Part I
Understanding Where We Are Today

Chapter 2
Segregation, Race, and the Social Worlds of Rich and Poor

Douglas S. Massey and Jonathan Tannen

Abstract Residential segregation has been called the "structural linchpin" of racial stratification in the United States. Recent work has documented the central role it plays in the geographic concentration of poverty among African-Americans as well as the close connection between exposure to concentrated deprivation and limited life chances. Here we review trends in racial segregation and Black poverty to contextualize a broader analysis of trends in the neighborhood circumstances experienced by two groups generally considered to occupy the top and bottom positions in U.S. society: affluent Whites and poor Blacks. The analysis reveals a sharp divergence of social and economic resources available within the social worlds of the two groups. We tie this divergence directly to the residential segregation of African-Americans in the United States, which remains extreme in the nation's largest urban Black communities. In these communities, the neighborhood circumstances of affluent as well as poor African-Americans are systematically compromised.

Keywords Residential segregation • School segregation • Racial segregation • Hypersegregation • Poverty concentration • Poverty • Neighborhood disadvantage • Racial stratification • Geographic mobility

Introduction

Residential segregation has been called the "structural linchpin" of racial stratification in the United States (Pettigrew 1979; Bobo 1989; Bobo and Zubrinsky 1996), and over time its role in the perpetuation of Black disadvantage (and White advantage) has become increasingly clear to social scientists (for a review, see Massey

D.S. Massey (✉)
Henry G. Bryant Professor of Sociology and Public Affairs, Princeton University, Princeton, NJ, USA

J. Tannen
Woodrow Wilson School, Office of Population Research, Princeton University, Princeton, NJ, USA

I. Kirsch, H. Braun (eds.), *The Dynamics of Opportunity in America*,
DOI 10.1007/978-3-319-25991-8_2

2013). William Julius Wilson (1987) was the first to notice the rising concentration of poverty in Black inner city neighborhoods during the 1980s. Massey (1990) subsequently sought to explain this growing concentration of Black poverty using a simulation to demonstrate how rising rates of Black poverty interact with high levels of Black segregation to concentrate poverty in certain areas and neighborhoods. Massey and Denton (1993) went on to argue that by concentrating poverty, racial segregation created a uniquely harsh and disadvantaged social environment for poor African-Americans and residential circumstances with much fewer advantages for affluent African-Americans compared to Whites of similar social status.

In his analysis of the mathematics underlying Massey's simulation exercise, Quillian (2012) demonstrated that concentrated poverty stemmed not simply from an interaction between Black poverty and Black segregation but was also affected by the level of geographic separation between poor and nonpoor Blacks as well as the degree of segregation between poor Blacks and others who were both nonpoor and non-Black. Given conditions that commonly prevail in metropolitan America, however, Quillian (2012, 370) gave his support to Massey's theoretical argument. When African-Americans are highly segregated, increases in Black poverty are absorbed by a relatively small number of compressed, racially homogeneous neighborhoods, increasing the geographic concentration of poverty in ghetto areas.

Subsequent research has confirmed the close connection between Black segregation and geographically concentrated disadvantage and demonstrated the powerful negative influence of concentrated poverty on individual life chances (Sampson 2012; Massey and Brodmann 2014). Owing primarily to the persistence of racial residential segregation, poor African-Americans experience levels of neighborhood poverty, violence, and social disorder that are rarely, if ever, experienced by the poor of other groups (Peterson and Krivo 2010; Sampson 2012). Moreover, the high exposure of African-Americans to geographically concentrated disadvantage not only persists over the individual life cycle but also is maintained across the generations. Indeed, Sharkey (2013) found that half of all African-Americans nationwide had lived in the poorest quartile of urban neighborhoods for at least two generations, compared to just 7 % of Whites. Whereas in 1968 Otis Dudley Duncan argued that Black socioeconomic disadvantage was transmitted along the lines of race, in the twenty-first century, Sharkey shows how Black disadvantage is increasingly transmitted on the basis of place.

Here we review trends in the degree of Black residential segregation along with rates of Black and White poverty from 1970 to 2010 to assess the structural potential for concentrated poverty and how it has changed over time. We then examine trends in neighborhood conditions experienced by poor Whites and Blacks and compare them to those experienced by affluent Whites and Blacks. Our analysis documents the widening gap between the social worlds inhabited by those at the top and bottom of the U.S. socioeconomic hierarchy and underscores the powerful effect that segregation has in undermining the quality of the neighborhoods even of African-Americans.

Four Decades of Segregation and Poverty

Our analysis draws on census tract data obtained from the decennial censuses of 1970, 1980, 1990, 2000, and 2010 as well as data from the 2008–2012 American Community Surveys for 287 consistently defined Metropolitan Statistical Areas (MSAs; borrowing liberally from a dataset developed by Rugh and Massey 2014). Figure 2.1 shows trends in the degree of Black–White segregation from 1970 to 2010. The values are weighted averages of segregation indices computed for all MSAs, where weights are the proportion of all metropolitan Blacks living in each MSA. The trends thus represent changes in the degree of segregation experienced by the average Black metropolitan resident over time.

We measure segregation using the well-known *index of dissimilarity*, which gives the relative share of two groups that would have to exchange neighborhoods to achieve an even residential distribution (Massey and Denton 1988). We proxy neighborhoods using census tracts, which are small local areas averaging around 4,000 persons defined by the U.S. Census Bureau. In an even residential distribution each tract would replicate the racial composition of the metropolitan area as a whole. For example, if an MSA were 10 % Black and 90 % White, then evenness would be achieved when each tract was 10 % Black and 90 % White, yielding an

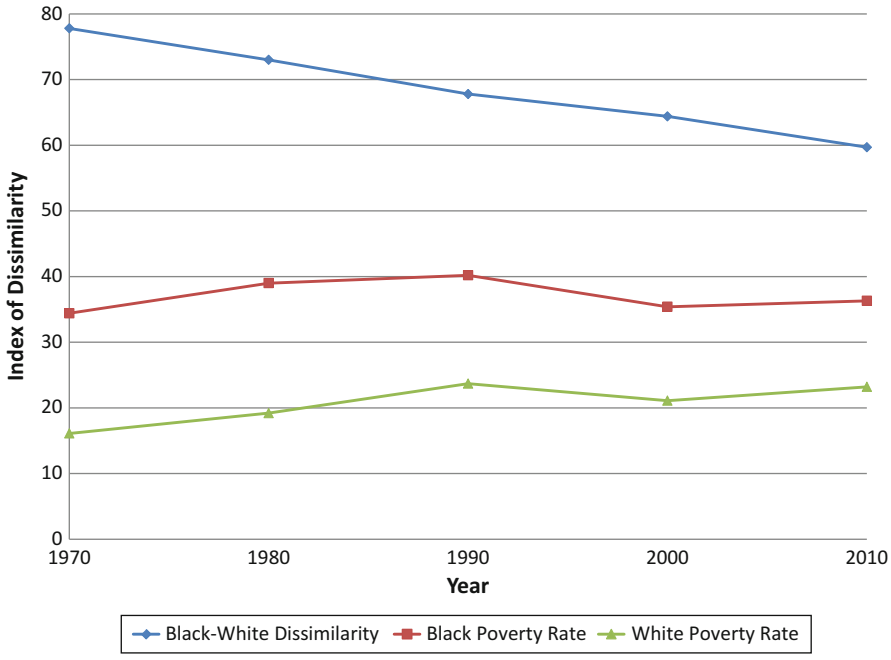

Fig. 2.1 Black-White residential dissimilarity and Black and White poverty rates in metropolitan areas

index value of zero. In general, tract-based dissimilarity indices of 60 or greater are considered to be high, those between 30 and 60 moderate, and those under 30 low.

According to these criteria, average levels of Black-White segregation have remained in the high range throughout the past four decades. Nonetheless, levels of racial segregation *have* displayed a slow but steady decline over time, with the dissimilarity index going from 78 in 1970 to around 60 in 2010, a decline of about five points per decade. Although the trend in Black-White segregation may have been downward on average, Rugh and Massey (2014) found considerable variation across MSAs in the rate of decline. Their statistical analysis revealed that lower levels of Black segregation and more rapid shifts toward integration were predicted by small metropolitan population size, high Black socioeconomic status, low levels of anti-Black prejudice, permissive density zoning in suburbs, the presence of a college or university, larger concentrations of military personnel, and a small Black percentage. In general, therefore, metropolitan areas experiencing a decline in segregation over the past 40 years have been those of small size with a relatively small Black population of high socioeconomic status, with suburban zoning regimes that allow multi-unit housing, and a military base and/or colleges or universities in the metropolitan region. Obviously this profile does not fit the metropolitan areas where most African-Americans live.

Figure 2.1 also shows trends in Black and White poverty from 1970 to 2010. We define poverty as coming from a household within an income of $30,000 or less (the cutoff for receipt of a federal Pell college grant for low-income students). As can be seen, there is little evidence of any downward trend in the level of Black poverty over time. Indeed, the poverty rate *rose* from 34 to 40 % between 1970 and 1990; and although it fell to a rate of 35 during the economic boom of the 1990s by 2010, it had risen back to up 36 %, two points above where it stood in 1970. The rate of White poverty likewise rose between 1970 and 1990, going from 16 to 24 % before dropping back to 21 % in 2000 and then rising back up to 23 % in 2010. For both racial groups, we expect trends in the concentration of poverty generally to follow trends in the rate of poverty (Jargowsky 1997). Thus it should rise during the 1970s and 1980s, fall in the 1990s, and then rise again during the 2000s, though absolute levels of poverty concentration naturally will be much lower for Whites than Blacks.

As already noted, declines in Black-White segregation were quite uneven across regions, with high levels generally persisting in sizable poor Black communities located in the nation's large metropolitan areas. In their analysis of 1980 census data, Massey and Denton (1989) went further to identify a subset of areas in which African-Americans were segregated along multiple geographic dimensions simultaneously, a pattern of intense isolation they labeled hypersegregation. In hypersegregated metropolitan areas, African Americans are highly segregated (index value above 60) on at least four of segregation's five underlying geographic dimensions. Thus African-Americans were not only unevenly distributed across neighborhoods but also experienced high levels of isolation, living in nearly all-Black neighborhoods that were clustered tightly together to form a densely packed community located in and around the city center. In 1980, such areas housed a disproportionate share of all African-Americans. Although a recent analysis by Massey

and Tannen (2015) revealed that the number of hypersegregated areas dropped sharply between 1970 and 2010, 34 % of all metropolitan Black residents still lived under conditions of hypersegregation 40 years later, with another 21 % living under conditions of "high" segregation (dissimilarity index above 60).

The top of Fig. 2.2 shows trends in Black-White segregation for the five most racially segregated metropolitan areas as of 2010. These data underscore how limited progress toward racial integration has been in the nation's largest urban Black communities. In MSAs such as Milwaukee, New York, Chicago, Detroit, and Cleveland—places with well-known and long-established Black ghettos—progress toward residential integration has been limited, with dissimilarity indices ranging narrowly between 73 and 80 even in the age of Obama. Among all hypersegregated areas, the average Black-White dissimilarity index fell from 79 in 1970 to 66 in 2010, and their ranks included St. Louis, where Blacks and Whites at present are bitterly divided over the killing of an unarmed Black teenager by a White police officer in the predominantly Black suburb of Ferguson.

Figure 2.2 also shows trends in Black-White dissimilarity among the five least segregated metropolitan areas in 2010. As can be seen, in smaller metropolitan areas with tiny Black populations levels of segregation, the dissimilarity index fell quite rapidly over the past four decades. In Provo, Utah, for example, the index fell from 83 in 1970 to just 18 in 2010. Of course, the Black population of Provo numbered just 4,012 in 2010 and was relatively affluent, not to mention Provo is a college town (home to Brigham Young University). The average dissimilarity index for all five areas went from 66 in 1970 to 19 in 2010, but the average size of the Black

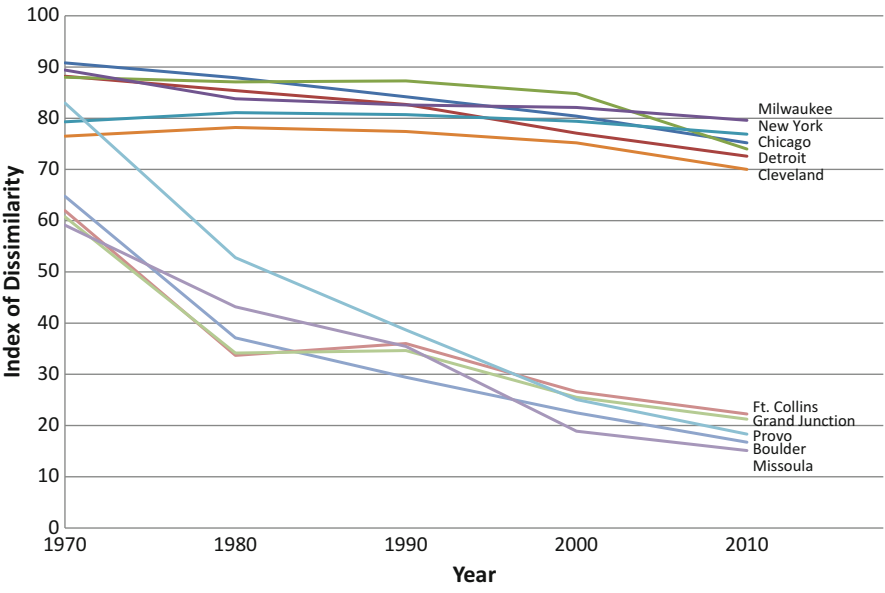

Fig. 2.2 Segregation trends in the most and least segregated metropolitan areas

population was 2,600 and all five areas contained colleges or universities, again not a profile that applies to most Black metropolitan residents.

The link between the degree of Black segregation and the relative size of the Black population reflects changes in White racial attitudes since the civil rights era. In the 1960s, large majorities of White Americans supported racial segregation in principle, agreeing that Whites had a right to keep Blacks out of their neighborhoods and that African-Americans should respect that right. By the 1990s, however, the percentage of Whites expressing this viewpoint had fallen to single digits, and most had adopted a color-blind ideology of equal opportunity for all regardless of race (Schuman et al. 1998).

Despite the collapse of White support for segregation in principle, however, negative racial stereotypes remain firmly rooted in White social cognition and White respondents show little tolerance for associating with very many African-Americans in practice, especially in intimate settings such as neighborhoods and schools. On surveys, as the hypothetical number of Black students or neighbors increases, larger and larger shares of White respondents express discomfort, declaring a reluctance to enter a neighborhood and expressing a desire to leave (Charles 2003, 2006). Even after controlling for a neighborhood's property values, crime rates, and school quality, the likelihood that a White subject would be willing to purchase a home in a neighborhood declines sharply as the percentage of Blacks rises (Emerson et al. 2001).

Under these circumstances, in metropolitan areas with small Black populations, Whites can simultaneously honor their ideological commitment to equal opportunity and satisfy their desire not to share schools or neighborhoods with many Black people. In Provo, for example, the Black percentage is just 0.7 %, so under conditions of complete integration (a Black-White dissimilarity index of zero) each neighborhood would be just 0.7 % Black, which is well within White tolerance limits. In contrast, Milwaukee County is 27 % Black, so complete integration there would yield neighborhoods that were 27 % Black, which is well beyond the comfort level of most Whites—hence the current pattern of high, stubborn levels of segregation in metropolitan areas containing large Black communities but rapid shifts toward integration in areas where few African-Americans actually live.

Nonetheless, patterns of racial segregation did change after the civil rights era. Whereas virtually all metropolitan areas were highly segregated by race in 1970, 40 years later, segregation levels vary widely across metropolitan areas. Indeed, from 1970 to 2010 the standard deviation of Black-White dissimilarities rose from 10.2 to 11.2. At the same time, the standard deviation of Black poverty rates fell from 10.1 to 8.2. With stable means and declining variability in rates of Black poverty but declining means and rising variability with respect to Black segregation, the geographic concentration of Black poverty over time has increasingly come to be determined by inter-metropolitan variation in the degree of Black residential segregation.

Poverty and Privilege in Black and White

Historically, poor African-Americans have been concentrated disproportionately at the bottom of the U.S. socioeconomic distribution while affluent Whites have congregated near the top. As noted earlier, we define poverty as having a household income of $30,000 or lower; for our purposes we define affluence as having a household income of $120,000 or greater. In order to examine shifts in the size of the gap between the top and bottom of American society, therefore, we chart trends in the social and economic characteristics of neighborhoods occupied by the affluent and poor of both races, with dollar amounts expressed in constant 2010 dollars. Figure 2.3 begins the analysis by plotting trends in the proportion of households with incomes of $30,000 or lower in the neighborhoods inhabited by affluent Blacks and poor Blacks, as well as affluent Whites and poor Whites.

