

Chapter 1

Introduction: The American Dream, Then and Now

Greg J. Duncan and Richard J. Murnane

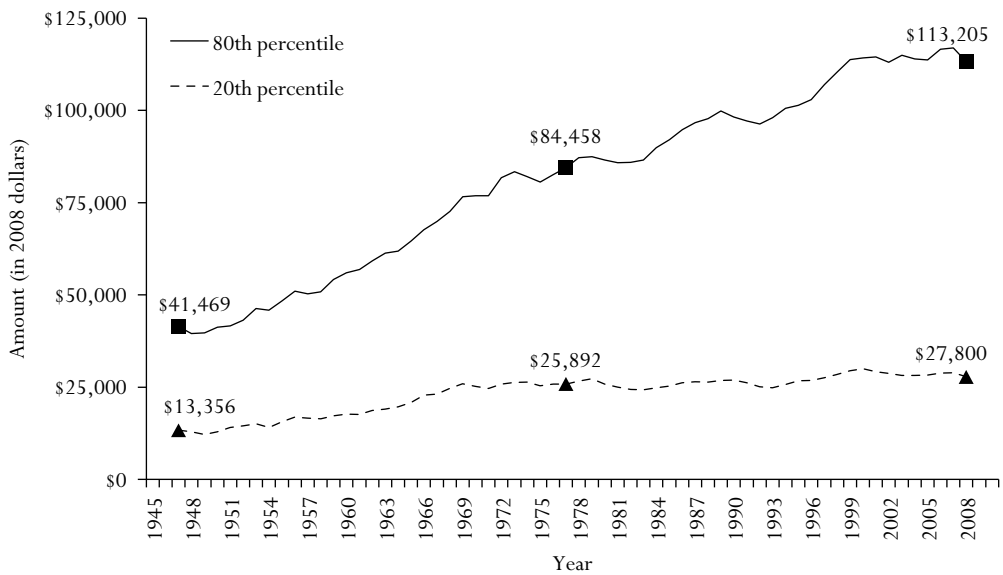
America has always taken pride in being the land of opportunity, a country in which hard work and sacrifice result in a better life for one's children. Economic growth made that dream a reality for generations of Americans, including many people who started out poor. Between 1947 and 1977, a period in which the gross national product (GDP) per capita doubled, the incomes of the poorest families nearly doubled as well (see figure 1.1).¹ In fact, for the first three-quarters of the twentieth century, economic growth was a rising tide that lifted the boats of the rich and poor alike.

Crucial to this economic growth and the consequent boost to living standards was a rapid increase in educational attainment. In 1900, only 6 percent of teenagers graduated from high school, and only 3 percent of young people graduated from college. The comparable figures in 1975 were 75 and 23 percent, respectively.² The skills of the increasing numbers of high school and college graduates constituted the human capital that fueled productivity gains and wage growth (Goldin and Katz 2008).

Of course some families had far greater financial resources than others to invest in their children. In 1947, the income of families at the 80th percentile of the income distribution was 3.1 times that of families at the 20th percentile. However, most Americans were willing to accept this degree of income inequality, for three reasons: First, incomes of families at the bottom of the distribution were growing quite rapidly. Second, inequality remained relatively stable for the first three decades after World War II.³ The third and perhaps most important factor was a relatively high rate of intergenerational economic mobility. Growing up in a poor family did not have to mean that one's children would repeat that experience.⁴

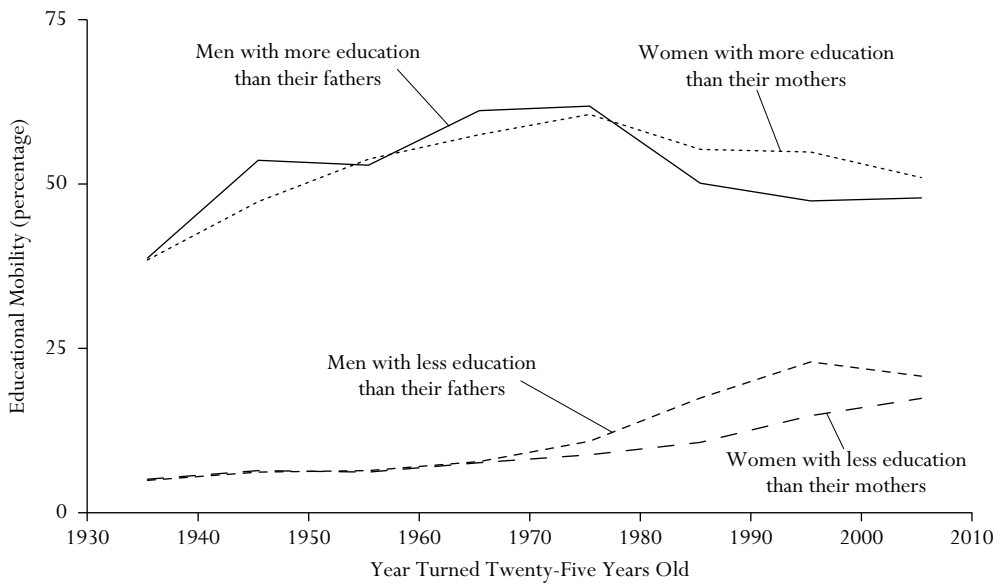
For many generations of Americans, education was the springboard to upward mobility. Figure 1.2 shows that by the middle of the twentieth century, more than half of young adult men and women had completed more years of formal education than their parents had, a percentage that would continue to climb for the next twenty-five years (see chapter 8 in this volume for more details about trends in intergenerational mobility in educational attainments in the United States). In fact, as Claudia D. Goldin and Lawrence F. Katz (2008) have documented, U.S. educational institutions served the country well for the first three-quarters of the twentieth century. Although the nation never completely fulfilled the promise of equality of educational opportunity, the openness of the American educational system made it possible for hardworking children from low-income families to graduate not only from high school but also from college. The college graduation

FIGURE 1.1 *High and Low Family Incomes, 1947 to 2008*



Source: Authors' calculations based on U.S. Bureau of the Census (n.d.).

FIGURE 1.2 *Upward and Downward Intergenerational Mobility, 1933 to 2005*



Source: Hout and Janus (this volume, figure 8.3); their calculations of General Social Surveys (Smith et al. 1972–2008).

rates of children whose parents had never attended college exceeded 20 percent between 1950 and 1970. The skills and credentials resulting from these educational investments allowed many Americans who had grown up poor to join the middle class.

Fast-forward three decades, to 2007. Between 1977 and 2007, America's GDP per capita nearly doubled again.⁵ This time, however, the fruits of economic growth were confined to a smaller proportion of the population. In 2007, family income at the 20th percentile was a scant 7 percent higher than the comparable figure for 1977, after adjusting for inflation (figure 1.1). On the other hand, the incomes of families at the 80th percentile had grown by 34 percent—nearly five times as much. Yet even these striking differences fail to capture the extent to which economic growth over the three decades after 1977 disproportionately benefited a very small percentage of American families. Between 1977 and 2007, the income of families at the 99th percentile increased by 90 percent, while families at the 99.9th percentile saw their income more than triple.⁶

Many factors contributed to the stagnation of incomes in the bottom tiers and the increase in inequality, including growing numbers of single-parent families and changing norms about appropriate executive compensation (Levy and Temin 2010). Particularly important, however, have been changes in the U.S. economy, including advancing technology and the outsourcing of jobs to lower-wage countries, both of which reduced the demand for U.S. workers with relatively little formal education. During a time (1977 to 2007) when the inflation-adjusted wages of college graduates grew by 25 percent, the wages of high school graduates increased by only 1 percent, and those of high school dropouts fell by 13 percent (for a discussion of these changes, see Levy and Murnane 2004).

