J. Leung, and John R. Logan. 1995. “Neighborhood Change Under Conditions of Mass Immigration: The New York City Region, 1970–1990.” *International Migration Review* 29(3): 625–56.
- Alba, Richard D., and John R. Logan. 1991. “Variations on Two Themes: Racial and Ethnic Patterns in the Attainment of Suburban Residence.” *Demography* 28(3): 431–53.
- Alba, Richard D., and Victor Nee. 2003. *Remaking the American Mainstream: Assimilation and Contemporary Immigration*. Cambridge, Mass.: Harvard University Press.
- Allen, James P., and Eugene J. Turner. 1989. “The Most Ethnically Diverse Places in the United States.” *Urban Geography* 10(6): 523–39.
- Bean, Frank D., and Gillian Stevens. 2003. *America’s Newcomers and the Dynamics of Diversity*. New York: Russell Sage Foundation.
- Berube, Alan. 2003. “Racial and Ethnic Change in the Nation’s Largest Cities.” In *Redefining Urban and Suburban America: Evidence from Census 2000*, vol. 1, ed. Bruce Katz and Robert E. Lang. Washington, D.C.: Brookings Institution Press.
- Borjas, George J. 1999. *Heaven’s Gate: Immigration Policy and the American Economy*. Princeton, N.J.: Princeton University Press.
- Card, David, and Jesse Rothstein. 2006. “Racial Segregation and the Black-White Test Score Gap.” Working Paper 12078. Cambridge, Mass.: National Bureau of Economic Research.
- Charles, Camille Zubrinsky. 2006. *Won’t You Be My Neighbor? Race, Class, and Residence in Los Angeles*. New York: Russell Sage Foundation.

- . 2007. "Comfort Zones: Immigration, Acculturation, and the Neighborhood Racial-Composition Preferences of Latinos and Asians." *DuBois Review* 4(1): 41–77.
- Clark, William A. V. 1998. *The California Cauldron: Immigration and the Fortunes of Local Communities*. New York: Guilford.
- . 2002. "Ethnic Preferences and Ethnic Perceptions in Multi-Ethnic Settings." *Urban Geography* 23(3): 237–56.
- . 2003. *Immigrants and the American Dream: Remaking the Middle Class*. New York: Guilford.
- Cornell, Stephen, and Douglas Hartmann. 1998. *Ethnicity and Race: Making Identities in a Changing World*. Thousand Oaks, Calif.: Pine Forge.
- Crowder, Kyle. 1999. "Residential Segregation of West Indians in the New York/New Jersey Metropolitan Area: The Roles of Race and Ethnicity." *International Migration Review* 33(1): 79–113.
- Crowder, Kyle, Matthew Hall, and Stewart E. Tolnay. 2011. "Neighborhood Immigration and Native Out-Migration." *American Sociological Review* 76(1): 25–47.
- Crowder, Kyle, Jeremy Pais, and Scott J. South. 2012. "Neighborhood Diversity, Metropolitan Constraints, and Household Migration." *American Sociological Review* 77(3): 325–53.
- Daniels, Roger. 2004. *Guarding the Golden Door: American Immigration Policy and Immigrants Since 1882*. New York: Hill and Wang.
- DeFina, Robert, and Lance Hannon. 2009. "Diversity, Racial Threat, and Metropolitan Housing Segregation." *Social Forces* 88(1): 373–94.
- Denton, Nancy A., and Douglas S. Massey. 1991. "Patterns of Neighborhood Transition in a Multiethnic World: U.S. Metropolitan Areas, 1970–1980." *Demography* 28(1): 41–63.
- DeSena, Judith N., and Timothy Shortell, eds. 2012. *The World in Brooklyn: Gentrification, Immigration, and Ethnic Politics in a Global City*. Lanham, Md.: Lexington Books.
- Durand, Jorge, Douglas S. Massey, and Fernando Charvet. 2000. "The Changing Geography of Mexican Immigration to the United States: 1910–1996." *Social Science Quarterly* 81(1): 1–15.