Figure 2.3 indicates the degree to which Blacks and Whites at the top and bottom of the income distribution are exposed to poverty within the social worlds defined by their neighborhoods. Obviously poor African-Americans have always experienced a higher concentration of poverty than other groups, and as expected, changes in the degree of poverty concentration closely follow trends in the rate of poverty generally. In 1970 the average poor African-American lived in a neighborhood that was 40 % poor, and this figure increased to 49 % by 1990 before dropping to 44 % in 2000 and then edging back up to 45 % in 2010. Although affluent African-Americans are less exposed to neighborhood poverty than poor Blacks (25 % and

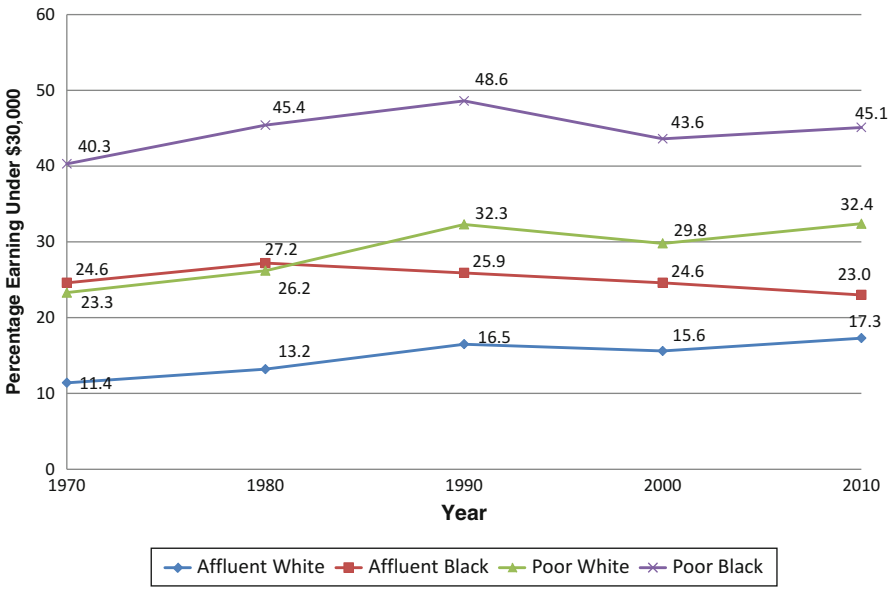

Fig. 2.3 Percentage of households earning less than $30,000 in neighborhoods of metropolitan areas (by various race/income groups)

27 %, respectively), in 1970 and 1980 their exposure to poverty was on a par with levels typically experienced only by poor Whites, whose respective figures stood at 23 and 26 % in the 2 years. In contrast, affluent Whites experienced neighborhood poverty rates of just 11 and 13 %, indicating their privileged status in the American status hierarchy.

As levels of racial segregation moderated after 1980, however, affluent African-Americans began to achieve greater geographic separation from the poor, and the poverty rate in affluent Black neighborhoods dropped from 27 % to 23 % between 1980 and 2010. The degree of concentrated poverty experienced by poor Whites rose, however, in keeping with the overall rise in levels of White poverty, with concentration going from 26 to 32 % over the period. Affluent Whites, of course, continued to experience the least exposure to poverty within their neighborhoods across the four decades, with the degree of poverty concentration rising slowly from 13 to 17 % but always remaining well below the levels observed for other race-class groups.

In summary, as of 2010 we observe a clear hierarchy with respect to neighborhood disadvantage, with poor African-Americans experiencing by far the greatest concentration of poverty (45 %), followed by poor Whites (32 %), affluent Blacks (23 %), and affluent Whites (17 %). This ordering is important because research indicates that the high rate of neighborhood disadvantage commonly experienced by poor Blacks is the principal structural reason for the remarkable lack of socioeconomic progress among African-Americans since the end of the civil rights era (Sharkey 2013).

Figure 2.4 continues the analysis by looking at the other end of the spectrum of neighborhood quality, focusing on exposure to neighborhood affluence by examining trends in the percentage of households earning $120,000 or more in neighborhoods occupied by the affluent and poor of both races. In keeping with affluent Whites experiencing the least exposure to poverty, they also display by far the highest exposure to affluence within their social worlds. Although the percentage of affluent households in the neighborhood of the average affluent White person fell slightly from 22 % to 20 % from 1970 to 1980, thereafter the figure steadily rose to reach 30 % in 2010. Once again, affluent African-Americans experienced great difficulty translating their income attainments into improved neighborhood circumstances in 1970, achieving only the concentration of affluence attained by poor Whites, at just under 10 %. As racial segregation moderated over time, however, the concentration of Black affluence steadily rose, until by 2010 the average affluent African-American lived in a neighborhood in which 22 % of the households were also affluent.

Although exposure to affluent households within neighborhoods also rose somewhat for poor Blacks and Whites between 1970 and 2010, the increase was quite modest: the percentage affluent rose from 9 to 13 % for poor Whites and from 4 to 7 % for poor Blacks. In general, then, the range of exposure to affluence, along with the benefits it confers, widened substantially over the decades, as indicated clearly in the figure. Even though affluent African-Americans improved their standing with respect to poor Whites and poor Blacks, however, they by no means caught up to

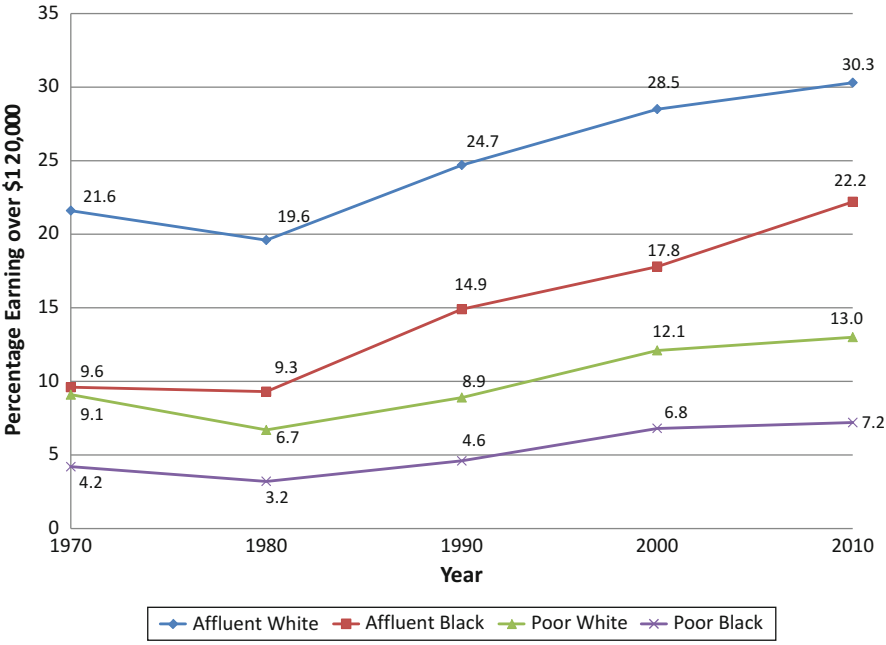

Fig. 2.4 Percentage of households earning more than $120,000 in neighborhoods of metropolitan areas (by various race/income groups)

affluent Whites, replicating the clear hierarchy observed in Fig. 2.3, with affluent Whites on top, followed in order by affluent Blacks, poor Whites, and poor Blacks.

Exposure to affluence within neighborhoods necessarily implies exposure to attributes and characteristics associated with affluence, thus generating a range of benefits for residents. One such attribute is education, and Fig. 2.5 shows the percentage of college graduates within neighborhoods occupied by affluent and poor Blacks and Whites. Holding college degrees confers status and prestige, of course, but college graduates also vote at higher rates to generate more political influence, exhibit lower rates of crime and delinquency, express greater interpersonal tolerance and trust, are more involved in cultural and educational institutions, and generally exhibit healthier lifestyles, thus creating a more salubrious, nurturing, and supportive neighborhood environment.

On this important indicator of neighborhood advantage, we once again observe the familiar pattern of racial and class stratification and a growing spread between race-class segments over time. Again affluent Whites experience the highest exposure to college graduates and poor Blacks experience the least, with affluent Blacks and poor Whites falling in-between. From 1970 to 2010 the percentage of college graduates in affluent White neighborhoods rose from 19 to 44 %, whereas the share rose only from 5 to 19 % in poor Black neighborhoods, widening the gap from 14 to 25 points. As before, affluent Blacks were only able to experience the low levels of exposure to college graduates in 1970; but over time they again improved their

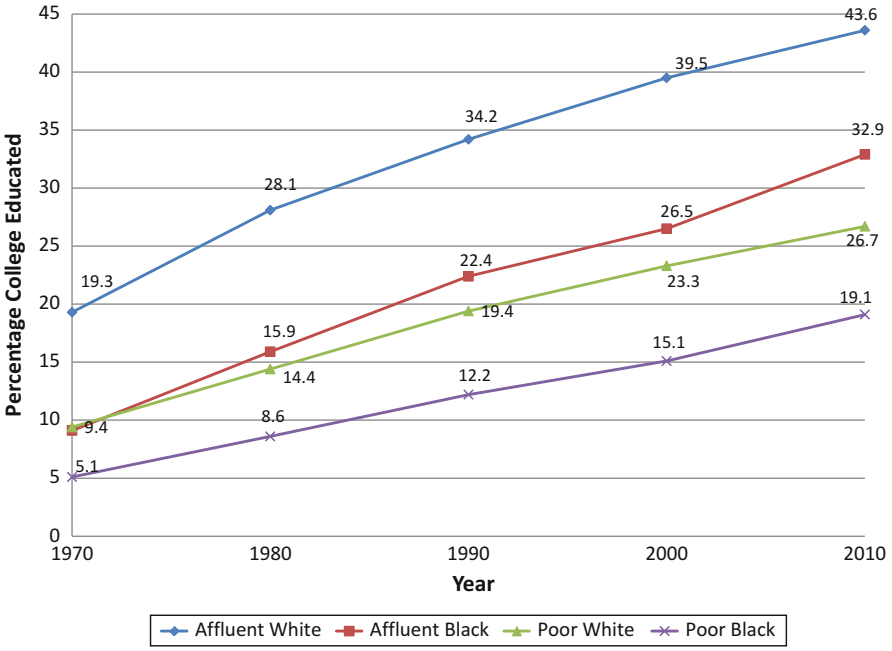

Fig. 2.5 Percentage of individuals 25 and over with a college degree in neighborhoods of metropolitan areas (by various race/income groups)

relative standing. By 2010 the average affluent African-American lived in a neighborhood where 33 % were college graduates, compared to a figure of 27 % for poor Whites. Despite this improvement relative to poor Whites, affluent Blacks still had not closed the gap with affluent Whites, which remained fairly constant from 2000 to 2010.

The final indicator of neighborhood advantage we consider is potential home wealth, which we measure by multiplying median home values within neighborhoods by the proportion of homeowners in the same neighborhoods. The product, plotted in Fig. 2.6, indicates the amount of wealth potentially accessible to the average neighborhood resident in the form of home equity. As can be seen, in 1970 the average affluent White person lived in a neighborhood where potential home wealth stood at $105,000 compared to only $29,000 in the neighborhood of the average poor Black person (figures once again in constant 2010 dollars). Among affluent African-Americans, potential home wealth was only $50,000, a figure even lower than the $56,000 figure for poor Whites.

Over time potential home wealth increased for all race-class groups, but the increase was greatest for affluent Whites, whose potential home wealth stood at $275,000 in 2010. Although affluent African-Americans were again able to improve their standing relative to poor Whites, they were unable to close the gap with affluent Whites. As of 2010, their potential home wealth stood at around $193,000, roughly $82,000 below affluent Whites (compared to a gap of $55,000 in 1970) but

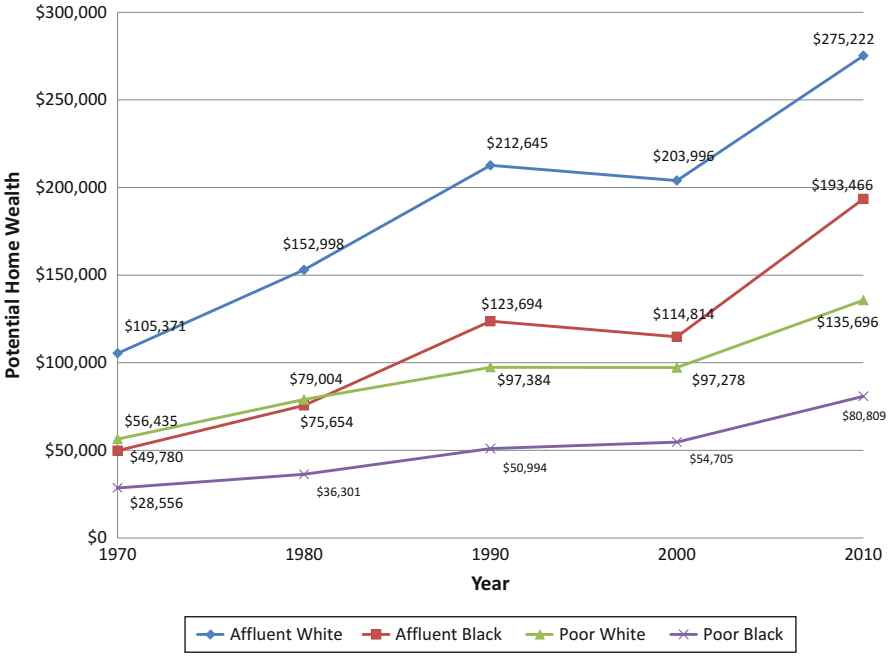

Fig. 2.6 Potential home wealth in neighborhoods of metropolitan areas (by various race/income groups)

nonetheless above the value of $136,000 experienced by poor Whites. As expected, poor African-Americans displayed the least access to potential home wealth, with a figure of just $81,000 in 2010, only 29 % of the potential home wealth accessible to affluent Whites in their neighborhoods.

In addition to the financial cushion provided by access to wealth, home values also translate directly into access to higher quality education given that public schools in the United States are financed mostly by real estate taxes. Thus the 3.4-to-1 differential in potential home wealth between affluent Whites and poor Blacks translates into a comparable differential with respect to school funding, ultimately producing a profound gap in the quality of education available to those at the top and bottom of American society. The connection between racial segregation and stunted educational achievement among Blacks is very well established empirically (Goldsmith 2009; Billings et al. 2012; Rothstein 2004, 2014). The close connection between school segregation and residential segregation is confirmed by the data in Fig. 2.7, which displays the relationship across states between the level of neighborhood segregation (Black-White dissimilarities computed for tracts) and the degree of educational segregation (Black-White dissimilarity between school districts using state-level data obtained from the National Center for Educational Statistics; http://nces.ed.gov/ccd/bat/). As can be seen, residential segregation explains 61 % of the variance in school segregation across states, suggesting that the continued

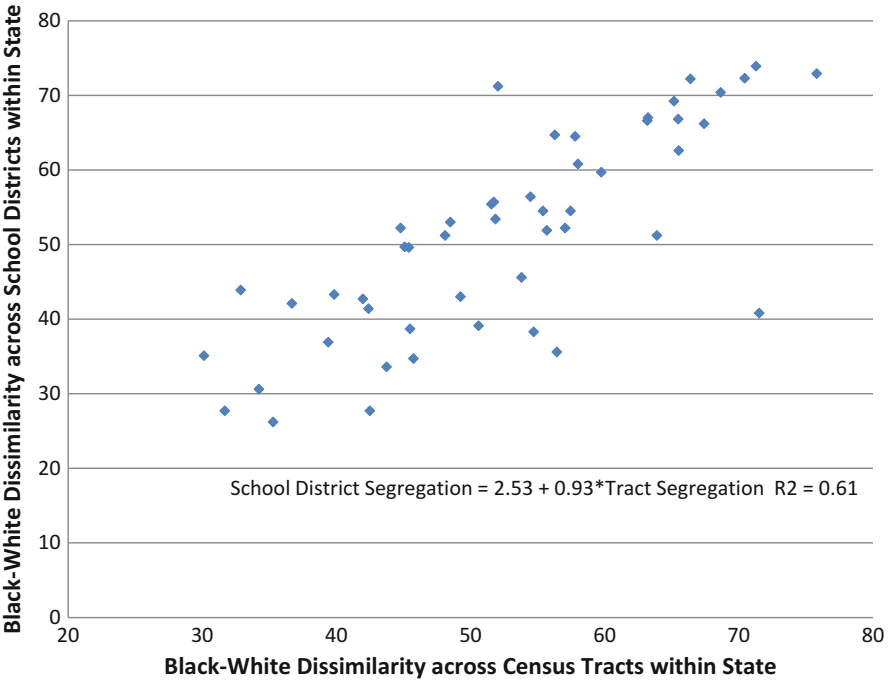

Fig. 2.7 Relationship between racial segregation by neighborhood to racial segregation by school district across states

segregation of African-Americans thus explains much of Black underachievement in the educational realm.