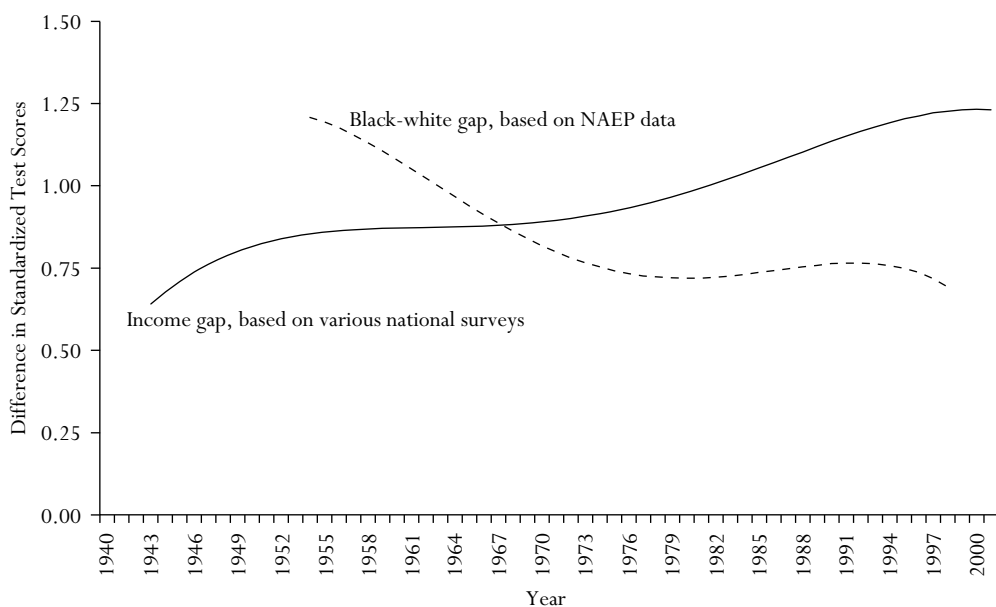
Although technological changes and outsourcing are important reasons for the increases in education-related earnings differentials, they play only a little role in explaining the extraordinary increase in the earnings at the top of the distribution. Indeed, the dramatic increase in inequality at the top of the U.S. earnings distribution is not found in other high-income countries in Europe and Asia that experienced the same technological changes.

Taken together, then, two powerful crosscurrents have pushed and pulled at children growing up in low-income families. On the one hand, the rewards for buckling down and graduating from college have never been higher. On the other, the resources available to low-income families to pay for their children's preschool, for access to good public schools or to private education, and for college investments have fallen farther behind those of affluent families. Remarkably, we know very little about how these forces have affected the achievement, educational attainments, and labor-market success of low- and high-income children. One key goal of this book is to provide the evidence we need to answer these questions.

With few exceptions, this volume provides depressing evidence on the relative skills of low- and high-income children. In chapter 5, Sean F. Reardon documents startling growth in the income-based gap in the test scores of children born since the 1950s (figure 1.3). Among children born around 1950, test scores of low-income children lagged behind those of their better-off peers by a little over half a standard deviation, about 60 points on an SAT-type test. Fifty years later, this gap was twice as large.⁷ We were surprised to discover how much the income-based gap grew during this period, in view of the fact that racial gaps in test scores have diminished considerably in the fifty years since *Brown v. Board of Education* (figure 1.3) (Jencks and Phillips 1998).⁸ We need to know why the trends in income gaps moved in the opposite direction.

Given the importance of cognitive skills in determining educational success, it should come as no surprise that growth in the income-based gap in children's reading and mathematics achievement has translated into a larger gap between children growing up in poor families and their more affluent peers with respect to the amount of schooling they have received. Figure 1.4

FIGURE 1.3 *Estimated Gaps in Reading Achievement Between High- and Low-Income and Black and White Students, by Birth Year*



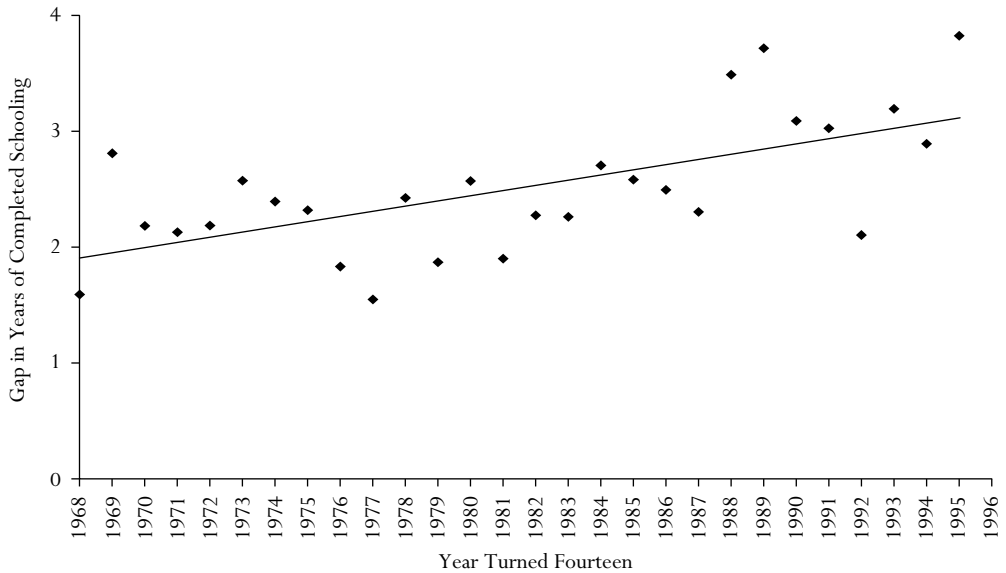
Source: Authors' adaptation of Reardon (this volume, figures 5.4 and 5.7).

plots the trend in years of completed schooling for children from top- and bottom-quintile-income families. The increase in this gap—roughly one year—is comparable to the increase in the test score gap Reardon found.⁹ Using different data, in chapter 6 Martha J. Bailey and Susan M. Dynarski document a growing income-based gap in college completion.

Moreover, these growing gaps in educational attainment have translated into less educational mobility, particularly for men. Until about 1970, fewer than one in ten men and women entering adulthood had completed less schooling than their parents (figure 1.2). By the 1990s, more than 20 percent of men and almost as large a fraction of women had less education than their parents. As Michael Hout and Alexander Janus explain in chapter 8, this disturbing trend stems to a large extent from stagnation in educational attainment. High school graduation rates have not budged in the last thirty-five years, and the slow growth we have seen in college graduation rates has been due almost entirely to children from middle-class and affluent families.¹⁰

Despite these pessimistic trends, one might still hope that America's second-chance educational system and entrepreneurial culture would promote more intergenerational mobility in both educational attainment and income than is found in other developed countries. Yet a great deal of international evidence indicates that this is not the case. Measures of immobility (for example, the simple correlation between the educational attainments of parents and children) are higher in the United States than in most continental European countries (Hertz et al. 2007).¹¹ The same pattern holds for the correlations between the earnings of fathers and sons (Bjorklund and Jantti 2009).