- Ellen, Ingrid Gould. 2007. "How Integrated Did We Become in the 1990s?" In *Fragile Rights Within Cities: Government, Housing, and Fairness*, ed. John Goering. Lanham, Md.: Rowman & Littlefield.
- Ellis, Mark, Steven R. Holloway, Richard Wright, and Christopher S. Fowler. 2012. "Agents of Change: Mixed-Race Households and the Dynamics of Neighborhood Segregation in the United States." *Annals of the Association of American Geographers* 102(3): 549–70.
- Eschbach, Karl, Glenn V. Ostir, Kushang V. Patel, Kyriakos S. Markides, and James S. Goodwin. 2004. "Neighborhood Context and Mortality Among Older Mexican Americans: Is There a Barrio Advantage?" *American Journal of Public Health* 94(10): 1807–12.
- Farley, Reynolds, and Walter R. Allen. 1987. *The Color Line and the Quality of Life in America*. New York: Russell Sage Foundation.
- Farley, Reynolds, and William H. Frey. 1994. "Changes in the Segregation of Whites from Blacks During the 1980s: Small Steps Toward a More Integrated Society." *American Sociological Review* 59(1): 23–45.
- Farrell, Chad R. 2005. "Urban Mosaics: Multiracial Diversity and Segregation in the American Metropolis." PhD diss., Pennsylvania State University, University Park.
- . 2008. "Bifurcation, Fragmentation, or Integration? The Racial and Geographical Structure of U.S. Metropolitan Segregation, 1990–2000." *Urban Studies* 45(3): 467–99.
- Farrell, Chad R., and Barrett A. Lee. 2011. "Racial Diversity and Change in Metropolitan Neighborhoods." *Social Science Research* 40(4): 1108–23.
- Fasenfest, David, Jason Booza, and Kurt Metzger. 2006. "Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990–2000." In *Redefining Urban and Suburban America: Evidence from Census 2000*, vol. 3, ed. Alan Berube, Bruce Katz, and Robert E. Lang. Washington, D.C.: Brookings Institution Press.
- Fischer, Mary J., and Marta Tienda. 2006. "Redrawing Spatial Color Lines: Hispanic Metropolitan Dispersal, Segregation, and Economic Opportunity." In *Hispanics and the Future of America*, ed. Marta Tienda and Faith Mitchell. Washington, D.C.: National Academies Press.
- Frey, William H. 1995. "Immigration and Internal Migration 'Flight' from U.S. Metropolitan Areas: Toward a New Demographic Balkanization." *Urban Studies* 32(4–5): 733–57.
- . 2006. "Diversity Spreads Out: Metropolitan Shifts in Hispanic, Asian, and Black Populations Since 2000." Living Cities Census Series. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- . 2011a. "Melting Pot Cities and Suburbs: Racial and Ethnic Change in Metro America in the 2000s." State of Metropolitan America Series. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.

- . 2011b. "The New Metro Minority Map: Regional Shifts in Hispanics, Asians, and Blacks from Census 2010." State of Metropolitan America Series. Washington, D.C.: Brookings Institution, Metropolitan Policy Program.
- Frey, William H., and Reynolds Farley. 1996. "Latino, Asian, and Black Segregation in U.S. Metropolitan Areas: Are Multiracial Metros Different?" *Demography* 33(1): 35–50.
- Frey, William H., Jill H. Wilson, Alan Berube, and Audrey Singer. 2006. "Tracking American Trends into the Twenty-First Century: A Field Guide to the New Metropolitan and Micropolitan Definitions." In *Redefining Urban and Suburban America: Evidence from Census 2000*, vol. 3, ed. Alan Berube, Bruce Katz, and Robert E. Lang. Washington, D.C.: Brookings Institution Press.
- Friedman, Samantha. 2008. "Do Declines in Residential Segregation Mean Stable Neighborhood Integration in Metropolitan America? A Research Note." *Social Science Research* 37(3): 920–33.
- Galster, George C., Kurt Metzger, and Ruth Waite. 1999. "Neighborhood Opportunity Structures of Immigrant Populations, 1980 and 1990." *Housing Policy Debate* 10(2): 395–442.