Segregation and the Divergence of Social Worlds

Earlier we explained that geographically concentrated poverty follows directly from two fundamental structural conditions in society: a high rate of minority poverty and a high degree of minority residential segregation, a relation now established both mathematically and empirically. We also noted that although average levels of Black residential segregation have fallen in the past four decades, the declines have been highly uneven and inter-metropolitan variation in the degree of segregation has increased. In contrast, levels of Black poverty have remained fairly stable, on average, and inter-metropolitan variability has decreased. Under these circumstances we would expect to observe a significant positive association between Black-White segregation and the concentration of Black poverty. To the extent that Whites are disproportionately affluent, of course, a high degree of Black-White segregation also tends to concentrate White affluence, as shown in Fig. 2.4. Thus we expect variation in racial residential segregation to substantially affect the size of the gap in

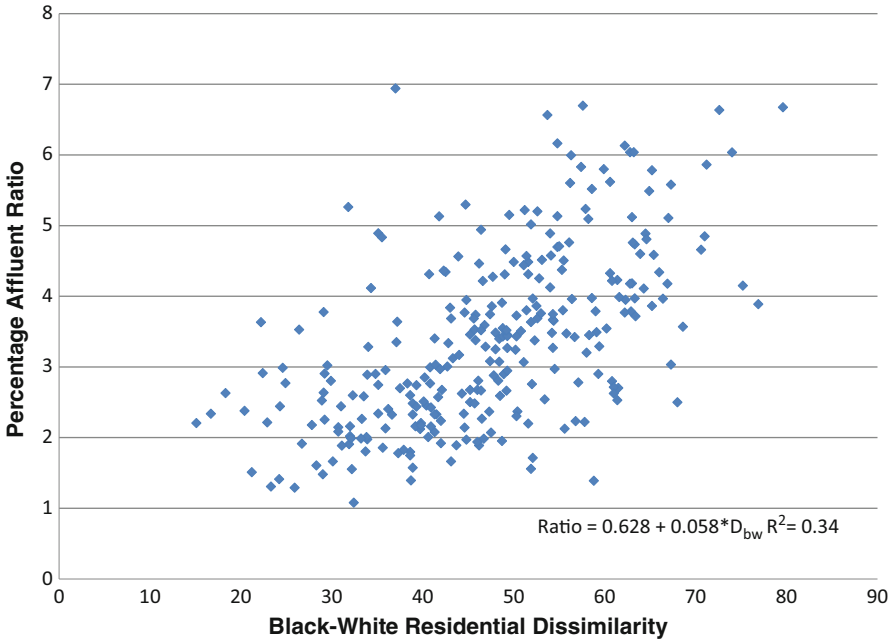

Fig. 2.8 Relationship between racial segregation and gap in percentage affluent between poor Black and affluent White neighborhoods

neighborhood circumstances experienced by poor Blacks and affluent Whites in American society, that is, between the social worlds of the most affluent and poorest segments of the nation.

Figure 2.8 illustrates this relationship through a scatterplot showing the ratio of the average percentage affluent in neighborhoods occupied by affluent Whites (indicating the neighborhood privilege enjoyed by those at the top of American society) to the average percentage affluent in neighborhoods occupied by poor Blacks (indicating the relative lack of neighborhood privilege suffered by the bottom of U.S. society) expressed as a function of the level of Black-White segregation. The diagram reveals an obvious positive relationship, confirming the close connection between segregation and race-class inequality in the United States.

As can be seen, as the degree of racial segregation rises, the gap between affluent White and poor Black neighborhoods with respect to the rate of affluence steadily rises. According to the estimated equation, shifting the Black-White dissimilarity index from 15 to 80 (roughly the observed range of Black-White segregation) would raise the size of the gap from a ratio of 1.5 to 5.3. Although the equation does not control for the many other factors that might be expected to influence the size of the gap between those at the top and bottom of American society, it nonetheless illustrates the degree to which segregation by itself operates to concentrate geographical advantages and disadvantages, as demonstrated analytically by Quillian (2012) and empirically by a growing number of studies (cf. Massey and Denton 1993; Sampson 2012; Sharkey 2013; Massey and Brodmann 2014).

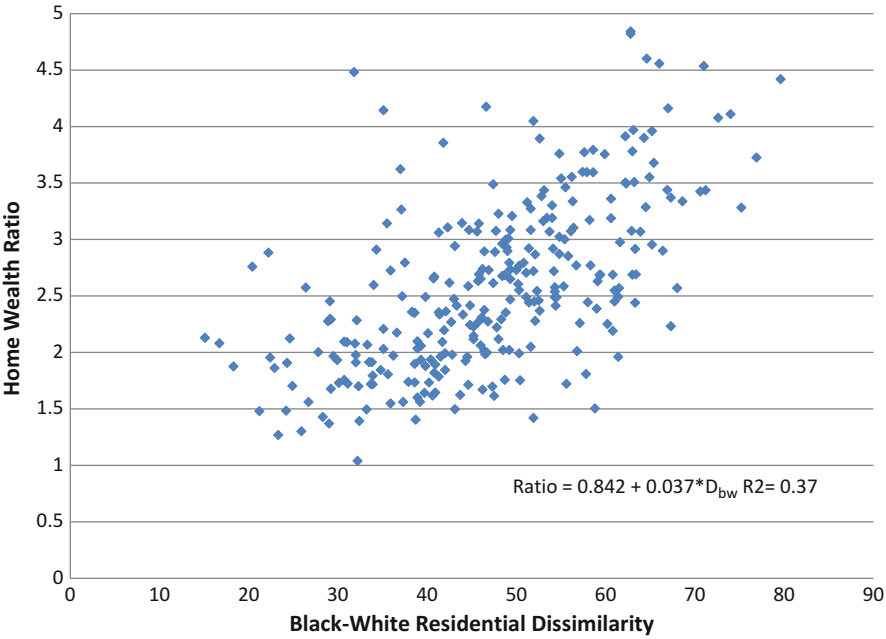

Fig. 2.9 Relationship between racial segregation and gap in potential home wealth between poor Black and affluent White neighborhoods

Figure 2.9 repeats the analysis using the ratio of affluent White to poor Black potential housing wealth to reveal an even stronger relationship between segregation and the gap in neighborhood access to wealth. Shifting levels of Black-White segregation from their minimum to maximum would raise the housing wealth gap from a ratio from 1.4 to 3.8. Black residential segregation thus goes a long way toward explaining the savage neighborhood inequalities in wealth that increasingly separate poor African-Americans from affluent Whites in American society today.

Inequality in Hypersegregated America

Results from the foregoing sections reveal sharply rising disparities in the neighborhood circumstances experienced by those at the bottom and top of the American socioeconomic distribution. Whether we consider exposure to poverty, concentrated affluence, exposure to college graduates, or potential home wealth, the gap in the quality of the social worlds inhabited by affluent Whites and poor Blacks has increased steadily over the past four decades. The gap between affluent Whites and poor Whites has also increased, and although affluent Blacks have gained ground on poor Whites as their neighborhood circumstances have improved, they have not come close to closing the gap with respect to affluent Whites.

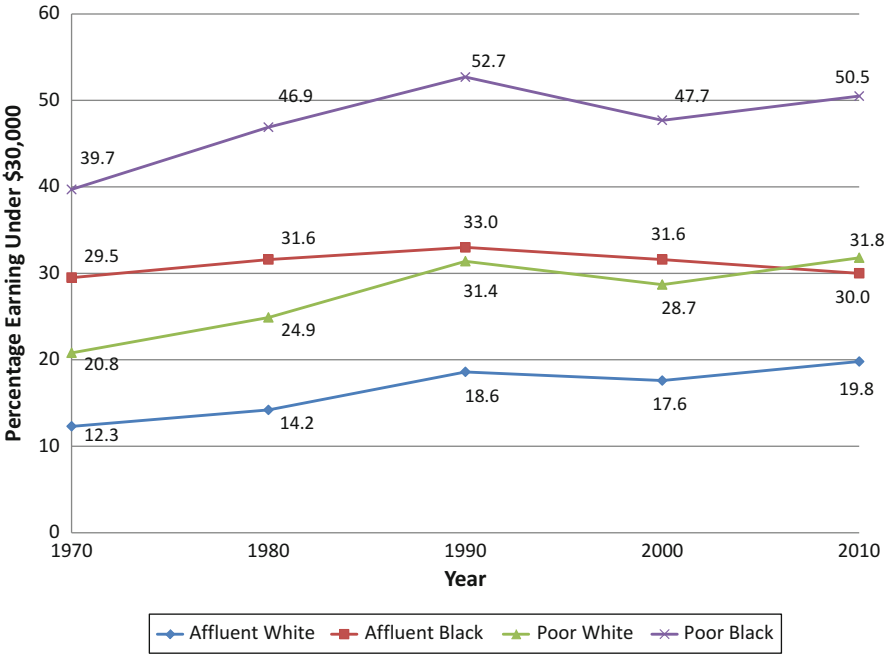

Fig. 2.10 Percentage of households earning less than $30,000 in neighborhoods of hypersegregated metropolitan areas (by various race/income groups)

These results prevail across U.S. metropolitan areas generally, including many that have displayed falling levels of Black-White segregation over the decades and are now characterized by moderate rather than high levels of racial segregation. However, roughly a third of all Black metropolitan residents still lived under conditions of hypersegregation in 2010, and in this section, we consider the changing fortunes of different race-class groups living under conditions of the most extreme form of residential segregation seen in the United States. Figure 2.10 begins the analysis by showing trends in exposure to neighborhood poverty experienced by different race-class groups in the 21 metropolitan areas that were hypersegregated as of 2010.

Although the trends in poverty concentration are similar to those observed across metropolitan areas generally (see Fig. 2.3), in hypersegregated areas the levels of Black poverty concentration are systematically higher. The percentage poor in the neighborhood of the average poor Black resident of a hypersegregated area thus rises from 40 % in 1970 to a peak of 53 % in 1990 before dipping and rising again to stand at 51 % in 2010. In addition, rather than decreasing as in Fig. 2.3, the concentration of poverty experienced by affluent African-Americans hardly changes at all and affluent African-Americans fail to improve their geographic position relative to poor Whites. In 2010 the exposure of affluent Blacks to poverty was 30 % greater in hypersegregated areas compared with all metropolitan areas (30 % compared to

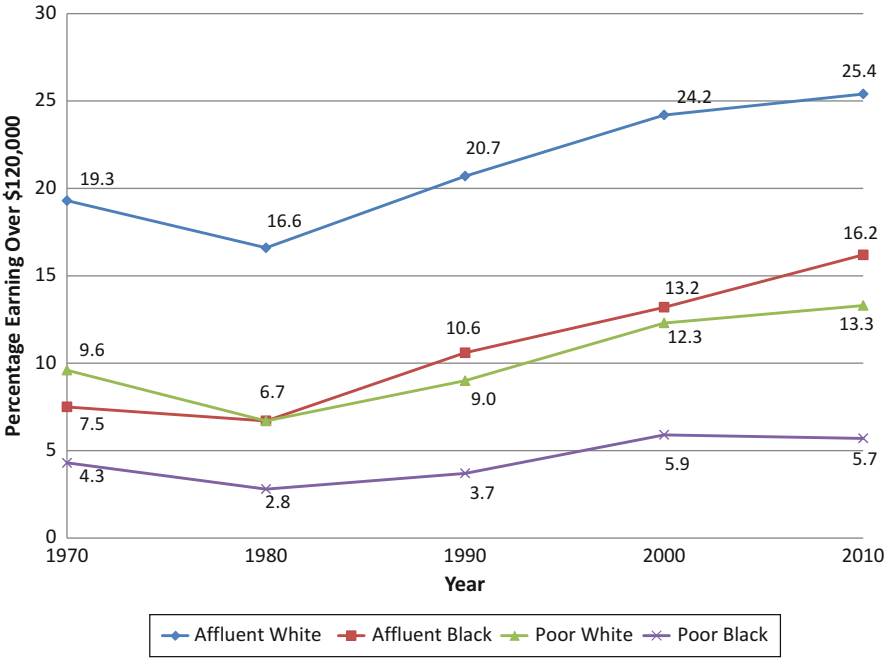

Fig. 2.11 Percentage of households earning more than $120,000 in neighborhoods of hypersegregated metropolitan areas (by various race/income groups)

23 %) and the exposure of poor Blacks to poverty was 12 % greater (50.5 % compared to 45 %). Thus high levels of Black residential segregation severely constrain the ability of affluent Blacks to limit their exposure to poverty and its problems (see Pattillo 2013).

We observe the same pattern of change over time with respect to exposure to affluence, only in reverse, as shown in Fig. 2.11. Under conditions of hypersegregation, both affluent and poor African-Americans experience less exposure to affluence in their neighborhoods relative to those in metropolitan areas generally, and once again affluent Blacks are unable to distance themselves geographically from the neighborhood circumstances experienced by African-Americans across metropolitan areas generally. As of 2010, the average affluent African-American living in a hypersegregated area experienced an affluence rate of just 16 % compared to 22 % for affluent African-Americans across metropolitan areas generally. Under conditions of the most intense segregation, in other words, affluent African-Americans experienced just 73 % of the neighborhood affluence experienced by those in all metropolitan areas.

Figure 2.12 shows trends in neighborhood exposure to college graduates within neighborhoods of hypersegregated metropolitan areas and demonstrates once again how affluent African-Americans are less able to achieve residential contact with this advantaged group under conditions of high residential segregation and are unable to

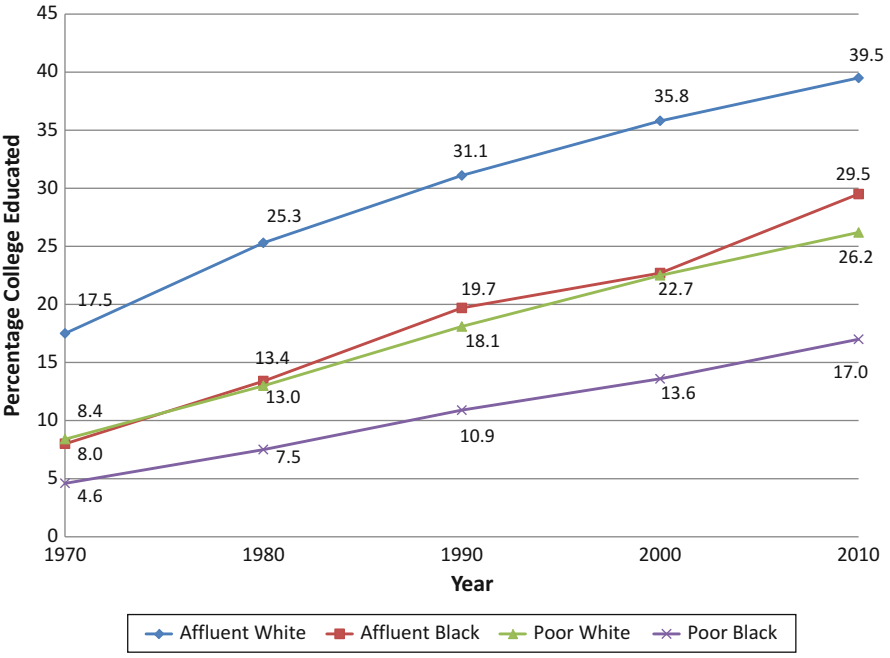

Fig. 2.12 Percentage of individuals 25 and over with a college degree in neighborhoods of hypersegregated metropolitan areas (by various race/income groups)

move much above the geographic position of poor Whites. Whereas the average affluent Black resident lived in a neighborhood where 33 % had graduated from college (compared with 27 % for poor Whites, as shown in Fig. 2.5) when averaged across all metropolitan areas, the average affluent Black person living in a hypersegregated metropolitan area lived in a neighborhood where only 30 % were college graduates (compared with 26 % among poor Whites). Under conditions of hypersegregation, the most affluent African-Americans achieve neighborhood circumstances that are little better than those achieved by poor Whites.

Finally, Fig. 2.13 demonstrates the especially pronounced effect of hypersegregation on potential home wealth. Not only do poor and affluent African-Americans in hypersegregated metropolitan areas experience less access to housing wealth than those in all metropolitan areas, but the shortfalls are quite dramatic. As of 2010, the typical affluent African-American lived in a neighborhood with $193,000 in potential home wealth when averaged across all metropolitan areas, but only $123,000 when averaged across hypersegregated areas (see Fig. 2.6). Among poor African-Americans, potential home wealth averaged $81,000 across all metropolitan but only $62,000 in hypersegregated areas. Thus hypersegregation reduced access to home wealth by 23 % for poor Blacks and 37 % for affluent Blacks.

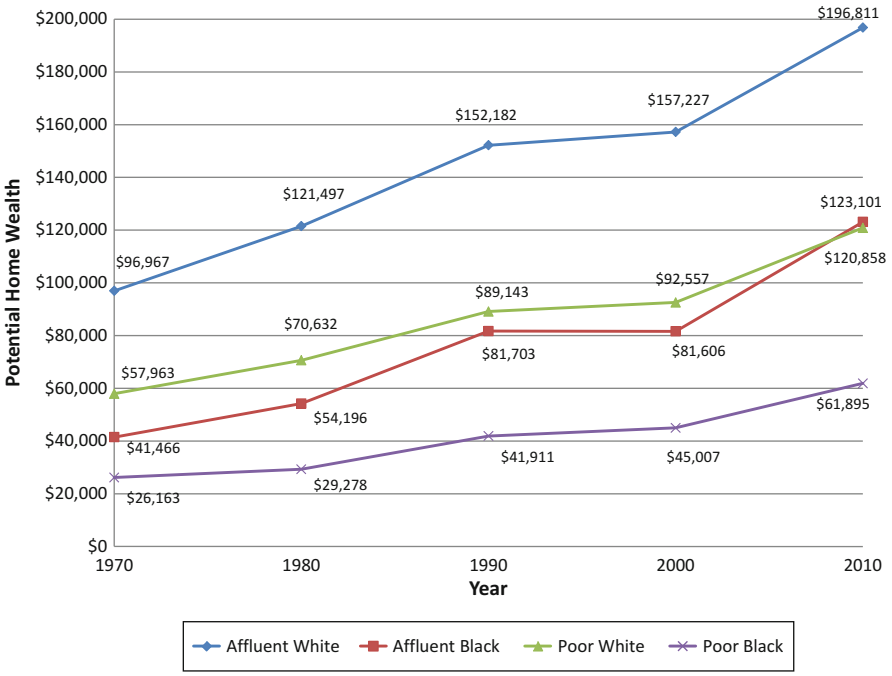

Fig. 2.13 Potential home wealth in neighborhoods of hypersegregated metropolitan areas (by various race/income groups)

Conclusion

In any metropolitan area, resources are unevenly distributed in space, and in order to gain full access to opportunities in society, people must be free to move. In the United States, especially, geographic mobility has always been part and parcel of economic mobility (Park 1926). As members of different ethnic groups have moved upward economically, they have sought to translate their economic gains into improved neighborhood circumstances, gaining access to better schools, lower crime rates, more supportive peer groups, lower insurance rates, and higher home values (Massey and Denton 1985). By moving up the residential ladder, they put themselves and their children in a better position to achieve additional socioeconomic mobility.