FIGURE 1.4 *Gap in Years of Completed Schooling Between Students with Family Income in the Top and Bottom Quintiles, by Year Turned Fourteen*



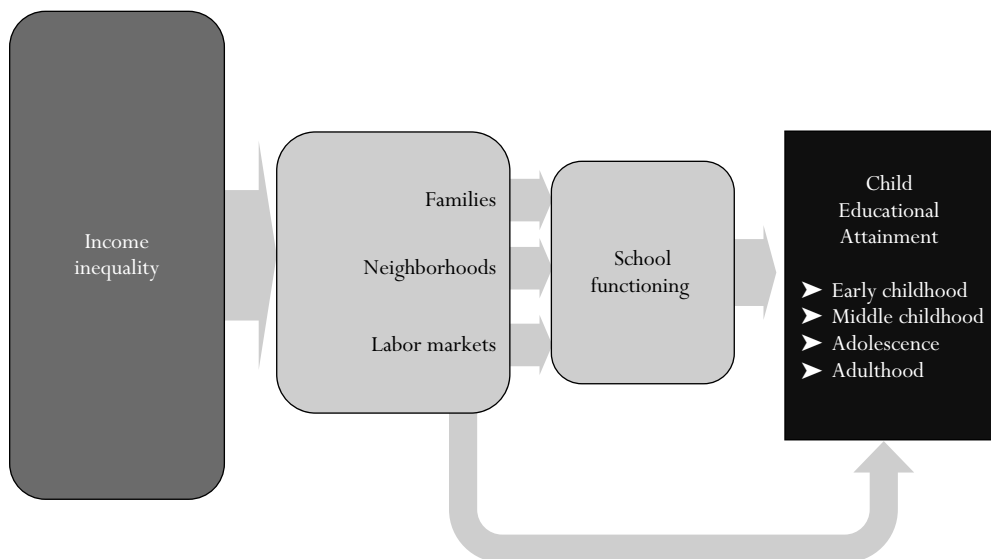
Source: Authors' calculations based on Panel Study of Income Dynamics (1968–2006).

Just how increased income inequality influences the skill acquisition and educational attainment of children born into different circumstances is, of course, a much more complicated question, and one that consumes the bulk of our volume. In the next section we describe our conceptual model of how increasing family income inequality may affect access to high-quality child care, schools, neighborhoods, and other settings that help build children's skills and educational attainments.

HOW RISING INEQUALITY INFLUENCES CHILDREN'S SKILLS AND ATTAINMENT

American society relies on its schools to level the playing field for children born into different circumstances. More than any other institution, schools are charged with making equality of opportunity a reality. During a period of rising inequality, can schools play this critical role effectively? Or has growing income inequality affected families, neighborhoods, and local labor markets in a manner that undercuts the effectiveness of schools serving disadvantaged populations? This is the question at the heart of this project.

To understand the impact of growing inequality, we adopted the ecological perspective illustrated in figure 1.5. According to this framework, income inequality affects families, neighborhoods, and local labor markets. Changes in these social contexts may in turn affect children's skill acquisition and educational attainments directly, as well as indirectly by influencing how schools operate. For example, growing income inequality increases the gap separating the resources of rich and poor families that they can invest in their children. Growing disparities in parental investments may also indirectly widen skill gaps by contributing to residential segregation, as the wealthy

FIGURE 1.5 *Inequality and Children's Attainments*

Source: Authors' figure.

purchase housing in neighborhoods where less affluent families cannot afford to live. Indeed, residential segregation by income has increased in recent decades.¹² This can reduce interactions between rich and poor in settings ranging from schools and child-care centers to libraries and grocery stores. Without the financial and human resources and political clout of the wealthy, institutions in poorer neighborhoods, perhaps most importantly schools, may decline in quality, which in turn has detrimental effects on the education and life chances of children born into poor families.

Low family income makes it more difficult for parents to gain access to the high-quality child care that prepares children for kindergarten. It can also lead to classrooms filled with low-achieving, inattentive classmates. Crime in low-income neighborhoods may provide tempting alternatives to working hard at school and at the same time make it more difficult for neighborhood schools to recruit high-quality teachers. Plant closings can disrupt family life for children whose parents lose jobs, as well as deplete community resources that might have been channeled into school improvements.

Rising inequality can have political repercussions as well. As the rich become increasingly isolated in certain neighborhoods and schools, the extent of inequality becomes less visible to them and to society as a whole, which in turn can lead to increased social conflict and a reduced sense of common purpose. This can make it harder to mobilize the public concern necessary to deal with problems of disadvantage among those most at risk. Indeed, growing inequality can create a vicious circle: increasing returns to education create growing social and economic inequalities; these in turn exacerbate educational inequality and limit educational achievement among more disadvantaged populations. Social and economic inequalities become more entrenched and limit social mobility, as more disadvantaged groups fall further behind. Only by understanding the effects of the various contexts depicted in figure 1.5 on educational attainment can we begin to make sense of three decades of rising income inequality.

THE DEVELOPING CHILD AND ADOLESCENT

In order to understand the long-term consequences for children of macro-environmental changes such as increasing income inequality, it is crucial to look at the nature of child development. Since nearly all developmental processes work through the brain, we offer in chapter 2 an accessible overview of brain development by two neuroscientists, Charles A. Nelson III and Margaret A. Sheridan.

Brain Development

Essential properties of most of the brain's architecture are established very early in life by genes and, importantly, early experience. A child's everyday interactions with sights, sounds, and supportive caregivers are important for allowing the brain's wiring to progress appropriately. The brains of children in deprived or traumatic environments often develop differently. Traumatic stress that arises from child maltreatment, for example, produces measurable effects on brain structures and increases the odds of long-lasting disadvantages for adult mental health and labor-market functioning.

Although it is sometimes possible to remedy problematic early brain development, success in doing so is limited by the shrinking plasticity of the brain as time goes by and the inefficiency with which remediated brain circuitry often operates. For example, when children are exposed to the severe psychosocial deprivation that characterizes some orphanages, remediation in the form of foster care that begins before age two can compensate for some, but not all, negative consequences.

It is difficult to generalize from situations of severe deprivation and maltreatment to the more common situations associated with an economically deprived environment. The empirical literature on socioeconomic status and the brain—admittedly based largely on simple correlations—suggests that the stress associated with socioeconomic deprivation may affect important aspects of children's cognitive control which, in turn, may influence their behavior, learning, and educational attainments.

Early Skill Development

Chapters 3, 4, and 5, by Greg J. Duncan and Katherine Magnuson, George Farkas, and Sean F. Reardon, examine the nature of socioeconomic gaps in skills and behaviors in childhood and adolescence. They find large income-related skills gaps that, in the case of children in the top and bottom income quintiles, are often larger than gaps defined by race or ethnicity. Moreover, income-based gaps persist across the school years.