- Glaeser, Edward L., and Jacob L. Vigdor. 2012. "The End of the Segregated Century: Racial Separation in America's Neighborhoods, 1890–2010." Civic Report Series 66. New York: Manhattan Institute for Policy Research.
- Hall, Matthew. 2013. "Residential Integration on the New Frontier: Immigrant Segregation in Established and New Destinations." *Demography* 50(5): 1873–96.
- Hall, Matthew, and Barrett A. Lee. 2010. "How Diverse Are U.S. Suburbs?" *Urban Studies* 47(1): 3–28.
- Hardwick, Susan W., and James E. Meacham. 2008. "Placing the Refugee Diaspora in Portland, Oregon." In *Twenty-First-Century Gateways: Immigrant Incorporation in Suburban America*, ed. Audrey Singer, Susan W. Hardwick, and Caroline B. Brettell. Washington, D.C.: Brookings Institution Press.
- Hirschman, Charles. 2005. "Immigration and the American Century." *Demography* 42(4): 595–620.
- Holloway, Steven R., Richard Wright, and Mark Ellis. 2011. "The Racially Fragmented City? Neighborhood Racial Segregation and Diversity Jointly Considered." *Professional Geographer* 64(1): 63–82.
- Hou, Feng, and Zheng Wu. 2009. "Racial Diversity, Minority Concentration, and Trust in Canadian Neighborhoods." *Social Science Research* 38(3): 693–716.
- Iceland, John. 2004. "Beyond Black and White: Metropolitan Residential Segregation in Multi-Ethnic America." *Social Science Research* 33(2): 248–71.
- . 2009. *Where We Live Now: Immigration and Race in the United States*. Berkeley: University of California Press.
- Iceland, John, Luis Sanchez, Gregory Sharp, Matthew Hall, and Kris Marsh. 2010. "Racial and Ethnic Residential Segregation in the United States: Comparisons Across Racial and Ethnic Groups." Changing American Neighborhoods and Communities (CANC) Project Report Series 3. University Park: Pennsylvania State University, Population Research Institute.
- Iceland, John, and Melissa Scopilliti. 2008. "Immigrant Residential Segregation in U.S. Metropolitan Areas, 1990–2000." *Demography* 45(1): 79–94.
- Iceland, John, Gregory Sharp, and Jeffrey M. Timberlake. 2013. "Sun Belt Rising: Regional Population Change and the Decline in Black Residential Segregation, 1970–2009." *Demography* 50(1): 97–123.
- Iceland, John, Daniel H. Weinberg, and Erika Steinmetz. 2002. *Racial and Ethnic Residential Segregation in the United States: 1980–2000*. U.S. Census Bureau Series CENS-3. Washington: U.S. Government Printing Office.
- Johnson, Kenneth M., and Daniel T. Lichten. 2010. "Growing Diversity Among America's Children and Youth: Spatial and Temporal Dimensions." *Population and Development Review* 36(1): 151–76.
- Kim, Ann H., and Michael J. White. 2010. "Panethnicity, Ethnic Diversity, and Residential Segregation." *American Journal of Sociology* 115(5): 1558–96.
- Klinenberg, Eric. 2002. *Heat Wave: A Social Autopsy of Disaster in Chicago*. Chicago: University of Chicago Press.
- Kramer, Michael R., and Carol R. Hogue. 2009. "Is Segregation Bad for Your Health?" *Epidemiologic Reviews* 31(1): 178–94.
- Kubrin, Charis E., and Hiromi Ishizawa. 2012. "Why Some Immigrant Neighborhoods Are Safer Than Others: Divergent Findings from Los Angeles and Chicago." *Annals of the American Academy of Political and Social Science* 641(1): 148–73.
- Lee, Barrett A., Chad R. Farrell, and Gregory K. Sharp. 2013. "A Universal Trend? Racial and Ethnic Diversity in American Communities over Three Decades." Unpublished paper. University Park: Pennsylvania State University.
- Lee, Barrett A., and Lauren A. Hughes. Forthcoming. "Bucking the Trend: Is Ethnoracial Diversity Declining in American Communities?" *Population Research and Policy Review*.