For African-Americans, however, the translation of economic mobility into residential mobility and improved neighborhood conditions has historically been thwarted by segregation and the prejudice and discrimination that create and maintain it (Massey and Denton 1993). Owing to the combination of high segregation and high poverty, the concentration of poverty in Black neighborhoods has persisted and in many ways deepened over the decades. As a result, a large share of African-Americans has become "stuck in place," passing place disadvantage and its deleteri-

ous effects from generation to generation (Sharkey 2013). Although poor African-Americans actually move quite frequently, each move simply replicates the status quo of place disadvantage (Sampson 2012).

Our findings here reveal both continuity and change with respect to racial residential segregation in the United States. Whereas racial segregation was universal across metropolitan areas in 1970, by 2010 it had declined in many areas, particularly those of lesser size with smaller and more affluent Black populations, more permissive density zoning, and lower levels of racial prejudice. Although Whites no longer supported segregation in principle, they remained concerned about its implications in practice and expressed reluctance to live in neighborhoods with more than a small share of African-Americans, leading to rapid desegregation in many metropolitan areas but persistently high segregation in the nation's largest Black communities, with hypersegregation prevailing in 21 metropolitan areas containing around a third of Black metropolitan residents.

In this context, segregation has emerged as a major structural determinant of exposure to neighborhood advantage and disadvantage in American society. Whether we consider the concentration of poverty, access to affluence, exposure to college graduates, or potential home wealth, the differential in neighborhood quality between those at the top and bottom of the American social hierarchy has steadily widened over the past four decades, and as of 2010 the size of this gap was substantially determined by the degree of Black-White segregation prevailing in different metropolitan areas. The higher the level of racial segregation in an area, the greater the inequality in the social worlds defined by circumstances within affluent White and poor Black neighborhoods; the greater the level of racial segregation across neighborhoods, the greater the degree of segregation within schools.

Our focused analysis of neighborhood trends in hypersegregated areas further demonstrated the power of segregation not only to compromise the neighborhood circumstances of poor African-Americans but also to limit the ability of affluent Black residents to improve their geographic position in urban society. Although affluent African-Americans were unable to close the gap with affluent Whites in terms of exposure to affluence, education, and wealth over the past four decades, across metropolitan areas they were able to improve their geographic situation relative to poor Whites. In hypersegregated areas, however, this was not the case. Not only was the quality of neighborhoods inhabited by affluent Blacks lower in absolute terms compared to their affluent counterparts across metropolitan areas generally, but also their neighborhood circumstances improved little relative to those experienced by the very poorest of Whites. These findings confirm what social scientists have long known: Residential segregation continues to be the structural linchpin in America's system of racial stratification.

Beyond its role in creating and perpetuating the Black urban underclass, recent evidence suggests the pernicious effects of persistent, high segregation need our focus because they are likely not limited to just one group. It may be spreading to Hispanics as well. Although Massey and Denton (1989) failed to identify any metropolitan area in which Hispanics were hypersegregated in 1980, by 2000 Wilkes and Iceland (2004) found that the two largest Hispanic communities—New York

and Los Angeles—had both become hypersegregated, and according to Rugh and Massey (2014), Hispanic segregation is generated by the same factors that segregate African-Americans. In addition, a large share of Hispanics are undocumented and lack any social, economic, or civil right in the United States, and Hall and Stringfield (2014) find that Hispanic-White segregation rises as the estimated prevalence of undocumented migrants in the population increases. In the United States, therefore, we may be gravitating to a new racial order with Whites (and possibly Asians, given their educational income and levels) occupying privileged social worlds at the top of the socioeconomic hierarchy and Blacks and Hispanics inhabiting positions of concentrated disadvantage at the bottom.

References

Billings, Stephen B., David J. Deming, and Jonah E. Rockoff. 2012. *School segregation, educational attainment and crime: Evidence from the end of busing in Charlotte-Mecklenburg* (NBER Working Paper 18487). Cambridge, MA: National Bureau of Economic Research.

Bobo, Lawrence D. 1989. Keeping the linchpin in place: Testing the multiple sources of opposition to residential integration. *International Review of Social Psychology* 2: 305–323.

Bobo, Lawrence, and Camille L. Zubrinsky. 1996. Attitudes on residential integration: Perceived status differences, mere in-group preference, or racial prejudice? *Social Forces* 74(3): 883–909.

Charles, Camille Z. 2003. The dynamics of racial residential segregation. *Annual Review of Sociology* 29: 167–207.

Charles, Camille Z. 2006. *Won't you be my neighbor? Race, class and residence in Los Angeles*. New York: Russell Sage Foundation.

Duncan, Otis D. 1968. Inheritance of poverty or inheritance of race? In *Understanding poverty*, ed. Daniel P. Moynihan, 85–110. New York: Basic Books.

Emerson, Michael O., George Yancey, and Karen J. Chai. 2001. Does race matter in residential segregation? Exploring the preferences of White Americans. *American Sociological Review* 66(6): 922–935.

Goldsmith, Pat Rubio. 2009. Schools or neighborhoods or both? Race and ethnic segregation and educational attainment. *Social Forces* 87(4): 1913–1942.

Hall, Matthew, and Jonathan Stringfield. 2014. Undocumented migration and the residential segregation of Mexicans in new destinations. *Social Science Research*. doi:10.1016/j.ssresearch.2014.03.009.

Jargowsky, Paul A. 1997. *Poverty and place: Ghettos, barrios, and the American city*. New York: Russell Sage Foundation.

Massey, Douglas S. 1990. American apartheid: Segregation and the making of the underclass. *American Journal of Sociology* 95: 1153–1188.

Massey, Douglas S. 2013. Inheritance of poverty or inheritance of place? The emerging consensus on neighborhoods and stratification. *Contemporary Sociology* 42: 690–697.
Massey, Douglas S., and Stefanie Brodmann. 2014. *Spheres of influence: The social ecology of racial and class inequality*. New York: Russell Sage Foundation.
Massey, Douglas S., and Nancy A. Denton. 1985. Spatial assimilation as a socioeconomic outcome. *American Sociological Review* 50: 94–105.
Massey, Douglas S., and Nancy A. Denton. 1988. The dimensions of residential segregation. *Social Forces* 67: 281–315.
Massey, Douglas S., and Nancy A. Denton. 1989. Hypersegregation in U.S. metropolitan areas: Black and Hispanic segregation along five dimensions. *Demography* 26: 373–393.
Massey, Douglas S., and Nancy A. Denton. 1993. *American apartheid: Segregation and the making of the underclass*. Cambridge, MA: Harvard University Press.
Massey, Douglas S., and Jonathan Tannen. 2015. A research note on trends in Black hypersegregation. *Demography* 52: 1025–1034.
Park, Robert. 1926. The urban community as a spatial pattern and a moral order. In *The urban community*, ed. Ernest W. Burgess and Robert E. Park, 3–18. Chicago: University of Chicago Press.
Pattillo, Mary. 2013. *Black picket fences: Privilege and peril among the Black middle class*, 2nd ed. Chicago: University of Chicago Press.
Peterson, Ruth D., and Lauren J. Krivo. 2010. *Divergent social worlds: Neighborhood crime and the racial-spatial divide*. New York: Russell Sage Foundation.
Pettigrew, Thomas. 1979. Racial change and social policy. *Annals of the American Academy of Political and Social Science* 441: 114–131.
Quillian, Lincoln. 2012. Segregation and poverty concentration: The role of three segregations. *American Sociological Review* 77(3): 354–379.
Rothstein, Richard. 2004. *Class and schools: Using social, economic, and educational reform to close the Black-White achievement gap*. Washington, DC/New York: Economic Policy Institute and/Teachers College Press.
Rothstein, Richard. 2014. The racial achievement gap, segregated schools, and segregated neighborhoods—A constitutional insult. *Race and social problems 6*, doi:10.1007/s12552-014-9134-1.
Rugh, Jacob S., and Douglas S. Massey. 2014. Segregation in Post-Civil Rights America: Stalled integration or end of the segregated century? *The DuBois Review: Social Science Research on Race* 11(2): 202–232.
Sampson, Robert J. 2012. *Great American city: Chicago and the enduring neighborhood effect*. Chicago: University of Chicago Press.
Schuman, Howard, Charlotte Steeh, Lawrence D. Bobo, and Maria Krysan. 1998. *Racial attitudes in America: Trends and interpretations*. Cambridge: Harvard University Press.
Sharkey, Patrick. 2013. *Stuck in place: Urban neighborhoods and the end of progress toward racial equality*. Chicago: University of Chicago Press.
Wilkes, Rima, and John Iceland. 2004. Hypersegregation in the twenty-first century: An update and analysis. *Demography* 41(1): 23–36.
Wilson, William Julius. 1987. *The truly disadvantaged: The inner city, the underclass, and public policy*. Chicago: University of Chicago Press.

Chapter 3
Federalism and Inequality in Education: What Can History Tell Us?

Carl Kaestle

Abstract This chapter assesses the history of government efforts in the United States to enhance opportunity in education and to suggest lessons from the past. We focus primarily on federal policy, keeping in mind that solutions must depend upon successfully blending the resources and prerogatives of the federal government, the states, and local school districts. This chapter takes a chronological look, starting at free public education's onset to provide a foundation for the problems of inequality we face today. It then moves through the expanding federal role in the post-World War II years, followed by the battles over desegregation and the focus on providing resources to disadvantaged students. It then discusses standards-based reform, with a focus on how we arrived at the No Child Left Behind law and the issues surrounding the Common Core. Title I of the Elementary and Secondary Education Act, which targets impoverished students, is reviewed in detail. The lack of connection between Title I assignments and family income level, as well as lack of connection between Title I assignment and performance on the National Assessment of Academic Progress (NAEP), renders research results inconclusive in judging Title I's effects, but given that NAEP does show increasing average scores for Black and Hispanic students as well as declining gaps between those groups and White students, the evidence is sufficient that the program should be continued and improved. The chapter concludes by drawing some generalizations about the federalist governance system and its relation to educational equity and offers suggestions on ways to move forward, including changes regarding Title I and the federal role in education.

Keywords Federal policy • Education • Achievement gap • Desegregation • Standards-based reform • Elementary and Secondary Education Act (ESEA) • Title I • No Child Left Behind (NCLB) • Common Core • School finance • *Brown v. Board of Education* • Civil Rights Act • English language learners • Bilingual education • Disabilities • Special education • Discrimination against women

C. Kaestle (✉)
Department of Education, History, and Public Policy,
Brown University, Providence, RI 02912, USA

I. Kirsch, H. Braun (eds.), *The Dynamics of Opportunity in America*,
DOI 10.1007/978-3-319-25991-8_3

Introduction

This chapter assesses the history of government efforts in the United States to enhance opportunity in education and to suggest lessons from the past. We focus primarily on federal policy, keeping in mind that solutions must depend upon successfully blending the resources and prerogatives of the federal government, the states, and local school districts. Of course, initiatives do not always stem from the federal government. Sometimes the states are the innovators and become models for federal education initiatives. Also, the landscape is complicated because members of the executive, legislative, or judicial branches at each level can initiate action, sometimes opposing one another. Federalism is not simply a system of congenially shared responsibilities.

In fact, shared governance in education policy arouses the alter egos of federalism: centralism and localism. Localists believe that governance and authority should be largely local because decisions made close to home are more efficient, more responsive, and more democratic. They believe that centralized decisions are inefficient and intrusive. Centralists believe that some values are best initiated by the federal government, that the central government should promote practices that serve our notions of civil rights, sound education, and national priorities.

This chapter takes a chronological look, starting at the onset of free public education. It then moves through the expanding federal role in the post-World War II years, followed by the battles over desegregation and the focus on providing resources to disadvantaged students. It then discusses standards-based reform, with a focus on how we arrived at the No Child Left Behind law and the issues surrounding the Common Core. Following the chronology, I end by evaluating the outcomes of these reform efforts and offering suggestions on ways to move forward.

Throughout the chapter, the overriding strand of thought is examination of equal opportunity through these various periods, including equity in how resources are devoted to the poor and other populations as well as removing barriers such as segregation. The theme of developing a meritocracy has been a long-existing theme in America as well, increasingly so beginning in the 1950s. Overall quality of education, not just equality, is discussed in latter sections as well as it has entered the fray via standards-based reform and the focus on improving education at all schools for all students, not just closing achievement gaps.

In discussing inequalities in educational achievement, we should keep in mind a few thoughts. First, there are various types of inequities—in students' health, housing, income, and parents' education. Also, achievement gaps across race-ethnic and income groups are very resilient. To reduce them, it is logical to reach beyond the schools to think about educational disadvantage in terms of these inequities. Furthermore, if we measure success by our standards for equity today, in truth all past efforts will come up short; our concepts of inclusiveness today are much broader than before. Lastly, data for such comparisons were nonexistent until recent decades. Thus, when we say that the National Defense Education Act of 1958

"worked," we do not mean that scores rose in science. More often the evidence is in photographs of children smiling in front of test tubes. In 1963, Francis Keppel, John Kennedy's new commissioner of education, complained to a friend that the Office of Education did not have a single scrap of data on learning outcomes. Although Senator Robert Kennedy insisted that the Elementary and Secondary Education Act (ESEA) of 1965 require accountability through testing academic achievement, it took the federal government over 20 years to implement Kennedy's mandate effectively.[1]

Development of Free and Public Schools Through the Progressive Era

The Creation of Free Public School Systems, 1840–1860

We begin with the states' creation of free school systems in the 1840s, building upon local efforts. Traditional educational historians argued that the fountainhead of our public schools was the district school in small-town colonial New England. But that claim is inflated as some New England towns did not establish schools, and barriers existed from the outset. In towns with public schools, girls faced shorter sessions and lower expectations and were banned from the grammar schools and colleges. Most children of color were excluded at all levels, left unlettered, or taught by their parents. Children from poorer White families faced the barrier of "continuation school"—a part of the school year that wasn't free.

The "common school" reformers of the 1840s reacted to some of these limitations. They wanted to attract as many students as possible into a single system, not just to equalize opportunity but for social stability through state-sponsored moral education and mutual understanding across class lines. Many wealthy families declined the invitation, but in general the common school reformers in the Northeast and the new Northwest gained their main objectives by 1860: free schooling supported by local property taxes, the consolidation of small districts into town systems, and some state-sponsored teacher training (Kaestle 1983).

This was not simply a top-down state initiative. Enrollments were increasing in the early nineteenth century before the common school movement. This was partly because of an increase in girls' education and partly because states encouraged towns to organize school districts and levy taxes for schools. In addition to these local initiatives and state actions, many states had access to funds that derived from federal lands. Nonetheless, until the mid-twentieth century, the lion's share of the funds for free public education was from local property taxes (Goldin and Katz 2008; Kaestle and Vinovskis 1980).

[1] For the accountability amendment by Robert Kennedy, and Francis Keppel's efforts to develop more reliable assessments, see Kaestle (Forthcoming). For an effort to reach back to earlier decades and estimate changes in students' reading ability, see Kaestle and Stedman (1987).

The establishment of free public schools across the Northeast and the Midwest improved equality of opportunity in education. Enrollments, daily attendance, and the length of the school year increased. Of course, the remaining barriers for people of color, children with disabilities, and women are striking from today's perspective. Increased opportunity also did not immediately result in closer-to-equal amounts of education received by working-class children.

Two other factors led to unequal outcomes. First, school attendance was not mandatory, so bias existed due to working-class families reacting to their economic realities and their family culture, with children and teens working instead of attending class (Kaestle and Vinovskis 1980, 82–99). Second, unequal resources across districts meant different school quality and length of school year. Funding schools through local property taxes is one of the most abjectly unequal aspects of public education in the United States. It is still with us today, and rare among nations.

1865–1895: Expansion and Professionalization

In the period of 1865–1895, public schooling underwent more expansion and professionalization. Urban school systems acquired professional superintendents and became the model for well-run schooling. Testing, long before the IQ vogue, served superintendents as a way to monitor quality among teachers and schools. Teacher training began in newly developed "normal schools" and shorter-term "teachers institutes." The effect on educational opportunity is not easy to quantify, but enrollments, attendance, and length of school year continued their upward trajectory. Toward the end of this period, public high schools outnumbered private academies but were still predominantly the preserve of middle class students, the children of professionals, shopkeepers, engineers, office workers, accountants, skilled craftsmen, and others (on testing, see Reese 2013; on the expansion of elementary education, and information on academies, see Goldin and Katz 2008, 129–62).