Duncan and Magnuson argue that the domains of achievement, attention, and behavior are useful for organizing the most important children's skills and behaviors. Upon entering kindergarten, children from low-income families have weaker academic and attention skills, on average, and a higher probability of demonstrating antisocial behavior than children from higher-income families. None of these gaps shrinks over the course of elementary school. In fact, the income-based gap in antisocial behavior nearly doubles by fifth grade and, as Farkas shows, persists into high school. This pattern suggests that differences in early skills and behaviors related to family income may be important mechanisms through which socioeconomic status is transmitted from one generation to the next.

Another transfer mechanism is the segregation of children from low-income families into schools not attended by children from more affluent families. As Joseph G. Altonji and Richard Mansfield document in chapter 16, this sorting increased during the 1980s. The result is that a

child from a poor family is two to four times as likely as a child from an affluent family to have classmates in both elementary and high school with low skills and with behavior problems (for relevant data see chapters 3 and 4). This sorting matters, because the weaker cognitive skills and worse behavior of low-income children have a negative effect on the learning of their classmates. Once again, economic disadvantage is passed on from one generation to the next.

In chapter 5, Sean F. Reardon assembles information from virtually all the reading and mathematics tests that have been administered to nationally representative samples of American students over the last forty years—something that has never been done before. As we have seen in figure 1.3, he finds that the trends in the test scores of low- and high-income children parallel those of income itself, with income-based gaps in test scores now twice as large as test score gaps between African Americans and whites. Reardon finds mixed evidence as to whether income itself is the cause of these trends or whether they are driven by other, correlated factors such as parental education. Although gaps are much more apparent when family socioeconomic status is measured by income rather than by the educational attainment of parents, it is also the case that test score gaps between poor and middle-income students grew about as fast when income inequality was flat or falling (in the 1950s and 1960s) as when it was rising most rapidly (in the 1980s).¹³

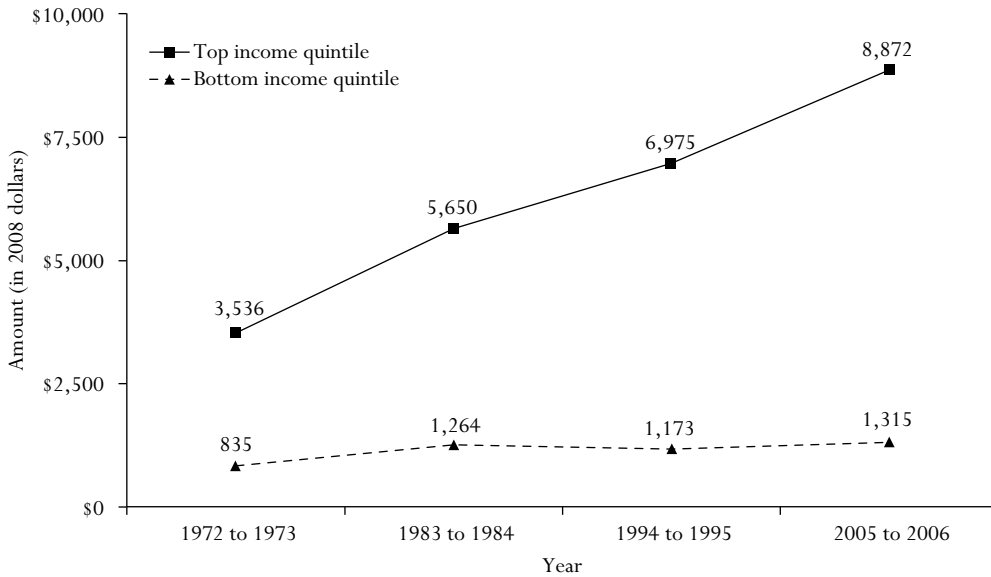
Educational Attainment

In chapter 6, Martha J. Bailey and Susan M. Dynarski detail the growing gaps in college graduation rates between children from low- and high-income families. Graduation rates for children born into high-income families jumped twenty-one percentage points (from 33 to 54 percent) between the early 1960s and the early 1980s. The corresponding increase for children born into low-income families was only four percentage points (from 5 to 9 percent). A little less than half of the gap between rich and poor in college graduation rates can be explained by differences in college enrollment rates, with the rest explained by differences in students' persistence in completing their degrees.

Bailey and Dynarski also document significant differences in the educational trajectories of boys and girls. Particularly striking is the extraordinary growth over a twenty-year period in the college graduation rate for girls from high-income families: from 33 percent for those born in the early 1960s to 60 percent among those born in the early 1980s. In contrast, the college graduation rate among girls from low-income families grew by only five percentage points, from 5 to 10 percent, over this time period. Disturbingly, the rate of college completion among boys—black, Hispanic and white—from low-income families fell in recent decades. Evidence in several of the book's chapters suggests that educational attainment problems are particularly acute among males growing up in low-income families.

Expectations

It is tempting to assume that the growing gap between the college graduation rates of children from differing economic backgrounds is due to the fact that poor children quickly abandon any hope that college might be part of their future. However, Brian A. Jacob and Tamara Wilder Linkow show in chapter 7 that this is not the case. They find that the percentage of children who expect to obtain a four-year college degree has grown rapidly over the last twenty years. Moreover, the increase was greater for children of parents who were not college graduates, suggesting that children from low-income families still expect to graduate from college.¹⁴ In one sense this is encouraging; relatively few students who do not expect to go to college actually do so. However, it is troubling that so many children from low-income families have college expectations that are either

FIGURE 1.6 *Enrichment Expenditures on Children, 1972 to 2006*

Source: Authors' calculations based on Consumer Expenditure Surveys (U.S. Bureau of Labor Statistics, various years).

thwarted or unrealistic, especially since the gap in average earnings between college graduates and high school graduates is so much higher today than it was in the 1970s.

Families

Very young children tend to be completely dependent on their families to provide what they need for healthy development. As Duncan and Magnuson show in chapter 3, children growing up in families with greater financial resources score higher on many dimensions of school readiness upon entering kindergarten. It is a challenge to identify the extent to which these differences are caused by income itself as opposed to differences in innate capabilities or other family characteristics (such as two-parent family structure or parental education levels).

An obvious advantage of a higher family income is that it provides more resources to buy books, computers, high-quality child care, summer camps, private schooling, and other enrichments. Figure 1.6 shows how spending on child-enrichment goods and services jumped for families in the top quintiles to a far greater extent than for those in the bottom income quintiles, as reflected in four large consumer expenditure surveys conducted between the early 1970s and 2005 to 2006.¹⁵ In the period from 1972 to 1973, high-income families spent about \$2,700 more per year on child enrichment than did low-income families. By 2005 to 2006, this gap had nearly tripled, to \$7,500. As detailed in chapter 9 by Neeraj Kaushal, Katherine Magnuson, and Jane Waldfogel, spending differences are largest for enrichment activities such as music lessons, travel, and summer camps. Differential access to such activities may explain the gaps in background knowledge between children from high-income families and those from low-income families that are so predictive of reading skills in the middle and high school years (Snow 2002).

Parents also spend different amounts and quality of time interacting with their children and exposing them to novel environments, and these factors can make a difference in their development (Risley and Hart 1995). In chapter 10, Meredith Phillips reports some striking differences in time-use patterns between low- and high-income families, especially time spent in “novel” places. She estimates that between birth and age six, children from high-income families will have spent 1,300 more hours in novel contexts (that is, other than at home, school, or in the care of another parent or a day-care provider) than children from low-income families. These experiences contribute to the background knowledge that is so critical to comprehending science and social studies texts in the middle-school grades. In addition, the amount of time parents spent in literacy activities was lower for low-income than for high-income families, although not all of the components of that index (for example, time spent conversing or reading with adults) passed tests of statistical significance. Phillips was unable to measure differences in the *quality* of time spent in these interactions.