- Lee, Barrett A., John Iceland, and Gregory Sharp. 2012. "Racial and Ethnic Diversity Goes Local: Charting Change

- in American Communities over Three Decades." US2010 Project (September). Available at: www.s4.brown.edu/us2010/Data/Report/report08292012.pdf (accessed May 1, 2014).
- Lee, Barrett A., Sean F. Reardon, Glenn Firebaugh, Chad R. Farrell, Stephen A. Matthews, and David O'Sullivan. 2008. "Beyond the Census Tract: Patterns and Determinants of Segregation at Multiple Geographic Scales." *American Sociological Review* 73(5): 766–91.
- Lee, Erika. 2004. "American Gatekeeping: Race and Immigration Law in the Twentieth Century." In *Not Just Black and White: Historical and Contemporary Perspectives on Immigration, Race, and Ethnicity in the United States*, ed. Nancy Foner and George M. Fredrickson. New York: Russell Sage Foundation.
- Lee, Jennifer, and Frank D. Bean. 2010. *The Diversity Paradox: Immigration and the Color Line in Twenty-First-Century America*. New York: Russell Sage Foundation.
- Li, Wei. 2009. *Ethnoburb: The New Ethnic Community in Urban America*. Honolulu: University of Hawaii Press.
- Lichter, Daniel T. 2013. "Integration or Fragmentation? Racial Diversity and the American Future." *Demography* 50(2): 359–91.
- Lichter, Daniel T., and Kenneth M. Johnson. 2006. "Emerging Rural Settlement Patterns and the Geographic Redistribution of America's New Immigrants." *Rural Sociology* 71(1): 109–31.
- . 2009. "Immigrant Gateways and Hispanic Migration to New Destinations." *International Migration Review* 43(3): 496–518.
- Lichter, Daniel T., Domenico Parisi, Steven M. Grice, and Michael C. Taquino. 2007. "National Estimates of Racial Segregation in Rural and Small-Town America." *Demography* 44(3): 563–681.
- Lichter, Daniel T., Domenico Parisi, Michael C. Taquino, and Steven M. Grice. 2010. "Residential Segregation in New Hispanic Destinations: Cities, Suburbs, and Rural Communities Compared." *Social Science Research* 39(2): 215–30.
- Lieberson, Stanley. 1980. *A Piece of the Pie: Blacks and White Immigrants Since 1980*. Berkeley: University of California Press.
- Lindsay, James M., and Audrey Singer. 2003. "Changing Faces: Immigrants and Diversity in the Twenty-First Century." In *Agenda for the Nation*, ed. Henry J. Aaron, James N. Lindsay, and Pietro S. Nivola. Washington, D.C.: Brookings Institution Press.
- Lobo, Arun Peter, Ronald O. Flores, and Joseph J. Salvo. 2002. "The Impact of Hispanic Growth on the Racial/Ethnic Composition of New York City Neighborhoods." *Urban Affairs Review* 37(5): 703–27.
- . 2007. "The Overlooked Ethnic Dimension of Hispanic Subgroup Settlement in New York City." *Urban Geography* 28(7): 609–34.
- Logan, John R. 2001. "The New Ethnic Enclaves in America's Suburbs." Research Report Series. Albany: State University of New York, Lewis Mumford Center for Comparative Urban and Regional Research.
- . 2013. "The Persistence of Segregation in the 21st-Century Metropolis." *City and Community* 12(2): 160–68.
- Logan, John R., and Brian J. Stults. 2011. "The Persistence of Segregation in the Metropolis: New Findings from the 2010 Census." US2010 Project (March 24). Available at: www.s4.brown.edu/us2010/Data/Report/report2.pdf (accessed May 1, 2014).
- Logan, John R., Brian J. Stults, and Reynolds Farley. 2004. "Segregation of Minorities in the Metropolis: Two Decades of Change." *Demography* 41(1): 1–22.
- Logan, John R., and Charles Zhang. 2010. "Global Neighborhoods: New Pathways to Diversity and Separation." *American Journal of Sociology* 115(4): 1069–1109.