The 'Progressive' Era: Redefining Equal Opportunity

Local reformers praised their high schools as the "keystone of the arch," or the "capstone" of a "perfect system." Reformers praised these new secondary schools as an institution of meritocracy, free and open to all. High school students were predominantly female (about 60 %) in the late nineteenth century, though the increasing restriction of child labor in the manufacturing sector meant that more working-class boys stayed in school as the new century unfolded. The percentage of 14- to 17-year-olds in school grew from 11 % in 1900 to 32 % in 1920 and became the modal experience at 51 % in 1930 (Simon and Grant 1970; on the development of high school, see Reese 1995; Krug 1964; Rury 2005, 84–89).

As the proportion of youth in high schools increased, it became apparent that not all students were preparing to go to college. This generated a great deal of thought about what curricula were appropriate for students with different educational and occupational futures. These discussions occurred in an era when theorists of human behavior were placing great emphasis on heredity, when racism was increasing in social relations, and an imperialist foreign policy thrust the United States into the development of colonies. Standardized student testing moved from its mid-nineteenth-century roots to its hereditarian embrace with IQ tests, all putting a genetic hue on the emerging version of meritocracy (see Reese 2013; Kaestle 2012, 93).

Educators talked about "hand minded" and "brain minded" children and their different needs. In an explicit revision of equal opportunity, they developed different curricula for different children. Reflecting a growing conviction among educators, Stanford's Ellwood Cubberley (1909, 57) declared that people should reject the "exceedingly democratic idea that all are equal, and that our society is devoid of classes."

Many saw the creation of collegiate, general, vocational, and commercial tracks as steps forward for democracy: These different curricula would augment equal opportunity by providing an appropriate high school education for everybody. This was the era of corporate capitalism; in this context, democracy required not only participation and citizens' education but also expertise, science, and efficiency. Whatever the merits of this new concept of equal opportunity—and we should not think it merely as a hypocritical justification for inequality—it was compromised by biased predictions of students' futures, too often arising from their race, gender, ethnicity, and social class.

Expanding the Federal Role in Education (World War II to the Space Race)

The Postwar Years

Before 1950 the federal government played a minimal role in elementary, secondary, and higher education. It had partially funded the early development of public schools in the states through land grants in the early nineteenth century, and it had expanded opportunity for college attendance by creating land-grant colleges in the late nineteenth century. It had also given modest support for the differentiation of curriculum through its vocational education grants beginning in the early twentieth century. For the most part, however, education funding and policy were almost entirely in the hands of the states and local districts. The federal share of local school budgets in 1950 was, on average, 2.9 %.

Congress made its first foray into federal education funding in 1941 with the enactment of what would be called "impact aid," which compensated communities that saw an influx of schoolchildren amid the swift expansion of tax-exempt military

facilities. But the key major war-related federal activity in education was the Servicemen's Rehabilitation Act (1944), which provided educational support, housing loans, rehabilitation training, and other benefits to military personnel returning home after World War II. The principal beneficiaries of this "GI Bill" were White males, because many of its programs and program officers were biased against Black GIs and because the numbers of servicewomen were a tiny percentage of all returning veterans. For White males, however, it provided substantial opportunities in college or other education. It also helped to double the number of college graduates in the decade following 1945 (see Bound and Turner 2002, 784–815; Turner and Bound 2003.)

Liberal Congress members and the National Education Association lobbied for federal aid, not for programs targeted at particular educational goals but for construction, teacher salaries, or simply for spending at the discretion of local school boards. Their bills, however, were routinely defeated in the 1940s and 1950s, as they also were in the 1920s and 1930s. Opponents included southern segregationist Democrats, who feared that federal aid would be used to press for integration; Roman Catholic representatives, who supported their churches' position against federal aid to public schools; and conservative Republicans, who opposed federal aid as something intrusive and foreign-inspired. This effective Congressional alliance was dubbed the "3 R's" of localism in education policy: race, religion, and "Reds."

It should be recognized, however, that not all opposition to federal aid was simply motivated by these negatives. The positive image of local control was shared by President Eisenhower, his friend James Conant—the most respected education reformer of the 1950s—and many local leaders. They saw local control as a spur to citizens' participation and support for public education, as well as a more efficient, responsive, and democratic form of governance. Unfortunately, those who championed local control of schools, either consciously or unconsciously, also favored inequality as well, not only because of racial segregation but because of vast disparities of per-pupil expenditures in districts with different property wealth.

Education, the Space Race, and Meritocracy

We have seen that at the secondary level educators had already established a notion of meritocracy in the early twentieth century, long before the advent of the SATs, which were designed to promote that goal. It was grounded in achievement testing, teachers' reports, guidance counselors' decisions, and the differentiated curricula of the "comprehensive American high school." By the early 1950s, many critics of the public schools focused on the weak version of Progressive education known as "Life Adjustment," which focused on practical tasks for the large middle group of students who were neither in the higher academic tracks nor in vocational

education.[2] This criticism took the high road of equality, demanding the same academic curriculum for all, but it had little effect on school practice. The professional devotion to Life Adjustment was substantial, from school district offices to the federal Office of Education. The idea that meritocracy meant different curricula for differently able students, a legacy of the Progressive Era, was deeply embedded in the schools.

Meanwhile the American science and technology community was growing anxious about academic learning in the schools as a matter of national security and national competition. The brief public scare following the launch of Sputnik into space by the Russians in 1957 energized these concerns. Through skillful politicking by the bill's handlers and some concessions to Catholic educators, the National Defense Education Act (NDEA) was passed the following year. It was not designed to equalize opportunity but to raise the academic quality of schoolwork in the sciences, mathematics, and foreign languages, especially for the most academically talented students. By turning attention away from the utilitarian Life Adjustment curriculum, however, it may have had some positive effect across a range of high school students. On the other hand, the grants required a 50 % match by the local district, suggesting that wealthier districts were more likely to apply for NDEA grants, thus reinforcing inequality (on the passage of NDEA, see Urban 2010).

Historian David Gamson has argued that the NDEA was supported by educators around the nation not just because everyone was alarmed by the launch of Sputnik but because the programs of the NDEA were easily compatible with the aims and programs in the field. This was a startling interpretation at first, because journalists at the time and many historians since have emphasized that Sputnik shocked the schools into rethinking their flabby "progressive" curricula and introducing more academically rigorous courses in math, science, and languages. This is a half-truth. The other half is that several of the underlying assumptions and intentions were legacies of the Progressive era, when educators had invented the multiple-curricula high school, with an emphasis on testing and guidance, all of which was revived and advocated in 1959 by Conant's popular book, *The American High School Today*, the bible of the "comprehensive" high school (see Gamson 2007).

The NDEA was more important to the federal role in education than it was to expanding educational opportunity. There had been no federal grant programs generally open to all public schools except for vocational education. NDEA prevailed over a storm of opposition about the perils of federal aid to education, succeeding politically for several reasons. It abandoned the goal of the professional education organizations to get "general" aid with no requirements attached. NDEA was a "categorical" bill, like vocational education. It prescribed which subject areas were eligible for support. It specified the need for language labs. It supported area studies in higher education and instruction in languages generally not taught in the United States.

[2] The most widely debated assault was from Arthur Bestor, a historian at the University of Illinois, in his *Educational Wastelands: The Retreat from Learning in Our Schools* (1953). See Kaestle (1990).

Congress was more receptive to this kind of bill. In contrast to general school aid, it gave the impression of accountability: dollars paid for programs established. It honored the state education agencies, which received the money and monitored the programs. Flexibility was great; accountability was slim. It also proved flexible. When advocates for history, English, home economics, and other subjects complained, Congress broadened NDEA in subsequent reauthorizations. Gradually, NDEA took on somewhat more of the look of general aid.

NDEA was a breakthrough politically, but it did not expand much in subsequent reauthorizations. It was popular with local school administrators, but the big professional lobby groups resumed their crusade for federal aid that would be more general and more generous. More importantly, by the mid-1960s, NDEA was overshadowed by the seemingly sudden shift of priorities between 1958 and 1964, when the Johnson administration was developing the next big education bill. It was focused not on the most academically talented children in the nation but on the most disadvantaged. The ESEA bill of 1965 became the ongoing omnibus education bill (Peterson 1983, 60, 70–76, 132).

Desegregation

Brown v. Board of Education of 1954 would prove the launching pad for wide-ranging changes in America even though shifts in school segregation patterns would prove glacial at the outset. The more activist period on desegregation dovetailed with Lyndon Johnson's adoption of a "War on Poverty" a decade after *Brown,* starting with the Civil Rights Act of 1964 and setting the stage for ESEA's Title I program in 1965, which targeted impoverished students but also worked against segregation.

The Role of ESEA in Desegregation

Johnson's sudden shift toward poverty was inspired by his ambition to achieve a domestic agenda surpassing his idol, President Franklin Roosevelt. It is an intriguing connection. Roosevelt's New Deal was constructed in the face of a collapsed economy, while Johnson's Great Society programs were made possible politically by a buoyant economy that raised all boats, as James Patterson (1996) has argued.

Although Johnson's advisers warned him they could not discern much support for poverty reform, there were some harbingers of concern for the disadvantaged. There was a flurry of attention to Michael Harrington's book, *The Other America: Poverty in the United States* (1962). Also, although the *Brown* decision on racial integration had languished in the court system for 10 years, it would prove to be a constitutional lodestone. More important was the rise to leadership of Martin Luther King and the escalation of the civil rights movement.

The two most important legislative initiatives that applied to education on these two themes were Title VI of the Civil Rights Act of 1964, which forbade discrimination in any federally funded program, and ESEA's Title I, which was enacted the next year and provided funds for compensatory reading and math education in schools with a high percentage of families below the poverty level. Although the principal aim of Title I was to improve academic achievement of low-performing students in high-poverty schools, it was also used in tandem with Title VI to pressure school districts to eradicate racial segregation. The federal government threatened to withhold Title I funding from districts found to be deliberately segregating their students. The long-delayed desegregation effort now became the most coercive intervention of the federal government into state and local systems in our history (on the passage of ESEA, see Sundquist 1968 along with Eidenberg and Morey 1969; on the Civil Rights Act, see Orfield 1969; Graham 1990).

Federal Action to Desegregate K-12 Education in the South

It is well known that very little action was taken to implement the *Brown* decision between 1954 and 1964. In order to achieve a unanimous decision, Earl Warren wrote vaguely (and famously) that the Court expected that desegregation would occur with "all deliberate speed." The second *Brown* decision, in 1955, addressed the implementation of desegregation. The Court left enforcement in the hands of the federal district courts in the South. Many southern states and some southern courts willfully misinterpreted the *Brown* decision to require only that they would have to wipe laws that sanctioned segregation off the books. As other court decisions moved away from that minimalist interpretation, other southern school districts contrived procedures they called "freedom of choice." It combined elaborate bureaucratic delays with illegal intimidation of African-Americans who asked to enroll their children at White schools (on the massive resistance period, see Barley 1997; Webb 2005; Patterson 2001).

Following the passage of the Civil Rights Act, every school district in the country, North and South, was required to file an affidavit with the Office of Education stating either that no segregation was occurring in its schools or describing a plan to discontinue such segregation. The main targets of the Office of Education were school systems in the 21 states that had mandatory or optional legalized segregation, most of which were in the Old South and border states.

More than 10 years after the *Brown* decision, there were virtually no Black students attending schools with White students in the Old South. Some federal judges supported desegregating districts, but increasingly they did not. Court orders were issued requiring desegregation, but the wheels of justice moved slowly. On the executive side, some federal officers also delayed and compromised, but increasingly, federal civil rights officers supported efforts to desegregate. Johnson kept his distance from the issue but issued occasional statements of support for the effort. President Richard Nixon tried to go slow to protect his "southern strategy" for

reelection by opposing busing for desegregation. But the machinery of federal enforcement, after more than a decade of inaction, was geared up to enforce the *Brown* decision by 1968 when the Supreme Court declared in *Green v. Kent Co., Va.* that "freedom of choice" systems would not be allowed if they did not result in actual integration.[3]

A profound transformation like school desegregation needed the combined efforts of the judiciary, the executive branch, and Congress. None of those branches took up the cause for the first decade. Under Johnson, the weak link was Congress, with its potent coalition of southern segregationists and conservative Republican. By the end of the first Nixon administration (1972) and into the Ford administration, both the White House and the Congress were ambivalent or resistant to desegregation, in particular to busing. Nonetheless, major gains were made in the South in the years between 1968 and 1974, driven partly by some key Supreme Court decisions, the efforts of local plaintiffs and civil rights organizations, and the widespread opinion in favor of integration among staff lawyers at the civil rights offices in the Department of Health, Education, and Welfare (HEW) and the Justice Department.

Although the courts were not very effective at implementation, they played an important role in clarifying issues and supporting the authority of the executive branch. The Supreme Court's declaration against "freedom of choice" plans was one turning point, as was its 1973 decision in *Swann v. Charlotte-Mecklenburg* (North Carolina), which insisted that busing was an appropriate remedy and was mandatory if other methods were inadequate.[4] At this point, many resistant southern districts threw in the towel and opted for at least a nominal level of integration. These Court decisions accelerated the most dramatic change in the entire federal desegregation initiative: the abrupt decrease in the percentage of African-American students in the Deep South and border states who were attending schools that were 90–100 % Black. That may not capture the essence of the ideal of integration, but it was the government's chief aim, and after almost 20 years of resistance, it happened quite rapidly. In 1968, the percentage of African-Americans in the South attending overwhelmingly Black schools was 77.8 %, and by 1972, it had dropped to 24.7 %. Comparable figures for the shift from 1968 to 1972 for the other regions were as follows (Clotfelter 2004):

- Border states: 60.2–54.7 %
- West: 50.8–42.7 %
- Midwest: 58.0–57.4 %
- Northeast: 42.7–46.9 %

[3] Green v. County School Board of New Kent County (North Carolina), 391 U.S. 430 (1968).

[4] Swann v. Charlotte-Mecklenburg Board of Education (North Carolina) 402 U.S. 1 (April 20, 1971); see also Douglas 1995; Wilkinson 1979.

Obstacles in the North

Federal efforts to desegregate school systems in the North (and West) came later and were less successful. The Office of Education, as early as 1965, began investigating four selected cities (Boston, Chicago, San Francisco, and Chester, PA) where citizens' groups had documented school board policies that contributed to segregation, beyond the impact of housing segregation. They argued that they could address the issue in the North on the basis of the Civil Rights Act, even though the states involved did not have laws sanctioning segregation. Title VI simply says that no program receiving federal funds could discriminate on the basis of race, color, or national origin.

Commissioner Frank Keppel, acting on the directions of the assistant HEW secretary for civil rights (with whom he disagreed), pressed the matter with the Chicago school board, enraging Mayor Richard Daley. Politics trumped the Constitution. Daley cried "local control" and reminded Johnson that he had delivered Illinois' Democratic vote for him. Keppel lost his job as commissioner. When Keppel's replacement, Harold Howe, proved to be equally energetic on desegregation, some former supporters of desegregation in the Congress became frustrated; they thought that the executive branch was becoming overly aggressive. Together with southern segregationists, they pressured HEW to "centralize" all civil rights matters across the department, removing Howe from the enforcement of desegregation. But despite new people in charge, the policy slowly moved forward in the South and, in a minor way, the North (an essential revision of the usual narrative about Keppel's Chicago debacle is Miech (n.d.); see also Kaestle (Forthcoming)).

Although northern school systems were more segregated than those in the South by the 1970s, four factors militated strongly against desegregation in the North: first, public and judicial confusion about what the term "de facto segregation" meant; second, demographic trends that made it logistically difficult for a district with a high proportion of non-White students to effectively desegregate its schools; third, Congressional and public weariness of the coercive tactics required to move recalcitrant districts toward integration; and fourth, the rising opinion of American citizens—including many African-Americans—that busing for integration was wrong. This opinion was reinforced by a shift among the Black civil rights leaders in the generation after Martin Luther King, who eschewed integration in favor of better resources in their community's schools.

As to the first barrier, many journalists and some jurists kept alive the distinction that Southern desegregation was de jure (enacted in law and therefore unconstitutional), while Northern desegregation was de facto, existing mostly due to housing patterns and thus out of reach of the *Brown* decision. Of course, the housing segregation itself was the result of pervasive discrimination by landlords of rental dwellings, real estate people, and developers, as well as by government agencies condoning "red-lining" and other discriminatory practices. Decisions within the education policy sector were also grossly discriminatory. Districts deepened

segregation through their choice of new construction sites, determining bus routes, drawing attendance boundaries, and granting transfer rights.

In the early days of activism at the Office of Education, federal officials relied upon the Civil Rights Act to attack segregation in states not covered by the *Brown* decision. These efforts preceded by a few years the Supreme Court's important decision in *Keyes v. Denver* (1973). That case built upon the language and reasoning of various lower court judges who had declared that northern segregation caused by the decisions of local school boards was not de facto segregation but clearly de jure segregation and thus failed the test of the 14th Amendment's Equal Protection Clause just as clearly as the laws that were struck down in the *Brown* decision. *Keyes* cemented this understanding of northern segregation among the judiciary, though many people continued to argue that northern segregation was different and beyond legal remedy (Kaestle Forthcoming).

The second barrier to northern segregation was the rising percentage of students of color in large cities like Detroit and Newark. As long as desegregation enforcement was restricted to single school systems rather than metropolitan areas, heavily White suburbs escaped involvement in the desegregation of cities that were predominantly non-White. Absent a metropolitan strategy, the prospect of busing children of color around the city to integrate them with a small number of White children was neither logistically nor educationally reasonable.