The money and time expended on behalf of children also differ markedly between single- and two-parent families. As Megan M. Sweeney shows in chapter 11, increases in both marital disruption and births to unmarried women have fueled a large rise in the proportion of children living with only one biological parent. These trends are particularly pronounced among African American children. Numerous studies have established that children who grow up with two biological parents attain more schooling than children who do not. Income differences are a leading explanation for these effects, although characteristics of couples who divorce or separate also matter. Sweeney’s analysis suggests that youths who experience family disruption have poorer educational outcomes than those who live in stable families with two parents (original or stepfamily). However, for most outcomes considered, these differences are explained by the characteristics of children and their parents prior to the disruption. Moreover, and contrary to some prior research, educational outcomes for youths living in a stable married stepfamily, or transitioning from a family headed by a single mother to a stepfamily, are similar to those for youth living with two biological parents.

Neighborhoods

Given the differences in school quality, safety, amenities, peer behavior, and social cohesiveness between low-income and affluent neighborhoods, most people believe that neighborhood conditions matter a great deal for children’s attainments (Brooks-Gunn, Duncan, and Aber 1997). However, as David Harding and his coauthors explain in chapter 13, separating the effects of neighborhoods from the conditions that lead families to reside in particular kinds of neighborhoods is a very difficult task indeed.

Skepticism regarding the importance of neighborhood, as opposed to family, conditions for poor children has been fueled by recent evidence from the Moving to Opportunity (MTO) experiment. That program offered families living in public housing in high-poverty neighborhoods counseling and financial assistance to enable them to move to less poor neighborhoods. Because a lottery determined which families moved, the results are not overly influenced by the fact that more motivated families—whose motivation might also positively influence children’s outcomes—were more likely to apply for the program. As a result, MTO provides a powerful test of the assumption that children’s school attainments will improve if they and their families move away from a very poor neighborhood.

Five years later, the average test scores and years of completed schooling of children whose families won the lottery were nearly identical to the results for those who lost (Sanbonmatsu et al. 2006). In chapter 12, Julia Burdick-Will and her coauthors reconcile these results with those emerging in other studies of neighborhood effects on children. They find noteworthy but very

selective effects of neighborhood conditions on children's academic achievement. In particular, African American families living in public housing in extremely high-poverty neighborhoods in two of the five MTO cities (Chicago and Baltimore) experienced much higher levels of crime and other dimensions of concentrated neighborhood disadvantage than did families living in other MTO cities. Accordingly, they hypothesize that the relatively small number of African American children living in extremely disadvantaged neighborhoods might benefit much more from improvements in neighborhood conditions than children living in other high-poverty neighborhoods.

Labor Markets

Labor markets affect children's development in at least two ways. First, they affect the financial resources available to parents to care for their children. Second, stresses associated with jobs, the work-family balance, and, especially, the loss of a job can affect parents' mental health and the quality of the emotional environment in the home. As Charles A. Nelson III and Margaret A. Sheridan explain in chapter 2, severe emotional stress can have lasting impacts on children's development. Of course, since parents have some control over where and how much they work, it is difficult to separate the effects of labor-market conditions on children from the effects of difficult-to-measure characteristics of parents that affect both their work choices and how they care for their children.

Elizabeth O. Ananat, Anna Gassman-Pines, and Christina M. Gibson-Davis take an innovative look in chapter 14 at the impacts of adverse local labor-market conditions on children's achievement. They find that spikes in job losses in North Carolina counties are associated with lower test scores for children attending public schools in the same counties, and the effects emerge more rapidly for children from low socioeconomic status (SES) families than for their more affluent peers. It is important to note that these effects are not limited to children from families in which an adult has lost a job. Moreover, in relatively disadvantaged counties, community-level job losses appeared to increase the incidence of students' serious disciplinary offenses reported to the police. Reductions in school spending and increases in teacher mobility do not appear to be the mechanisms through which the negative effects of community job losses occur. Instead, the authors hypothesize that increased stress in families is the primary mechanism through which community job losses influence children's reading and mathematics achievements.

In another wrinkle, however, in chapter 15 Phillip B. Levine finds no evidence of a causal link between parents' employment and children's academic achievement. To reconcile Levine's findings with those of Ananat and her colleagues, it may be helpful to consider the reasons for unemployment. As Levine points out, the unexpected involuntary job losses studied by Ananat and her colleagues are only part of the picture. Levine's approach necessarily assumes that voluntary unemployment (for example, quitting a job to search for a better one) has the same impact on family dynamics and children's well-being as an involuntary job loss. This assumption is likely to be incorrect; in fact, involuntary job losses probably affect children more profoundly and negatively than voluntary unemployment does.

Schools

Researchers have long known that children attending schools with mostly poor classmates have lower academic achievement and graduation rates than those attending schools with more affluent student populations. Less well understood are the ways environmental influences shape school functioning and the particular ways in which schools affect children's developmental trajectories and long-run outcomes. The chapters on schools provide some insight into these issues.

In chapter 16, Joseph G. Altonji and Richard Mansfield highlight the role of schools in linking growing family income inequality and the educational attainments of the nation's teenagers. From 1972 to 1988, schools became more economically segregated, and teenagers from affluent families were less and less likely to have classmates from low-income families.¹⁶ Despite this segregation, differences among schools account for a relatively modest, although growing, part of the variation in high school graduation rates, college enrollment rates, and labor-market earnings. But modest does not imply unimportant. Altonji and Mansfield estimate that moving a high school student in 1972 from a school in the 10th percentile to a school in the 90th percentile of school quality would increase the student's probability of enrollment in a four-year college by about twenty percentage points, a very big change.¹⁷ The corresponding change for a high school student in 1992 or 2002 is even larger.

We have already noted that the chapters contributed by both Duncan and Magnuson and Farkas show that children attending schools with large concentrations of low-income students have several times as many low-achieving and badly behaved classmates as children attending schools with more affluent student bodies. Another threat to achievement is student mobility. In chapter 17, Stephen W. Raudenbush, Marshall Jean, and Emily Art find that urban families living in poverty move frequently, and as a result of school sorting by socioeconomic status, children from poor families are especially likely to attend schools with relatively high rates of new students arriving during the school year. Furthermore, children attending elementary schools with considerable student mobility make less progress in mathematics than do children attending schools with a low level of student mobility.¹⁸ Moreover, the negative effects apply to students who themselves are residentially stable as well as to those who are not, and are likely to be associated with the disruption of instruction caused by the entry of new students into a class.

Teacher quality is another factor contributing to the weak performance of students in high-poverty schools. A substantial body of research has shown that schools serving high concentrations of poor, nonwhite, and low-achieving students find it difficult to attract and retain skilled teachers. Don Boyd and his colleagues examine in chapter 18 the extent to which neighborhood characteristics affect teachers' decisions about where to teach. In addition to preferring schools with relatively low proportions of nonwhite and low-achieving students, teachers also favor schools in neighborhoods with higher-income residents and less violent crime.¹⁹ This is consistent with the evidence David S. Kirk and Robert J. Sampson present in chapter 19, showing that schools with a large percentage of students who have been arrested do not function as well as other schools. Teacher commitment, parental involvement, and student achievement in these schools all tend to be low. Such schools are also likely to be in high-crime neighborhoods, although it is important to note that student arrest rates are not high in all schools located in high-crime neighborhoods.