- . 2011. "Global Neighborhoods: New Evidence from Census 2010." US2010 Research Brief Series. New York: Russell Sage Foundation.
- Maly, Michael. 2005. *Beyond Segregation: Multiracial and Multiethnic Neighborhoods in the United States*. Philadelphia: Temple University Press.
- Marsh, Kris, John Iceland, Luis Sanchez, Gregory Sharp, and Matthew Hall. 2010. "Racial and Ethnic Residential Segregation in the United States: Residential Patterns of Blacks." Changing American Neighborhoods and Communities (CANC) Report Series 6. University Park: Pennsylvania State University, Population Research Institute.
- Massey, Douglas S., and Chiara Capoferro. 2008. "The Geographic Diversification of American Immigration." In *New Faces in New Places: The Changing Geography of American Immigration*, ed. Douglas S. Massey. New York: Russell Sage Foundation.
- Massey, Douglas S., and Nancy A. Denton. 1988. "The Dimensions of Residential Segregation." *Social Forces* 67(2): 281–315.

- . 1993. *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, Mass.: Harvard University Press.
- Myrdal, Gunnar. 1962. *An American Dilemma: The Negro Problem and Modern Democracy*. New York: Harper & Row. (Originally published in 1944.)
- Nyden, Philip, Michael Maly, and John Lukehart. 1997. "The Emergence of Stable Racially and Ethnically Diverse Urban Communities: A Case Study of Nine U.S. Cities." *Housing Policy Debate* 8(2): 491–534.
- Oliver, J. Eric. 2010. *The Paradoxes of Integration: Race, Neighborhood, and Civic Life in Multiethnic America*. Chicago: University of Chicago Press.
- Pager, Devah, and Hana Shepherd. 2008. "The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets." *Annual Review of Sociology* 34(1): 181–209.
- Park, Julie, and John Iceland. 2011. "Residential Segregation in Metropolitan Established Immigrant Gateways and New Destinations, 1990–2000." *Social Science Research* 40(3): 811–21.
- Park, Julie, and Dowell Myers. 2010. "Intergenerational Mobility in the Post-1965 Immigration Era: Estimates by an Immigrant Generation Cohort Method." *Demography* 47(2): 369–92.
- Peterson, Ruth D., Lauren J. Krivo, and Christopher R. Browning. 2009. "Segregation and Race/Ethnic Inequality in Crime: New Directions." In *Taking Stock: The Status of Criminological Theory*, ed. Francis T. Cullen, John P. Wright, and Kristie R. Blevins. New Brunswick, N.J.: Transaction.
- Portes, Alejandro, and Rubén G. Rumbaut, eds. 2006. *Immigrant America: A Portrait*, 3rd ed. Berkeley: University of California Press.
- Portes, Alejandro, and Min Zhou. 1993. "The New Second Generation: Segmented Assimilation and Its Variants." *Annals of the American Academy of Political and Social Science* 530(1): 74–96.
- Price, Marie, Ivan Cheung, Samantha Friedman, and Audrey Singer. 2005. "The World Settles In: Washington, D.C., as an Immigrant Gateway." *Urban Geography* 26(1): 61–83.
- Putnam, Robert D. 2007. "E Pluribus Unum: Diversity and Community in the Twenty-First Century." *Scandinavian Political Studies* 30(2): 137–74.
- Reardon, Sean F., Chad R. Farrell, Stephen A. Matthews, David O'Sullivan, Kendra Bischoff, and Glenn Firebaugh. 2009. "Race and Space in the 1990s: Changes in the Geographic Scale of Racial Residential Segregation, 1990–2000." *Social Science Research* 38(1): 55–70.
- Reardon, Sean F., and Glenn Firebaugh. 2002. "Measures of Multigroup Segregation." *Sociological Methodology* 32(1): 33–67.
- Rosenbaum, Emily, and Samantha Friedman. 2007. *The Housing Divide: How Generations of Immigrants Fare in New York's Housing Market*. New York: New York University Press.
- Rothwell, Jonathon, and Douglas S. Massey. 2009. "The Effect of Density Zoning on Racial Segregation in U.S. Urban Areas." *Urban Affairs Review* 44(6): 779–806.