That restriction was given the imprimatur of the Supreme Court in the Detroit case *Milliken v. Bradley* in 1974, which declared the suburbs not culpable. *Milliken* provided a tiny loophole to allow for metropolitan solutions, and there were subsequently a few such desegregation agreements reached voluntarily or with court encouragement, but *Milliken* generally proved an effective barrier to desegregating large urban systems.[5] Thus, when federal courts generally recognized that northern segregation due to local policy decisions was de jure segregation, the Supreme Court declared that school boards in governmentally separate suburbs could not be held responsible for segregation in the central cities they surrounded.

In the 1980s and 1990s, the Supreme Court would demand clear evidence of intent on the part of northern school boards accused of deliberate segregation. Without such evidence, they lifted court supervision of those systems.

The third barrier to effective federal action on northern segregation was growing public weariness with the conflict and a shift of opinion about its merits. In 1972, according to a *Newsweek* poll, 58 % of White southerners favored racial integration, but 74 % opposed busing to achieve such integration. In the North it was 68 % in favor of integration and 68 % opposed to busing. When the question was framed as busing for integration "outside of local neighborhoods" in a Gallup poll of the early 1970s, only 9 % of African-Americans supported it.[6]

[5] Milliken v. Bradley, 418 U.S. 717 (1974). Also see Baugh 2011. The best book on the decline in desegregation efforts is Orfield and Eaton (1996).

[6] The percentage for Whites is from *Newsweek* (March 6, 1972). The African-American results from a Gallup poll are reported in Frum (2000, 252).

Indeed, for some African-Americans, it was not simply an opposition to busing but disillusionment with integration itself and the feeling that it was the wrong solution. The generation of civil rights leaders that succeeded King included some prominent figures who questioned the proposition that the way to improve Black children's education was to have them go to school with White children. The Student Nonviolent Coordinating Committee expelled its White members and adopted a policy of Black Power. Floyd McKissick, director of the Congress of Racial Equality, sent his children to integrated schools in Washington, D.C., where they had "pages torn out of books, water thrown on them in the dead of winter, ink down the front of their dresses."[7]

Other African-Americans came to think it was demeaning for policy officials to imply that their children could not learn well unless they were in school with Whites. This position dovetailed with the movement toward Black Power. Historian Jack Dougherty found that when Black leaders in Milwaukee pressed hard for desegregation, the federal government had not yet decided what to do about northern segregation and was unresponsive. By the time federal officials focused on Milwaukee desegregation, they faced a divided Black community. Many Blacks had defected from integration to community control (Dougherty 2004).

Assessing the Success of Desegregation

Effects on School Composition These shifts in the early and mid-1970s did not quash the ongoing desegregation suits and investigations of the North and South. There was a certain momentum behind the 10 years of activism. Many civil rights officers in the Office of Education and the Justice Department still pressed on, notably David Tatel, director of HEW's Office of Civil Rights (OCR), in the late 1970s. But in the 1980s and 1990s the landscape had very much changed. A more conservative court removed court supervision of several cities despite continuing racial segregation, which the Court deemed to have not been caused by school board policies. The Court made it more difficult to document intentional discrimination and took the position that court supervision was not intended to go on indefinitely.[8] The public and their representatives grew weary of the segregation battles. The proportion of children of color increased in urban school systems, and public policy drifted toward compensatory education and improving inner-city schools. President Ronald Reagan wanted to see less federal civil rights enforcement, and he succeeded.

The extent of desegregation in the regions of the United States, and the turning points of trends, can be seen in Table 3.1. The Northeast was hardly affected by the

[7] Quoted on CORE's website, "Floyd B. McKissick: 2nd National Director of CORE," http://www.core-online.org/History/mckissick.htm

[8] Missouri v. Jenkins 495 U.S. 33 (1990); Dowell v. Board of Education of Oklahoma City Public Schools 498 U.S. 23 (1991); Freeman v. Pitts 503 U.S. 467 (1992).

Table 3.1 Trends in desegregation, 1950–2000: percentage of Black students in 90–100 % non-White schools, by region

Region	1950[a]	1960[b]	1968	1972	1976	1980	1989	1999	2000
Northeast	–	40.0	42.7	46.9	51.4	48.7	49.8	50.2	51.2
Border	100	59.0	60.2	54.7	42.5	37.0	33.7	39.7	39.6
South	100	100	77.8	24.7	22.4	23.0	26.0	31.1	30.9
Midwest	53.0	56.0	58.0	57.4	51.1	43.6	40.1	45.0	46.3
West	–	27.0	50.8	42.7	36.3	33.7	26.7	29.9	29.5
U.S.	–	–	64.3	38.7	35.9	33.2	33.8	37.4	37.4

Source: *After Brown: The Rise and Retreat of School Desegregation* by Clotfelter, Charles T. Reproduced with permission of Princeton University Press in the format Book via Copyright Clearance Center

For updated figures, see Orfield et al. 2014

[a]Extrapolated from 1950–1954

[b]Extrapolated from 1960–1964

efforts of the federal government and other pressures to desegregate. The border states responded to the *Brown* decision rather substantially before the big push came from the federal government; by 1960, 59 % were in schools with 90 % or more non-White students. The states of the Deep South responded in two batches. Some districts went along fairly quickly in the mid-1960s, reducing the absolute segregation down to a situation where 77.8 % of the South's Black students were still in strongly segregated schools in 1968. In the next four years, due to the efforts of civil rights workers in both the waning years of the Johnson administration and the first Nixon administration, they dramatically reduced segregation, to the point that only 24.7 % of southern Black students were in 90 % to 100 % non-White schools. The Midwest and particularly the West reduced the percentage of Black students in strongly segregated schools, more than in the Northeast, perhaps because they were so much less urbanized and had relatively fewer large ghettos of African-Americans. (The figures here do not tell us about the expanding Hispanic population in the West and its relationship to racial isolation vis-à-vis Whites and Blacks.) Whatever the subtleties in the process, the West and the South had the lowest percentage of Blacks in schools with 90 % to 100 % minorities.

If we look at a different criterion, the percent of Black students who were enrolled in schools that had 50–100 % non-White students, the regional differences are less stark. In all five regions, somewhere between 67 % to 78 % of all African-American students were in majority non-White schools. The trends from 1980 to 2000 show modest increases in segregation on both measures considered here. Work on school resegregation since 2000 supports the trend toward greater isolation.[9]

In general, federal and state litigators have attempted to desegregate schools by working around housing segregation, urging busing, modified attendance boundaries,

[9]The data on Black students in majority non-White schools is also from Clotfelter (2004, Table 2.1, 56). Studies of resegregation since 2000 include Reardon et al. (2012, 533–47). On racial isolation more generally, see Massey et al. (2009).

fair transfer policies, and other tactics. They achieved very substantial results in formal desegregation of schools in the Deep South and the border states. But by the time the courts had delegitimized the myth of de facto school segregation and federal officials moved to desegregate the cities of the North, the *Milliken* decision (1974) exempted the all-White suburbs of Detroit from responsibility for segregation in the city. This withdrew the essential tool that school integrationists needed. Furthermore, as Charles Clotfelter (2004) notes, in these latter years, White parents still retained multiple strategies to avoid integration by moving to suburbs, sending their children to private schools, or enrolling them in public schools whose tracking systems isolated the races, all of which were legal. Combating these counter-tactics was beyond the reach of the legal repertoire developed in the school desegregation initiative. In the face of these realities, the Supreme Court retreated from racial integration and the public turned away from the struggles to desegregate. The campaign in the North was lost.

The historical balance sheet on desegregation has assets and deficits. It repudiated legally segregated schools, expanded the definition of "legal" to cover the policy actions of local officials, and achieved its formal goal in the Deep South and border states. More children went to schools that included both Blacks and Whites. Despite very widespread resegregation over the past 40 years, we shall never return to the 100 %, school-by-school segregation that the South and border states had in 1955. But it is not as clear a victory as the eradication of separate railroad cars or other public facilities. With schooling and housing, the facts on the ground display continuing, profound segregation, some of it still due to discrimination, some to economic status, some to choices made by Whites and people of color.

Effects on Students The *Brown* decision was the Magna Carta of desegregation. The decision was cited in other cases involving other venues of public life. For many people *Brown* was the irreversible application of the Equal Protection Clause to deliberate segregation in American public life. But what were the consequences for the children who were integrated? In 2004, Clotfelter summarized his and others' research on some complex questions about the effects of integration. Increases in Black students' academic achievement were certainly not an automatic product of integration. Research has documented only modest improvements in Black achievement in reading correlated with desegregation, and only scattered increases in math. On the other hand, desegregation did not typically lower scores for White students, a common anxiety among White people reluctant to have their children integrated with Black students (Ibid., 187).

Many people hoped that increased interracial contact would foster understanding and tolerance. Clotfelter reports that when schools are thoroughly desegregated—with real opportunities for students of different races to take the same classes, participate in clubs and sports together, and collaborate on projects—desegregation has often correlated with students making more friends across racial lines and expressing more tolerant views than students in other schools. But schools desegregated only through formal means left resistant Whites with many mechanisms for resegregation internally.

Some self-reported attitudes about race showed more tolerance and engagement between 1975 and 2000 despite *increased* school segregation. Nationally there was an increase in the percentage who said they did "a lot" with students of other races, from about 33 % to 42 % for Black students and from 15 % to 31 % for White students, without controlling for the racial composition of their schools. Similarly, the percentage of high school students who said that if they had children, it would be desirable if those children would have friends of another race, increased from about 36 % to 41 % for Whites, and about 43 % to 48 % for Black students. These modest rises seem contrary to the increases in segregation and in any case could not demonstrate a causal effect stemming from desegregation. If these findings are technically valid, these more tolerant attitudes may simply illustrate that society—schools, media, and parents—had on average taught more children the propriety of such attitudes, all the while putting up with, or consciously supporting, more segregation (Ibid., 182).

All of these findings are "squishy." There is some evidence that integration done well—without resegregating students internally and providing a climate favorable for multiracial contact—can affect tolerant racial attitudes. Stated conversely, when Whites are segregated—school by school, within classrooms, by school tracking policies or by parents seeking private school attendance in predominantly White schools—school segregation is playing handmaiden to residential segregation in the United States. Together they have severe negative economic, social, and political consequences for African-Americans and other people of color. Racial isolation is also a deficit for Whites.

Some integrationists believe that school segregation is simply an offense to the Constitution and an indignity to those segregated, whatever the measurable results. But the consequences of *Brown* at the ground level suggest a pyrrhic victory. Today, our society blends pervasive segregation with a belief that the legal issues are settled and thus nothing can be done about it. To those who believed in the promise of *Brown,* this is not just frustrating but tragic. Gary Orfield, a tireless advocate of integration, said in 1996 that our society was "sleepwalking back to *Plessy versus Ferguson,"* the 1896 Supreme Court case that sanctioned segregation while promising equality that was never given (Orfield and Eaton 1996, Chap. 12, 331). In sum, *Brown* and the desegregation campaign that followed 10 years later banned legally sanctioned discrimination and—through great effort—reduced actual segregation in the South and border states and in scattered areas across the North, Midwest, and West.

The Challenges of Title I: The Early Years

Several factors augured ill for the success of ESEA's Title I in improving the performance of poor students despite its enduring success politically over the decades. First, the alleviation of poverty was not a strong policy priority for the average American citizen or school superintendent. Also, there was little knowledge at the

federal level or within the state and local levels about how to improve the academic achievement of these children. Congress spent the bulk of its attention debating how Title I money would be allocated, not how educators could improve poor children's education.

But Congress also did not devote much money to it. The Great Society programs were many in number and light on budgets. Johnson's War on Poverty was a big idea, but most of its programs were in the Office of Economic Opportunity, whose advocates fought hard to keep these programs experimental and small at first. HEW persuaded the President to locate ESEA in the Office of Education, but Congress did not give the resources needed to do the job. Advocates' hopes that budget appropriations would increase after the first year were confounded by the expansion of the Vietnam War.

Congress not only appropriated too little money but spread it across too many districts. Initially the entitlement was calculated by the number of students from families below $2000 in family income or receiving state welfare. The latter was a concession to big states like New York, whose welfare payments exceeded $2000. However, when those numbers were tallied, that figure was multiplied by a factor reflecting the existing per-pupil costs on average in the individual state, an inducement to get the support of richer states that spent higher amounts per child on education. Meanwhile, the initial definitions of poverty income levels were increased in order to make more attendance areas eligible. Soon, almost half the school districts in the country had some Title I schools. Liberal Democrats in future years would react to this by introducing "concentration grants," which allocated extra funds to the districts with the highest proportion of poverty families. Still, the redistributive effect of Title I was modest.

Title I also foundered because many districts felt little commitment to the stated purpose—to improve the education of children in poverty. They simply violated the law and used the funds for many nonapproved purposes. Scandals emerged within a year. Ruby Martin, former OCR director, and Phyllis McClure, of the NAACP's Legal Defense Fund, documented districts in which Title I funds were used to pay teachers and buy supplies that had nothing to do with Title I programs. Title I funds paid for disposal of sewage, renting an administration building, purchasing a heating system, buying buses for regular school runs, and constructing an instructional television studio for all students (Martin and McClure 1969, 6, 9–11, 13, 14, 21, 29).[10]

Gradually, the government brought such blatant violations of rules under control, but more subtle problems existed. Some schools used the funds only to bring the expenditures for poor children up on average from the existing unequal levels to those of more affluent children within a district. Federal officials found this "comparability" problem difficult to define and monitor. Other schools used Title I funds to replace local or state funds even though federal officials emphasized that Title I funds must "supplement" local amounts spent on these children, not "supplant" those local funds. Another knotty problem has been documented by economists:

[10] Thanks to David K. Cohen and Susan L. Moffitt for providing me with a copy of this report.

Adding funds in a given year may seem like an advantage to the Title I programs, but those gains were often offset by subsequent reductions in local taxes for education (Gordon 2004; Cascio, Gordon, and Reber 2013).

It was virtually impossible for the federal government to ascertain whether the funds were reaching the stated goal, which was not just to spend the money on poor children but reduce achievement gaps between rich and poor. Few states had regular statewide achievement tests, and there was an intense phobia against developing federal tests. People widely believed that federal tests would drive curriculum, which was the prerogative of localities and the states. Senator Robert Kennedy insisted upon an accountability clause in Title I because he believed that schools had no idea how to accomplish its goals. However, that clause only required districts to devise whatever tests they wished to use and report them annually to the state, a provision that was inadequate on the face of it and was, in any case, widely ignored.[11] As we shall see, important reforms were made in education legislation, and in Title I in particular, in the 1970s and 1980s.

New Equity Issues Emerge in the 1970s

Four important equity issues emerged in the 1970s—an effort to have the federal government encourage equalization of local-per pupil expenditures, which emanated from the Nixon White House and a Presidential Commission—and three others initiated by members of Congress working with citizens advocacy groups: improving opportunities for English language learners, women, and children with disabilities.

Nixon Seeks to Equalize Expenditures

Before moving ahead to the 1980s, it is worth looking at the issue of school finance reform, which blossomed as an issue early in the Nixon administration. Several different forces led to the establishment of a presidential task force on school finance. The administration had become interested in equalizing resources across districts, partly because they were so unequal but also because the administration had become committed to the improvement of inner-city schools as an alternative to extensive busing for desegregation.

The California Supreme Court had issued a decision requiring equalization of school resources in that state, but the school board in San Antonio, Texas, was

[11] On the debates and passage of ESEA, see Sundquist (1968) and Eidenberg and Morey (1969). For critical perspectives on its weaknesses, see Jeffrey (1978), and especially Cohen and Moffitt (2009), which emphasizes the paucity of educational resources at all levels and the loose policy levers in the federal system of educational governance.

challenging such equalization just as the President's Commission on School Finance began its work. In its final report, the commission recommended a shift to full funding of education by the state. Districts would be allowed to raise up to 10 % of the state allocation as a supplement and retain all authority over the spending of the district's entire allocation. In allocating money to districts, the state would consider criteria that included "differentials based on educational need, such as the increased costs of educating the handicapped and disadvantaged." The federal government would offer grants to states as an incentive for states to gradually shift to full state funding of schools and to "more nearly equalize resources among the States for elementary and secondary education."

The commission urged states to help local communities to offer early childhood education to children over 4 years old, and it urged state and local officials to reorganize districts to balance resources and favor a diversity of racial and economic background. The national interest, said the commission, included concentrating funds for low-income children, emergency school assistance for districts developing a more heterogeneous student body, and revenue sharing to states for special education (President's Commission on School Finance 1972).

Some of these goals had been around for some years, but the most radical and central policy shift, to full state funding, found no takers in the Congress. And in the *Rodríguez v. San Antonio* decision, the Supreme Court (in a 5–4 majority) declared that the San Antonio Board of Education had not violated students' rights under the Equal Protection Clause of the 14th Amendment. Equal expenditures in education, they said, was not a constitutional right. That did not preclude states or the federal government from taking steps to equalize per pupil resources voluntarily, but it put a halt to claims that the U.S. Constitution required it. The establishment of this barrier led many civil rights attorneys to pursue suits calling for equalization of resources within individual states, no longer arguing on the basis of the U.S. Constitution but on the explicit or implied rights of students based on state constitutions and laws. For this important and complex story, see Chap. 4.