These patterns highlight the difficult challenges facing schools in high-crime neighborhoods. On the one hand, schools need to deal firmly with students who have been arrested, especially for violent crimes, because these students may disrupt the learning climate of their school. On the other hand, expelling students who have been arrested reduces the probability that these students will graduate from high school. This is one of many issues that occupy the time and resources of teachers and administrators in high-poverty schools and detract attention from teaching and learning.

In chapter 20, Amy Ellen Schwartz and Leanna Stiefel examine yet another challenge facing many of the nation's schools: new immigrants, many of whom speak little English. Today's immigrants are more likely than immigrants in the early 1970s to come from high-poverty countries. The authors also find that black and Hispanic immigrants to New York City are much more likely to be poor than are white immigrants from Eastern Europe, and they are more likely to attend elementary and middle schools with native-born black and Hispanic students who are poor. Thus,

although immigrants are not segregated from the native-born in New York City schools, the fact that they tend to move into certain neighborhoods contributes to segregation of schools by socioeconomic status and race.

In New York City, as in many other American cities, schools serving large numbers of the city's black and Hispanic students, most of whom are poor, have lower percentages of licensed teachers and higher percentages of novice teachers than other schools. The difficulty these schools experience in attracting and retaining a talented and stable teaching force tends to make them less effective.

In seeking to formulate policies that might address the economic segregation of schools, we can profit from several lessons learned in the nation's most significant school-based social intervention: court-ordered desegregation by race. As Jacob L. Vigdor explains in chapter 21, court-ordered desegregation reduced high school dropout rates for black students; with the end of court-ordered busing, those rates rose again. This pattern supports a theme of this project—namely, that forces external to schools that affect their student body composition influence their effectiveness in creating equal opportunities for children.

However, Vigdor cautions that the evidence concerning younger black children is much less clear-cut. After the end of court-ordered desegregation in Charlotte-Mecklenburg, North Carolina, in 2002, the gap between the achievement of black and white elementary school students did not increase. Vigdor hypothesizes that high schools may be more affected than elementary schools by the racial composition of the student body. He also suggests that measures taken by the school district may have counteracted, at least to some extent, potentially negative effects on black children stemming from the end of court-ordered desegregation. These measures included programs to make disadvantaged schools more attractive workplaces for teachers and a lottery program that enabled some students living in neighborhoods served by relatively low-quality middle schools and high schools to enroll in better schools.²⁰ Evaluations of the effects of the lottery program show that the opportunity to attend a better middle school or high school imparted long-term benefits for disadvantaged students in Charlotte-Mecklenburg (Deming forthcoming; Deming et al. 2011)

IMPROVING THE LIFE CHANCES OF LOW-INCOME CHILDREN

As the incomes of affluent and poor American families have diverged over the past three decades, so too has the educational performance of the children in these families. Test score differences between rich and poor children are much larger now than thirty years ago, as are differences in rates of college attendance and college graduation. Underachievement problems are particularly acute for low-income males, more and more of whom are lagging behind their own fathers' attainments in school and in the labor market.

What can be done? We identify several possible areas for policy interventions. Foremost among them is K–12 education, which has been battered by adverse changes in families, neighborhoods, and labor markets that have accompanied the last three decades' rising income inequality. Here we need policies that will help to restore public education's historical role as the key social institution for boosting the lifelong opportunities of poor children.

But can investments in improving schools overcome the myriad problems disadvantaged children face, which have been exacerbated by increased income inequality? There is some disagreement among this volume's contributors on this question. They agree that individual schools can make a big difference in the lives of disadvantaged children. However, as Harry Brighouse and Gina Schouten point out in chapter 24, many schools that have experienced success in educating disadvantaged children impose stringent disciplinary codes and require parents to agree to

monitor their children's attendance, homework, and behavior, and as a result these schools do not serve children from the most troubled families. To date there is little systematic evidence regarding the extent to which the admission practices of "high commitment" schools are critical to their effectiveness. Even more important, there is little evidence regarding the extent to which the growing number of "high commitment" charter schools spur conventional public schools to improve their performance or, conversely, reduce their quality by leaving them with a disproportionate share of troubled students.

In the interest of drawing policy conclusions, we organize our discussion by childhood stage and context. We first focus on early childhood and opportunities to bolster both early education programs and family functioning. We next review policy ideas for K–12 public education. We conclude with thoughts about neighborhood and labor-market policies.

Early Childhood Interventions

Drawing on neuroscience evidence regarding the plasticity of brain development in early childhood and the importance of ensuring that children's brains are wired correctly from the outset, Nelson and Sheridan conclude in chapter 2 that early childhood represents a particularly promising period for human-capital investments. In the case of profoundly damaging conditions such as maltreatment or institutionalization, they point out that early remediation can help prevent dysfunctional developmental trajectories. Unfortunately, early impairments of brain architecture can give rise to " sleeper effects " that become evident only later. And there may also be spillover costs in schools, as disruptions caused by children with emotional problems reduce the quality of education for their classmates (Carrell and Hoekstra 2010; Neidell and Waldfogel forthcoming).

It can be hazardous to make a direct leap from neuroscience to policy recommendations. Just because early childhood provides opportunities for more efficient interventions does not mean that the early-childhood policies actually implemented by communities, states, or the federal government are worthy investments. In the first place, it may be difficult to design programs that improve children's cognitive or behavioral development. Second, the costs of even effective programs might outweigh the benefits they generate for children, their families, and taxpayers. And third, programs in early childhood require upfront investments that may take decades to pay off. Since society discounts dollars in the future relative to today's dollars, it should prefer an equally effective and costly investment program for adolescents rather than toddlers.

That said, there is considerable evidence of the efficacy of some early-childhood intervention programs, and in particular high-quality, center-based, early-childhood education. Model programs such as Perry Preschool in Ypsilanti, Michigan, and Abecedarian in Chapel Hill, North Carolina, boosted school attainment and earnings; in the case of the Perry program, crime and the risk of adult poverty were reduced as well (Duncan, Ludwig, and Magnuson 2010). These were both expensive model programs designed and run by researchers and they may be hard to replicate, or afford, in a real-life setting.

Fortunately, recent evidence suggests that the larger-scale and less expensive federal Head Start program may also produce long-term improvements in the life chances of participants. Although the estimated effect sizes are smaller than those of the model programs, the benefit-cost ratios are favorable (Deming 2009).²¹ Rigorous evaluations of state pre-kindergarten programs are also encouraging, although research has identified only very short-term program impacts (Wong et al. 2008).

Turning from child- to parent-focused programs, Frank F. Furstenberg's review of parenting intervention research in chapter 22 is much more pessimistic. Programs that attempt to enhance parental skills and resources in hopes that parents will do a better job of teaching, nurturing, or

in other ways providing for their children generally have a disappointing record. There are two possible exceptions, however. First is the nurse home-visitation program developed by David Olds, in which nurses pay repeated home visits to high-risk, first-time mothers (Duncan, Ludwig, and Magnuson 2010). Second, evidence from a number of experimental and quasi-experimental studies suggests that boosting the incomes of the poor has positive, albeit modest, impacts on the achievement of younger children (Morris, Duncan, and Clark-Kauffman 2005; Dahl and Lochner 2008).