- Singer, Audrey. 2005. "The Rise of New Immigrant Gateways: Historical Flows, Recent Settlement Trends." In *Redfining Urban and Suburban America: Evidence from Census 2000*, vol. 1, ed. Bruce Katz and Robert E. Lang. Washington, D.C.: Brookings Institution Press.
- Smith, James P., and Barry Edmonston, eds. 1997. *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*. Washington, D.C.: National Academies Press.
- South, Scott J., Kyle Crowder, and Jeremy Pais. 2008. "Inter-Neighborhood Migration and Spatial Assimilation in a Multi-Ethnic World: Comparing Latinos, Blacks, and Anglos." *Social Forces* 87(1): 415–43.
- Suro, Roberto, and Audrey Singer. 2003. "Changing Patterns of Latino Growth in Metropolitan America." In *Redfining Urban and Suburban America: Evidence from Census 2000*, vol. 1, ed. Bruce Katz and Robert E. Lang. Washington, D.C.: Brookings Institution Press.
- Taeuber, Karl, and Alma F. Taeuber. 1965. *Negroes in Cities: Residential Segregation and Neighborhood Change*. New York: Atheneum.
- Turner, Margery Austin, and Stephen L. Ross. 2005. "How Racial Residential Discrimination Affects the Search for Housing." In *The Geography of Opportunity: Race and Housing Choice in Metropolitan America*, ed. Xavier de Souza Briggs. Washington, D.C.: Brookings Institution Press.
- U.S. Census Bureau. 1997. *United States Census 2000: Participant Statistical Areas Program Guidelines*. Washington: U.S. Census Bureau.
- . 2012. *The 2012 Statistical Abstract of the United States*. Washington: U.S. Census Bureau.

- Wahl, Ana-María González, R. Saylor Breckenridge, and Steven E. Gunkel. 2007. "Latinos, Residential Segregation, and Spatial Assimilation in Micropolitan Areas: Exploring the American Dilemma on a New Frontier." *Social Science Research* 36(3): 995–1020.
- Wen, Ming, Diane S. Lauderdale, and Namratha R. Kandula. 2009. "Ethnic Neighborhoods in Multi-Ethnic America, 1990–2000: Resurgent Ethnicity in the Ethnoburbs?" *Social Forces* 88(1): 425–60.
- White, Michael J. 1986. "Segregation and Diversity Measures in Population Distribution." *Population Index* 52(2): 198–221.
- White, Michael J., and Jennifer E. Glick. 1999. "The Impact of Immigration on Residential Segregation." In *Immigration and Opportunity: Race, Ethnicity, and Employment in the United States*, ed. Frank D. Bean and Stephanie Bell-Rose. New York: Russell Sage Foundation.
- . 2009. *Achieving Anew: How New Immigrants Do in American Schools, Jobs, and Neighborhoods*. New York: Russell Sage Foundation.
- Xie, Yu, and Kimberly A. Goyette. 2004. "A Demographic Portrait of Asian Americans." The American People Series. New York: Russell Sage Foundation and Population Reference Bureau.
- Zelinsky, Wilbur, and Barrett A. Lee. 1998. "Heterolocalism: An Alternative Model of the Sociospatial Behavior of Immigrant Ethnic Communities." *International Journal of Population Geography* 4(1): 281–98.
- Zhou, Min. 1999. "Segmented Assimilation: Issues, Controversies, and Recent Research on the New Second Generation." In *The Handbook of International Migration: The American Experience*, ed. Charles Hirschman, Philip Kasinitz, and Josh DeWind. New York: Russell Sage Foundation.
- . 2000. "Social Capital in Chinatown: The Role of Community-Based Organizations and Families in the Adaptation of the Younger Generation." In *Contemporary Asian America: A Multidisciplinary Reader*, ed. Min Zhou and James V. Gatewood. New York: New York University Press.
- Zhou, Min, and John R. Logan. 1991. "In and Out of Chinatown: Residential Mobility and Segregation of New York City's Chinese." *Social Forces* 70(2): 387–407.

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