Bilingual Education

The history of bilingual education is complex, with mixtures of tolerance and opposition, all the way back to British colonial America. Most states, however, gradually suppressed instruction in the native languages of English language learners. The League of United Latin American Citizens preached an assimilationist message but also promoted Hispanic cultural affairs and, more importantly, argued against the segregation and inferior treatment of Hispanic students from the 1920s through the 1960s. Indeed, the federal court decision in *Méndez* (1946) disallowed segregation of Spanish-speaking students. Loopholes allowing segregation for "educational" reasons kept this declaration from meaningful implementation, but it was widely considered as a precedent for the *Brown* decision. By the late 1960s bilingual education and desegregation became the twin aims of Hispanic activists. Senator Ralph

Yarborough of Texas introduced a small, optional program to support English language learners. It became Title VII of the reauthorized ESEA in 1968. It passed without much support from Johnson, who did not like his fellow Texan and was preoccupied with the heavy financial burden of the Vietnam War.

These small beginnings for bilingual education coincided with the rise of the Chicano Movement, emanating mostly from the Southwest. Unlike earlier Mexican-American school reformers who focused on segregation and poor facilities, the Chicano organizations supported cultural reform of the school curriculum and the proud advancement of Chicano identity in all aspects of life. In strikes and protests in 1968 and later, Chicano leaders, including many high school students, demanded more bilingual teachers, more Hispanic counselors, and more respect for Chicano culture.

These ideas had some hold in Anglo politicians' circles. President John F. Kennedy's Committee on Equal Employment Opportunity released a report in 1963 declaring that the schools should have a curriculum that would "reflect Spanish as well as American traditions, and should hire teachers in both cultures." When the Nixon administration took office in 1969, he supported bilingual education, partly because he saw Hispanic votes in the offing, partly because he enjoyed supporting something that Johnson had not supported, and partly because he wanted to be seen as an innovator. OCR Director Stanley Pottinger was more liberal than Nixon was on most issues, and he sensed a green light on bilingual education. He issued a startling memo in 1970 arguing that because Title VI of the Civil Rights Act banned discrimination in any federal program, including discrimination against students on the basis of national origin, it actually required a curriculum that reflected students' language and culture. Pottinger did not have the resources to enforce such an opinion, and he did not insist that bilingual education per se was required. Still, the OCR memo sent a strong federal message (Pottinger 1970; on Hispanic struggles for more treatment, see Moreno 1999; San Miguel 1987; 2004; Strum 2010; Davies 2007, Chap. 6).

By now bilingual education was being advocated around the country. A strong bill passed in Massachusetts, and in the courts, a case called *Lau v. Nichols* was testing the language rights of non-English speaking students in San Francisco. Upon reaching the Supreme Court, the justices, in a unanimous decision, based their endorsement of students' language rights on the Civil Rights Act and Pottinger's memorandum. They declared "there is no equality of treatment merely by providing students with the same facilities, textbooks, teachers and curriculum" because "students who do not understand English are effectively foreclosed from any meaningful education." Like Pottinger's memo, the Court decision (1974) did not require bilingual education but insisted that all school systems had a responsibility to accommodate the learning needs of English language learners. However, when OCR issued a set of strong guidelines called the "Lau Remedies," the following summer, bilingual education was strongly favored.[12]

[12] Lau v. Nichols 414 U.S. 563 (1974); U.S. Department of Health, Education, and Welfare, Office of Civil Rights 1975, Appendix B.

This preference for bilingual education reflected Congressional action in the Bilingual Education Act of 1974. Spearheaded by Ted Kennedy and Alan Cranston in the Senate, it endorsed the primacy of bilingual education with a bilingual-bicultural approach. This was the apex of the reigning but fragile view of language rights and cultural pluralism. By the end of the decade, scores of dissenting reports and opinions had been registered.

The lasting effect of the Bilingual Education Act of 1974 was to confirm that accommodating students' English language learning was now mandatory. It also implied that bilingual education was not just a preferred but a necessary response to *Lau*. Finally, the act provided substantially more support for technical assistance and grants for research and development ($68 million, about 10 times that of the Bilingual Act of 1968) (Schneider 1976; Stewner-Manzanares 1988).

Although bilingual education remained the predominant pedagogy for meeting English learners' language needs, there was a surge of negative criticism in the late 1970s and the 1980s. Many critics did not agree that bilingual education was superior to other techniques. Others launched philosophical salvos against accommodating the languages of non-English speakers. Some researchers pointed out the problems in "transitional" bilingual programs, which required subtle judgments about when a student should be transferred to regular English-speaking classes. In some cases, bilingual programs became isolated, and some children stayed in them longer than was effective for gaining content knowledge.

In the 1980s, a conservative President Reagan and a mixed Congress passed various bilingual education laws that prescribed what percentage of programs had to be bilingual and how many could be allowed through other pedagogies. The road beyond 1992 was mixed. Bilingual education had many critics but survived except in a few states that passed anti-bilingual legislation.

Many authorities in the 1970s argued that equal opportunity would not be achieved unless children, Hispanic and those of other national origins, could see their cultures reflected in the schools' curriculum. Though some Hispanic commentators have criticized bilingual programs, many others still believe in the ideal of bilingual-bicultural education in a pluralistic school environment. That hope was politically fragile, but there is no doubt that many public schools installed bilingual education programs, and some introduced a more pluralistic curriculum. The bilingual education movement, however flawed in some eyes, did move us in a more equal direction. A federal program that began modestly, with a small grants program, became obligatory by a sweeping but ambiguous Supreme Court decision.

Title IX Bars Discrimination Against Women

A second problem that received heightened attention in the 1970s was discrimination against women. Title IX of the 1972 Education Amendments forbade such discrimination in all federally funded education programs. Its effect in education

was to add women to the list of groups already protected by the Civil Rights Act, which banned discrimination on the basis of race, ethnicity, or national origin.

Title IX received no opposition from the Nixon White House and enjoyed bipartisan support in the Congress. Some have thought that its quiet acceptance is mysterious, because it promised numerous changes in the traditional practices of schools and colleges. There were several reasons for this relatively easy passage. The women's movement, despite some setbacks, had laid the groundwork for wide publicity and considerable support for women's rights by 1971. The Congress and the White House were focusing their most energetic debates on busing for desegregation. After the bill's passage as the Education Amendments of 1972, when more politicians realized the implications of the law, there was much debate surrounding the drafting of regulations that would bring the brief language of Title IX to life. Most attention was focused on college admissions and school and college athletics. Compromises were made on undergraduate admissions, including exemption for single-sex colleges and on other matters, with HEW Secretary Caspar Weinberger in charge.

The regulations did not appear until 1975. When they appeared, OCR was understaffed and ill prepared to respond to complaints. Education Commissioner Terrel Bell fretted privately about the impact of Title IX enforcement on local control. Weinberger was succeeded by Forrest David Mathews, who disliked bureaucracy and was opposed to a strong federal policy role in education. Thus the implementation of Title IX had barely begun when the administration of Democrat Jimmy Carter began in January 1977. Tatel, the OCR director, furthered the implementation of Title IX along with ongoing desegregation work. However, federal civil rights enforcement declined under the Reagan administration (Salomone 1986).

Nonetheless, Title IX had secured a permanent future, and some important policies and procedures were developed by the 1980s. All colleges and universities receiving federal aid were required to establish clear procedures for charges of sexual harassment. They were prominently posted and, in some cases, worked well. The dominance of women's athletics in discussions of Title IX has overshadowed equally important issues pertaining to access, discrimination, and sexual misconduct. All were important. Other issues received detailed attention from OCR, including gender balance among finalists for faculty positions (Ibid., as well as personal recollection of the author).

Assessing the success of Title IX is difficult. How much progress has been due to Title IX and how much to changing acceptance of women's capacities and rights? If there has been progress, what shall we make of continuing, endemic sexist behavior at the college level—from derogatory attitudes about women at prestigious graduate schools to an apparent epidemic of date rape at the college level? Title IX obviously still has a role to play in curbing these acts of discrimination and violence. Is the glass half full or half empty? Although uniform treatment and full equality of status still eludes us, there has been progress in increasing the proportions of women Ph.D. recipients in fields that were until recently male dominated,

as well as rising percentages of women among college faculty and college presidents.[13]

Education of Children with Disabilities

In the nineteenth century, almost no students with disabilities went to public schools. Most remained with their families, segregated from schools of any kind. Among those in institutions that were educational and not merely custodial, the emphasis was on blind and deaf children. In the cases of what were then called "mentally retarded," emotionally disturbed, or hyperactive children, some were committed to asylums where inmates were vaguely defined as "troublesome," "imbecilic," "incorrigible," or "truant." Toward the end of the nineteenth century many of these institutions adopted eugenic explanations of disabilities. Involuntary sterilizations were carried out on a large scale. As numbers swelled in these institutions, overcrowding, physical punishments, sexual assaults by staff, and physical restraints on the inmates occurred. Scandals caused little public concern until the 1970s. During the subsequent 20 years many were exposed and closed down.

A few outstanding institutions for children with disabilities in both the nineteenth and twentieth centuries developed educational methods and did other research in the field. In 1957, Governor Orville Faubus of Arkansas hired an able expert, David Ray, to direct the Arkansas Children's Colony. Ray lectured widely on the need to have such children going to public schools. He later became an adviser to Eunice Shriver, President Kennedy's sister, who lobbied for better government support for children with disabilities. Some states passed legislation requiring schools to admit some such students, but progress was slow. The Massachusetts law of 1972 would become a model for later federal action.

Two court cases helped publicize the issue and supported parents' claims that their children's civil rights were being violated. Members of the Pennsylvania Association for Retarded Citizens (PARC) claimed in 1971 that the state had violated the 14th Amendment's Equal Protection Clause when it allowed schools to reject admission to any child without at least a "mental age of five." Because state officials admitted that the law was wrong, the trial resulted in a consent decree, not a full-blown opinion. The three-judge panel simply said these children's rights had been violated and did not elaborate on the constitutional arguments. Expert witnesses had presented evidence that children with learning disabilities could benefit

[13] I am not aware of a comprehensive published history of Title IX, thus McCarthy (1991) is important. Ware (2007) organizes relevant documents. Other relevant works are Fishel and Pottker (1977, Chap. 5), which addresses the development of regulations for Title IX, and Costain (1979, 3–11).

from the services of a free public school system. The Court directed Pennsylvania to expunge from its state code any barriers to the enrollment of these children.[14]

The *PARC* decision addressed children with intellectual disabilities but not those with other disabilities. One year later, suit was brought against the Board of Education of Washington, D.C. The first named plaintiff, 12-year-old Peter Mills, was expelled from fourth grade in a district elementary school as a "behavior problem." The District did not afford him a proper hearing or allow him to enroll in any other public school. The following year. D.C. authorities incarcerated Peter at "Junior Village," and the parents brought suit. Sketches of the other six plaintiffs showed similar histories. U.S. District Judge Joseph Cornelius Waddy ruled that the plaintiffs and all children with disabilities had rights under the Equal Protection Clause and could not be excluded from the public schools. School officials argued that it would be prohibitively expensive; Waddy disagreed. He ordered the District to "provide to each child of school age a free and suitable publicly-supported education regardless of the degree of the child's mental, physical, or emotional disability or impairment."[15]

These cases stood as the legal landmarks of the education rights of children with disabilities. Nonetheless, some advocates were nervous that the upcoming trial in *Rodríguez v. San Antonio* might end with a denial of education as a right under the 14th Amendment. They campaigned instead for an endorsement of these rights under the Civil Rights Act.

This effort succeeded in the form of a one-sentence amendment to the Rehabilitation Act of 1973 known as Section 504. Modeled on the Civil Rights Act, it states: "No otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Young civil rights staff of Senator Harrison Williams (D-New Jersey) drafted this legislation. Their instincts about *Rodríguez* proved justified. In 1974 the Supreme Court declared, in a 5–4 decision, that the Constitution did not support a right to education. Nonetheless, Section 504 preserved the mantle of civil rights that surrounded special education. Like Title IX for women's education in 1972, Section 504 did not cause great controversy as a simple abstract statement because it was nestled in a bill full of specific requirements and programs (see Scotch 2001, 47–48).

The stage was now set for a comprehensive federal bill supporting special education. *Mills* and *PARC* were being widely cited. Many states were facing lawsuits on their basis. Other states were moving ahead voluntarily on these new responsibilities. In May 1973, the *Washington Post* estimated that there were about 7 million children with disabilities in the country. Of these, approximately 2.8 million were in public schools with special education services, a big rise from the 1960s. One million were excluded from public schools and were not in private schools. A half

[14] Pennsylvania Association for Retarded Children v. Commonwealth of Pennsylvania 334 F. Supp. 1257, U.S. Dist. (1971).

[15] Peter Mills v. Board of Education of the District of Columbia, 348 F. Supp. 866 (1972).

million were in private institutions, many receiving no education. Finally, about 2.7 million children with disabilities were in schools where they received no special education. States were already alarmed at the costs, and tensions were arising about the relative share to be provided by the district, state, and federal levels.[16]

Williams' comprehensive Education of All Handicapped Children Act was debated in 1974 and passed in 1975. It had several main provisions. First, each child with a disability would have an individual education plan (IEP). Second, schools were directed to conduct education of the children with disabilities in the "least restrictive" environment, that is, in regular classrooms, to the extent feasible. This provision later became known informally as "mainstreaming." It was founded on the belief that children with disabilities as well as those without disabilities would benefit from daily contact and a normalization of relationships as well as access to the regular curriculum. However, it also brought tensions from teachers who believed that attention to children with disabilities detracted from paying attention to the other students and that some of these children were disruptive. Teachers also argued they were not trained to handle these responsibilities.

To get funds from this law, districts were required to submit a plan for appropriate education of all of their children with disabilities. Even if they declined funds from Williams' act, they were required to accommodate all children with disabilities because discrimination was forbidden by the Rehabilitation Act. The federal government proposed to fund the states for as much as 40 % of the "extra" costs of special education (translating into about 20 % of the total costs of the average special education student). However, federal appropriations were actually much lower than 40 % (see Table 3.2). This shortfall led the hard-pressed states to complain that the law was an "unfunded mandate," but the authority of the federal government held steady: The obligation of the states was based on civil rights, regardless of federal funding.

Table 3.2 Funding of special education costs, percent shares, 1983 through 2010

Date	Federal	State	Local
1983	7	56	37
1988	6	58	36
1994	6	55	39
1999	8	47	45
2010	9	47	44

Sources: Parrish 2001, 4–12, Table 4; 2010 data from Baker et al. 2014
For end-of-the-century information, see New America Foundation (n.d). For a good discussion of these and other figures about relative share and real costs, see Aron and Loprest (2012, 110)

[16] Bart Barnes and Andrew Barnes, "Special Education: A New Storm Center," *Washington Post,* May 29, 1973, C1; B. Barnes and A. Barnes, "Handicapped Pupils Face Schooling Crisis," *Washington Post,* May 30, 1974, D1. The Barnes's estimates of numbers of children with disabilities and their schooling categories came from Alan R. Abeson, spokesman for the Council for Exceptional Children.

The regulations for the act were not formulated until nearly the end of President Gerald Ford's term. As with the Title IX regulations, implementation was delayed. The Carter administration took office in January, but the special education regulations went through a further lengthy consideration and appeared in the summer of 1977. By this time, special education had become an expanding item in school budgets, with the states and districts bearing most of the costs and straining under the imperatives of the law. There were also debates about mainstreaming; discipline with children with disabilities; whether severely disabled children should be mainstreamed; the overdiagnosis of disability for children of color; and other issues. Still, special education legislation had (and has) broad bipartisan appeal.

The rising percentage of students with disabilities among the total student population was substantial. The percentage of school students in special education in 1977 was 8.3 %; by 2005 it was 13.8 % (U.S. Department of Education, National Center for Education Statistics 2015a). During that time the federal share of costs remained about level, while the state share decreased and the local share increased (see Table 3.2). It is this expanding percentage of students in special education, not rising costs per pupil, that has made special education the fastest growing budget item in most local districts. It arose over the past 50 years, starting from a situation in which only a tiny minority of children with disabilities were in public schools at all, to today, when it is a permanent and large reality in our schools. This development involved all three levels of the federalist system and all three branches, but it was led by federal courts and its advocates in the Congress, both pressed by interest groups of special education parents and special education professionals. Whatever its flaws, it was a historic shift, and, for the most part, a benefit to children with disabilities.

Another reform initiative addressed the profound discrimination experienced by Native Americans, but space allows only brief mention. These developments in policy governing Native American education, including the Indian Education Act of 1972, contributed to equalization of opportunity by recognizing Native Americans' justified desire for more autonomy in governing their educational institutions and having a genuine voice on commissions and in the newly created Office of Indian Education (for the history of education policy regarding Native Americans, see Szasz 1999; Hale 2002).

The 1978 Reauthorization of ESEA

Advocates and opponents of bilingual education, women's equity in education, and education for children with disabilities continued working through the complicated process of implementation, the approval of regulations and guidelines, and providing the relevant agencies with the needed resources to make a federal program work. In the meantime, the Democrats returned to the White House. President Carter had many problems on his hands, and in education, he was mostly preoccupied with creating a new Department of Education. Meanwhile, veteran staff at the Office of

Education and in Congressional education committees carried on the development of a revised ESEA.

The impetus for a Department of Education arose during the 1976 election campaign, when Carter courted the National Education Association's support; in the process he agreed to support its longtime goal of creating a separate department with Cabinet status. Carter eventually focused on the promised department and gathered various West Wing staff to work on details, especially the issue of which federal programs would be transferred to it from other agencies.