It appears likely that selective investments aimed at improving the school readiness of disadvantaged children are more efficient than attempting to remediate problems among older children or attempting to support schools that serve high percentages of troubled, low-skilled children. In other words, preventing problems is more efficient than ameliorating their effects, although both are necessary.

K-12 Schooling

Several chapters document that consistently high-quality schooling improves the life chances of children from low-income families. Key characteristics of effective schools include an orderly, safe environment in which both teachers and children treat each other with respect and teachers have high expectations for students' success; an intense focus on improving the quality and coherence of instruction; frequent assessment of students' skills and rapid intervention as needed; and an increase in instructional time, typically through a longer school day and often through a longer school year as well. The crucial question, of course, is which policies are best able to create and sustain schools that embody these characteristics.

Vilsa E. Curto, Roland G. Fryer, Jr., and Meghan L. Howard argue in chapter 23 that a growing number of charter schools exhibit these common characteristics and are effective in enhancing the skills of disadvantaged children. They point to the dramatic success of the Promise Academy Middle School in the Harlem Children's Zone in enhancing students' mathematics and reading skills, and to promising evaluations of "high commitment" charter schools that are part of the Knowledge is Power Program (KIPP) (Angrist et al. 2010a; Angrist et al. 2010b). Although the authors are optimistic that more charter schools will result in better education for many disadvantaged children, they also note that we know too little about critical factors that influence the number of truly effective charter schools and the types of disadvantaged children they will serve. Moreover, we need to know more about whether improved test scores will translate into better long-term outcomes and the degree to which the success of many charter schools depends on their strict entry requirements.

Is there hope for better education for disadvantaged children in conventional (noncharter) schools? In chapter 25, Brian Rowan points out that many public elementary schools serving large numbers of poor children have improved their performance by adopting whole-school improvement plans that focus on increasing the coherence and quality of instruction in English language arts and mathematics. He expresses cautious optimism that these reform efforts can improve the education of disadvantaged children. Rowan also suggests a focus on children's behavior problems that interfere with their own learning and that of their classmates, in the form of classroom-based structured modular curricula to develop students' socioemotional skills.

Don Boyd and his colleagues in chapter 18 highlight another significant obstacle to improving the effectiveness of high-poverty schools: the inability to attract and retain skilled teachers. Urban school districts are undertaking promising initiatives to recruit teams of skilled teachers who agree to work together in high-poverty schools, often under the leadership of a strong principal. The teachers receive extra pay in return for working a longer school day and school year.

To date there have been no strong evaluations of the effectiveness of this strategy. However, recent studies show that financial incentives make a difference in recruiting academically talented teachers to high-poverty schools and encouraging them to continue teaching in those schools (Clotfelter et al. 2008; Steele, Murnane, and Willett 2010).

Improving high-poverty middle and high schools has proved to be much more difficult than improving high-poverty elementary schools. As Rowan explains in chapter 25, contributing factors include greater problems in maintaining order, a low level of engagement on the part of many students, and greater resistance from teachers to a focus on improving the coherence and quality of instruction. Partly for these reasons, efforts to improve secondary schools have concentrated on changing their structure, often by breaking up large schools into several smaller ones. Reducing school size has helped ameliorate the order and safety problems that plague many large high schools. However, this strategy, by itself, has not consistently resulted in better teaching and enhanced student learning, in part because it has proved difficult to engage many veteran teachers in sustained efforts to improve instruction (City 2008).

At the same time, breaking up large high schools creates an opportunity for innovative approaches to improving educational performance. For example, starting in 2002, New York City closed more than twenty low-performing high schools and opened more than two hundred smaller schools. Particular emphasis was placed on encouraging innovative approaches to educating low-income urban students and providing widespread access to the 123 new schools that were non-selective. The district invited stakeholders, including educational entrepreneurs and school reform organizations, to submit proposals for new small schools. It introduced a competitive process to select the most promising ideas, and provided the winners with startup funds and support for leadership development and the recruitment of strong teachers. In addition, each school was paired with an intermediary organization that was skilled in launching new schools.

The New York City initiative demonstrates that new approaches to secondary schooling are indeed possible, even in a large urban district widely viewed as excessively bureaucratic and resistant to change. Even more important, the results of a high-quality evaluation show that enrollment in small schools of choice dramatically increased the high school graduation rate of students from low-income families, two-thirds of whom were below grade level when they entered ninth grade. This included males of color, a group that has fared especially poorly in the nation's urban high schools (Bloom, Thompson, and Unterman 2010). The importance of increasing the high school graduation rate cannot be overstated. As Bailey and Dynarski explain in chapter 6, the gap between the high school graduation rates of children from low- and high-income families explains about half of the gap in college entry.

Neighborhoods

Neighborhood conditions loom large in the lives of older children and adolescents. However, we see relatively few opportunities to improve children's life chances by altering neighborhood settings. As Burdick-Will and her coauthors point out in chapter 12, the evidence that dramatic changes in residential location can improve children's academic performance appears to apply only to children living in public housing in the very worst neighborhoods in the country—the kinds of neighborhoods that can be found in Chicago and Baltimore, but perhaps not in cities like Boston, New York, and Los Angeles. They show that the positive academic impacts of the Moving to Opportunity residential mobility program were limited to these kinds of neighborhoods, as were the academic impacts of a more conventional set of housing vouchers offered to Chicago residents.

As for improving the neighborhood conditions of families in situ, none of the countless attempts to do so has led to well-documented improvements in children's educational outcomes.²²

Indeed, in the case of the successful Harlem Children's Zone (HCZ) Promise Academy charter school, Vilsa E. Curto, Roland G. Fryer, Jr., and Meghan L. Howard show in chapter 23 that whether children lived within the HCZ made no difference in the academic gains for middle-schoolers attending the charter school. This calls into question the benefits to children of the many services available to families living inside the HCZ neighborhood boundaries.

The Promise Academy charter school illustrates another lesson: schools can play a larger role in children's lives than they generally do, and this can reduce the amount of time children spend on troubled neighborhood streets. The Promise Academy and many other schools that are effective in educating poor children living in troubled neighborhoods start early in the morning, often with breakfast. They serve children until late in the afternoon, providing additional time for instruction, remediation of lagging skills, and exposure to enrichment activities. Many offer instruction on Saturdays and well into the summer months. Unlike typical after-school and summer programs that do not improve student outcomes because they are disconnected to the core instructional program, the extended-day and extended-year programs in effective schools in poor neighborhoods are well-integrated parts of a coherent strategy to continually build children's skills (Levy and Murnane 2004). Of course, another benefit of such a comprehensive approach to schooling is that the school becomes the center of children's daily experiences, which reduces their exposure to the lures and dangers of the neighborhood.

Labor Markets

Macroeconomic policies that promote economic growth and strengthen labor markets are vital to the upward mobility of America's children and youth. Higher earnings enable families to enrich the learning environments in which their children develop, while high employment rates help to keep communities healthy. Unfortunately, however, the overall economic growth in the American economy over the past three decades did not translate into the kind of upward mobility that characterized the first three-quarters of the twentieth century. Strong growth, then, is a necessary but insufficient condition for solving the educational attainment problems documented in this volume.

A number of programs providing earnings supplements, child-care subsidies, and other work-related supports for low-income families appear to be effective at boosting children's school achievement. As part of the "make work pay" focus of welfare reform in the 1990s, the federal government increased the generosity of the Earned Income Tax Credit, which provides income supplements to low-income working families that can amount to as much as \$5,600 per year—a big boost to the income of a family supported by minimum-wage jobs. One careful study showed that the increased generosity of this program was associated with test score gains among younger children (Dahl and Lochner 2008). A rigorous evaluation of New Hope, a work support program in Milwaukee, also documented gains in achievement and also reductions in antisocial behavior that were particularly strong for boys (Duncan, Huston, and Weisner 2007).

SUMMARY

Although the authors in this volume differ in their views of the most promising strategies for improving the life chances of children growing up in low-income families, all would agree on the importance of increasing these children's academic achievement and educational attainments. How to do this, especially during a time of large government deficits, is a difficult question. We see no prospects for initiatives like the Great Society programs of the mid-1960s, made possible by the federal budget surpluses of that era. But prudent investments in improving the life chances

of children born into low-income families will both strengthen the country's frayed social fabric and create the conditions for economic growth.

We draw three conclusions: First, mindful of the biology of human development and the track record of proven programs, we must channel more policy dollars to enrich the early years of children born into poverty. Second, we must improve the educational opportunities of children from low-income families at every stage of their development. Third, we need a national policy debate about the consequences of economic policies that have permitted the growth in family income inequality that the nation has experienced in recent decades. Only if our country faces the consequences of growing income inequality will it be able to maintain its rich heritage of upward social mobility through educational opportunity.

NOTES

Online appendix available at: http://www.russellsage.org/duncan_murnane_online_appendix.pdf.

1. The Census Bureau started its annual tracking of family income in 1947.
2. For the figures on high school graduation rates see U.S. Department of Education, *Digest of Education Statistics 2009*, table 103 (available at: <http://nces.ed.gov/programs/digest/d09>; accessed June 25, 2010). The figures on the college graduation rate in 1900 and 1975 are from Goldin and Katz (2008), figure 7.1. We thank Claudia Goldin for providing the data on which the figure is based. We based estimates of the college graduation rates for teenagers in 1900 and 1975 on the figures for cohorts born twenty years before these dates.
3. In 1977, the income of families at the 80th percentile of the income distribution was just slightly higher than it was thirty years before, at 3.3 times that of families at the 20th percentile. Of course, equal relative growth in low and high incomes leads to larger and larger absolute dollar differences. As can be seen in figure 1.1, between 1947 and 1977 the dollar gap between the top and bottom family income quintile threshold more than doubled, from about \$28,000 to \$58,500.
4. Daniel Aaronson and Bhashkar Mazumder (2007) present evidence indicating that intergenerational economic mobility in the United States increased from 1950 to 1980, but has declined sharply since 1980.
5. Between 1947 and 1977, GDP per capita increased by 98 percent. Between 1977 and 2007, it increased by 80 percent.
6. These earnings figures are available at Emmanuel Saez's website: <http://elsa.berkeley.edu/~saez/>. They are updates of the data presented in Thomas Piketty and Saez (2003).
7. Figure 1.3 is based on the trend line fit to reading test scores provided in chapter 5 in this volume. The gap in math test scores increased from about 1.0 standard deviations for cohorts born around 1950 to 1.3 standard deviations for cohorts born around 2000.
8. The white/black gap time series shown in figure 1.3 is from chapter 5 in this volume and is based on the smoothed data from the National Assessment of Educational Progress.
9. Both gaps grew by roughly one-half standard deviations. Figure 1.4 is based on data from the Panel Study of Income Dynamics on children turning 14 between 1969 and 1997 and does not count GEDs as added years of schooling. A linear trend line is statistically significant at the .01 level ($t = 3.17$) and implies a growing gap over the observation period of just under half a standard deviation. A closer look at trends in the components of completed schooling shows no statistically significant trend in failure to complete high school, a significant ($t = 2.04$) adverse trend for completing no more than a high school degree, and a borderline insignificant ($t = 1.85$) adverse trend in completing college.
10. In 2008, the high school graduation rate of young Americans enrolled in public schools was 75 percent, exactly the same as in 1975 (Snyder and Dillow 2010, table 103). Following James J. Heckman and Paul A. LaFontaine (2010), GED recipients are counted as high school graduates in these estimates. The chapter by Martha Bailey and Susan Dynarski document trends in college graduation.
11. The same pattern holds for the correlations between the earnings of fathers and sons, as documented in Bjorklund and Jantti (2009).
12. For evidence on trends in residential segregation by income, see Jargowsky (1997); Reardon and Bischoff (forthcoming); and Watson (2009). Reardon and Kendra Bischoff (forthcoming) show that income segregation for whites and blacks increased between 1970 and 1990 and for whites in large cities between 1990 and 2000.

13. It is difficult to predict the timing of when changes in family income inequality should affect inequality in cognitive skills. Reardon implicitly assumes that income effects are immediate with, for example, adolescents' test scores determined by their family incomes during adolescence. If, as evidence reviewed in Duncan, Ziol-Guest, and Kalil (2010) suggests, income early in childhood matters more for a child than income in adolescence, then the links between aggregate changes in income inequality and income-based test score gaps are harder to pin down.
14. These authors use data from surveys that measure parent education but not family income.
15. As with figure 1.1, all dollar amounts are inflated to 2008 price levels. We are very grateful to Sabino Kornich of the Center for the Advanced Studies in the Social Sciences at the Juan March Institute in Madrid for providing these data. The definition of "enrichment expenditures" in this graph is identical to that given in chapter 9 in this volume.
16. Altonji and Mansfield find little additional change during the 1990s.
17. Altonji and Mansfield's definition of school quality includes the influence of peer effects on outcomes, which include the high school graduation rate, college enrollment rate, and the subsequent wages of students attending particular high schools.
18. Raudenbush, Jean, and Art control for a comprehensive list of school-level compositional factors, including two social class composites, in their models estimating the influence of the school-specific student mobility rate on the mathematics achievement of students (see chapter 17, n. 1).
19. The influence of neighborhood residents' incomes on teacher transfer decisions is net of the influence of the socioeconomic status of students in the relevant school, as measured by eligibility for a free or reduced price lunch.
20. C. Kirabo Jackson (2009) shows that the end of court-ordered desegregation led to a decline in teacher quality in schools that experienced an increase in the number of black students. However, the decline in school quality might have been greater in the absence of the district programs that were designed to improve the attractiveness of teaching positions in disadvantaged schools.
21. David Deming (2009) reports that the internal rate of return to Head Start is 7.9 percent. Since the cost to the federal government of borrowing to pay for social investments such as Head Start is considerably lower than 7.9 percent, the evidence is that this program is a worthwhile social investment.
22. Policing experiments have shown that it is possible to reduce the crime rate in high-crime neighborhoods (Skogan and Frydl 2004), but the evaluations of these interventions have yet to test for improvements in children's schooling outcomes.

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