Meanwhile, the reauthorization of ESEA loomed important. Much of the leadership for the reauthorization came from Marshall "Mike" Smith, assistant commissioner of education for policy. Smith was a veteran of ESEA purposes, policies, and problems and a veteran Office of Education official. The commissioner, Ernest Boyer, former chancellor of the State University of New York, advocated in Congress for ESEA along with HEW Secretary Anthony (Joe) Califano. But Boyer was otherwise mostly involved in the disputes about what programs should be in the new Department of Education, while Califano openly opposed losing the Office of Education, which he thought belonged in an organization that combined education with health and welfare matters.

Smith and his colleagues developed the Office of Education's proposed ESEA legislation and conferred with Congressional staff continually. Among the key House staff were Jack Jennings and Chris Cross. Jennings, a Democrat, was majority counsel to the House Subcommittee on Elementary and Secondary Education, and Cross, a Republican, was minority senior staff member. They worked well with each other and with Smith. A lengthy document emerged, went to the President for approval, and then went to the relevant Congressional committees for further negotiations.

Evaluations of Title I in the early 1970s had discovered widespread misuse of funds, questioned whether the funds were properly targeted at kids in high-poverty schools, and saw little evidence that the programs were working to improve academic achievement (McLaughlin 1975; Vinovskis 1999a). In response, Congress in 1974 commissioned a three-year study headed by Paul Hill at the new National Institute of Education (NIE). The legislative report by the House of Representatives' Committee on Education and Labor, when introducing the 1978 bill, stated that the NIE study had convinced them that the funds were now effectively targeted, explaining that while Title I provided only 5 % of the elementary and secondary education budgets nationwide, many poor districts reported levels up to 17 %. As for results, NIE found that Title I students tended not to fall behind their "non-assisted peers." Part of the NIE research was a case study of 12 districts, which showed much better academic gains than in previous evaluations. Carl Perkins, chair of the Education Committee, concluded, "Title I has matured into a viable approach for aiding the disadvantaged."[17]

[17] HR. Rep. No. 29-553 at 6-7. (Excerpt of a Report on the Education Amendments of 1978). Available online through HathiTrust at http://www.hathitrust.org/access

The committee's optimistic report would not end criticisms of Title I's efficiency in raising students' scores. In fact, another study was ongoing at the same time. Called the "Sustaining Effects" study, it followed 130,000 students in 300 schools for three years. Study director Launor Carter pointed out the participation problems: Many poor children were in non-Title I schools that did not qualify as having a sufficient concentration of poor families. Conversely, many low-achieving students who were in Title I schools but were not economically disadvantaged were in Title I instructional programs. Furthermore, students with very low achievement levels got little benefit from Title I; those with somewhat higher achievement at the beginning benefited the most. These and other qualms caused Carter to say that Title I was not "a unified or coherent treatment program" and needed a "new program with more intensive and innovative techniques" to bring success to the lowest achieving students (Carter 1984).

The Office of Education staff, in consultation with education experts in Congress, came up with several substantial reforms for the 1978 authorization, working mainly with Congress but giving regular reports to the White House staff and getting their ideas vetted and approved by the Office of Management and Budget. Among these changes were allocating a higher per-pupil expenditure to Title I students in schools with a large concentration of high-poverty families (which Congress set at 55 %); pressing Title I programs to rely less upon "pullout" programs and to integrate Title I students into regular classrooms with special assistance; allowing schools with 75 % or more percentage of children from homes below the poverty line to spend Title I funds on "whole school" programs and improvements; providing matching funds to states that had put money into their own compensatory education programs; providing better professional development for experienced teachers in the field; engaging in better planning and development of bilingual education; encouraging states to equalize resources among districts; deepening parental participation by requiring districts to pay for their transportation to and from meetings; and requiring districts to submit plans about the training of parent council members.

Beyond Title I, the 1978 Amendments had several other titles related to equal opportunity: Title II for basic skills improvement, Title VI for "emergency aid" to desegregating schools, Title VII for bilingual education, Title IX for women's education equity, and Title XI for Indian education.[18] The collaboration and constant communication between Office of Education staff and key Congressional advocates was crucial in producing a reauthorization bill with bipartisan support.

[18] Education Amendments of 1978, 92 Stat. 2143 (Washington, D.C.: Public Law 95-561, 95th Cong (1978); interview with Marshall Smith, September 24, 2013; Cross (2014, 70–74); Jennings (2015, 35–42).

Education Policy and Civil Rights in the Reagan Administration

Ronald Reagan was elected in 1980 over Carter on a platform that focused largely on cutting down on "big government." In the field of education, the Education Consolidation and Improvement Act (ECIA) of 1981 moved to decentralize and deregulate the federal role in education while spending less on federal aid. Its major sections were now called "chapters" rather than "titles." Chapter I became the new name for Title I for compensatory education of disadvantaged students in schools with high poverty. Education for children with disabilities also continued in separate legislation. But Chapter II of ECIA was a showcase innovation: a "block" grant. It pulled together 32 small federal programs. The items blocked in Chapter II ranged from the Emergency Schools Assistance Act (ESAA) for desegregation costs, to metric education, environmental education, and other small programs. The states received their share purely on the basis of population and were required to allocate at least 80 % of it directly to districts. Districts were then permitted to allocate the Chapter II funds as they wished among the 32 programs.

This devolution of control came at a time when state and local budgets were tight, and the ECIA bill itself reduced allocations for many programs. There was less money for both Chapter I and Chapter II (in comparison to its 32 constituent programs separately) than had been the case a year before, so the states and districts had to make their decisions about Chapter II allocations in the midst of a funding crisis. Furthermore, Chapter II had a much smaller budget than Chapter I. In many districts, these 32 programs had added up to as little as 1 % of the elementary and secondary school costs, although ranging upward in large city districts that had many more families in poverty and many remaining desegregation activities.

A strong shift of money from urban to suburban and rural, and a shift away from desegregation, resulted from the funding changes. Previously a large share of the funds represented by these 32 separate programs had gone to large urban districts—partly because ESAA was the largest program in the block, and partly because urban school staffs were more likely to apply successfully for grants. But Chapter II funds required no application. The money came just on the basis of school population.

The shift can be seen in these figures: Wilmington, DE, received $3.3 million just from ESAA the year before the block funding; under ECIA, the amount of block funds for all Chapter II purposes the next year was only $1.7 million. St. Louis and Kansas City received $7.0 million between them under ESAA; the next year the entire state of Missouri received $8.7 million for Chapter II overall (Verstegen 1985, 521). Another study showed that 20 urban school districts, including Atlanta, Buffalo, Boston, Chicago, and New York, collectively received $110 million from the ESAA alone in 1980; the next year, they collectively received $38 million for all the programs combined in the block grant (Salomone 1986, 179). Despite the overall reduction in ECIA funds, and perhaps because of the shift from urban districts,

school officials in many rural and suburban districts praised ECIA as a modest return to local control, as it was intended to be (Turnbull and Marks 1986, 61, 63).

The Reagan administration proposed large cuts in other education programs. Education advocates in Congress strained against it, settling for budgets larger than the White House proposed but less than many had wished. Within these small annual increases, some of the flagship programs of the 1960s and 1970s were reduced. Rosemary Salomone writes that between 1980 and 1984, federal funding cuts, adjusted for inflation, were as follows: 9.3 % for special education, 19.7 % for compensatory education for disadvantaged students; and 39.8 % for bilingual education (Salomone 1986, 180).

In addition to the shift of priorities in the small block grants—which worked disproportionately against desegregation aid—and targeted cuts in programs for compensatory education, bilingual education, and special education, there was also a slowdown of enforcement in civil rights suits. This was part of the Reagan platform to transfer authority in education to the states and districts. One of the effects of this philosophy was to diminish federal programs that had been intended to increase opportunity.[19] Overall, this was the last period when the federal portion of funding diminished.

The Nation at Risk Report

While federal funding was on the decline, a broad-based push for education reform was on the way. President Reagan's Secretary of Education was Terrel Bell, a veteran education leader from Utah who had served as U.S. Commissioner of Education during the Ford administration. He may have been the most liberal member of the Reagan cabinet, but he was a strong believer in local control. He had advised President Ford to veto the special education legislation in 1975 because he thought it was too costly and intrusive (Bell 1975). Bell had little stature with the President, but he was convinced that America's schools needed reforming, and he asked the White House to appoint a blue-ribbon commission to look into it. When the White House ignored his request, Bell appointed a department commission on his own authority.

The National Commission on Excellence in Education worked with data from researchers at the Education Department, who provided tons of information on the good news and bad news about schools in the U.S. However, two of the scientists on the panel, Gerald Horton, a physicist from Harvard, and Glenn Seaborg, a chemist

[19] I do not have data on expenses specifically for Title IX, which bars discrimination against women, as a part of the budget of the Office of Civil Rights in HEW. Salomone (1986, 180) reports that enforcement of Title IX was reduced during the Reagan administration, and that the Reagan administration tried to either block grant or zero budget the Women's Educational Equity Act, which complemented Title IX by providing funds to promote sex equity and eliminate sex-stereotyping in education materials. Women's advocacy groups succeeded in lobbying, and he signed a five-year extension of the program in 1984.

at Berkeley, were not satisfied with the initial staff draft. Horton wanted something more decisive. He and other members crafted a theme of crisis, which framed the research data around alarming trends and gave them a slogan: *A Nation at Risk.* Journalists picked up on this eagerly. There was already much publicity about poor test results and their possible relation to America's competitive position in the world. *Nation at Risk* fanned the fires. The Department of Education counted 700 newspaper articles about the report in the first four months after its publication. Reagan met to congratulate the members. A side effect of this highly publicized report was that it weakened public and Congressional sentiment to abolish the Education Department (Vinovskis 2009).

However, it did not change the determination of the Reagan administration to back away from a federal role in education. In response to a President who said that education was the states' business and a federal report that said there was an urgent crisis, officials in the states took up the slack. It led to a decade of reform activity, resulting in new legislation in most states and capacity building in the state education agencies. The theme was excellence; the goal was to raise average test scores, not necessarily to reduce the gap between some groups and others.

The commission, along with several other reform reports, recommended more homework, higher graduation standards, more academic focus in schools, and better teacher preparation. Many states passed laws incorporating these recommendations. However, within three or four years, journalists and educators were bemoaning the failure of these reforms to increase test scores. The reform movement was fading. Its theory of action, plausible enough, was that if kids worked hard enough, and if teacher-training programs raised their standards, academic achievement would rise. However, that strategy did not work in the short run. By 1985 the National Governors' Association was calling for better testing and task forces to recommend better reforms.

Reagan Faces Reversals: Hawkins-Stafford Bill of 1988

In the waning years of Reagan's second term, Congress reversed some of his policies on education. This effort was led by Augustus "Gus" Hawkins, Democratic Congressman from Los Angeles and chair of the House Committee on Education and Labor, and his co-sponsor, Robert Stafford, a renegade Vermont Republican who believed in a strong federal role in education. Their bill deleted the signature provision of ECIA, the block grants under Chapter II. Hawkins-Stafford increased Chapter I spending staunchly but required the states to make gains on achievement and narrowing gaps. Any state that did not make its target two years in a row was required to review its districts' programs and supervise remediation. Equalization was the goal; tighter monitoring of test scores was the strategy.

The bill also strengthened the role of the National Assessment of Educational Progress (NAEP) by establishing an independent governing body, the National Assessment Governing Board, to set goals for what students should know and be

able to do at various grade levels in various subjects. The new ESEA was not a panacea, however. The federal government still yielded to the states the job of setting performance standards, and there was great variability in how ambitious the goals were in different states. Nonetheless, as Jennings emphasizes, the emphasis in the Hawkins-Stafford amendments on accountability was a strong factor in the almost unanimous bipartisan support for the bill; also, the emphasis on standards helped lay the groundwork for the standards movement as the basis for school reform and accountability.[20]

The Era of Standards-Based Reform

George H. W. Bush and the Onset of Reform

As President Reagan's second term ended and George H. W. Bush was elected President, the country was looking for new answers to improve education. President Bush hoped to launch a partnership between the federal government and the states, but a Democratic majority in Congress short-circuited his legislative efforts. Meanwhile, the cadre of "education" governors was growing, and they began to edge toward the use of comparative state test results to spur reform. NAEP had launched an experimental state-by-state administration of the tests, which had the potential to rate states across the nation. Also, independent state-produced tests could be rated relative to the uniform NAEP assessments (Vinovskis 2008, 2009).

After his election Bush suggested a national education summit meeting, to which the governors readily agreed. Held in September 1989, the Charlottesville (Va.) Summit ended with the governors and the President agreeing to improve assessment and accountability. They also called for a set of national goals in education. Prior to the meeting, Governors Bill Clinton of Arkansas (Dem.) and Carroll Campbell of South Carolina (Rep.) co-chaired a meeting in which they noted the disadvantages of students of color and students from low-income families. Equality of opportunity had reentered the picture.

After the summit, the governors and the White House agreed upon six goals, several of which had strong implications for equal opportunity and equalization of results. The goals stated that by the year 2000, all children in America would "start school ready to learn"; 90 % would graduate from high school; all students would demonstrate high competency in English, math, science, history, and geography; the

[20] For the provisions of the law, see Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, H.R. 5, 100th Cong. (1988). For Hawkins, see "Hawkins, Augustus Freeman (Gus), (1907–2007)." n.d.; for Stafford, see Reagan Walker, "Stafford: Republican Rebel During Reagan's Revolution," *Education Week,* November 2, 1988, http://www.edweek.org/ew/articles/1988/11/02/08450045.h08.html, and essays on "Hawkins-Stafford Amendments," and "Targeting the Achievement Gap" in *Federal Education Policy and the States, 1945–2009* (2009). On the importance of bipartisan support and accountability, see Jennings (2015*,* 48–49).

U.S. would be first in the world in science and math; all adults would be literate and have the knowledge "to compete in a global economy" and become good citizens; and every school would be free of drugs and violence (Swanson 1991; on the novelty of the aspiration to have all adults gain high-level literacy skills, see Kaestle 1995).

These goals, of course, were optimistic statements. They were attainable only in part, and only if the reform movement could develop better theories about education reform and improved accountability systems. The period 1988 through 1992 was a very "yeasty" time for school reform ideas. NAEP tests at the state level now had the capacity to compare states' performances on basic skills, though hardly anyone thought they should be used as a national "test" for the evaluation of individual students or teacher accountability. The states at the front of the school reform movement were developing state-level standards and curriculum guides. Assessment experts were experimenting with more sophisticated "performance" assessments.

Enter Systemic Education

A key theory was articulated in a 1991 article by Marshall Smith and Jennifer O'Day called "systemic school reform." It crystallized several ideas that had been circulating in school reform circles and became a founding document for the standards-based reform movement. To be "systemic," said Smith and O'Day, the states must create content standards, performance standards, opportunity-to-learn standards (equal access to high-quality education), and student assessments, as well as foster teacher preparation and professional development that focus on the standards. To form a coherent program, all of these elements must be "aligned" (Smith and O'Day 1991).[21]

Historian Maris Vinovskis has analyzed the origins of this idea in the professional experiences of Smith and O'Day. As the director of the Wisconsin Center on Education Research, Smith was immersed in school improvement research, and his participation in the Consortium for Policy Research in Education reinforced his belief that the states should be the actors in developing standards. In 1990, Robert Schwartz, education director at the Pew Charitable Trusts, initiated the Pew Forum on School Reform, which included Smith. The forum began looking at exemplars of content standards from the various states and from abroad. O'Day, an expert policy analyst, was the associate director of the Pew Forum (Vinovskis 1999b, Chap. 7, 175–81).

Smith and O'Day emphasized the problem of underperforming poor and minority students, who were so often in underperforming schools. If reformers did not attend to this problem, not only would those students have unequal opportunity, but

[21] Marshall S. Smith and Jennifer A. O'Day 1999, "Systemic School Reform," in *The Politics of Curriculum and Testing* (London, England: Falmer Press, *Politics of Education Yearbook,* 1990): 233–67.

the system itself would not be coherent. The idea of Opportunity to Learn (OTL) standards, which were designed to solve the problem of holding students responsible for meeting challenging standards when they may not have had adequate instruction in those standards, caused great controversy.

There were several problems with OTL standards. Some opponents said it was hard to imagine how one would operationalize indicators for OTL that would go beyond the many existing state policies like teacher certification, curriculum guides, and rules about class size. Some governors opposed them because of the estimated cost of establishing and maintaining OTL systems. Other opponents viewed them as a federal incursion into local control. Others said it would just delay the much-needed standards-based reform movement. In the end, systemic reform without OTL standards became the backbone of the movement, which developed bipartisan support, and, despite great controversies, persisted as the unifying factor in federal and state education policy for 25 years, from the Clinton administration to the present.

Standards-Based Reform Arrives on the Federal Agenda

Governors and chief state school officers had been the prominent leaders in systemic school reform in the 1980s. Yet upon the election of President Clinton in 1992, the federal government reemerged as an education policy maker. Clinton was not shy to renew a strong federal role. He appointed William Riley, popular former education governor of South Carolina, as Secretary of Education and Smith as deputy in charge of drafting and promoting the legislative agenda in education. In addition to its enthusiasm for standards-based reform, the Clinton team focused on the problems of disadvantaged students.

The Education Department developed two bills during the first two years of his administration. The first bill was the reauthorization of ESEA. The Clinton administration renamed it the Improving America's Schools Act (IASA), but many old hands around Washington continued to call it ESEA. Also, the term "chapter" for a section of the law was returned to "title," the pre-Reagan term. IASA proposed to alter the Title I formula to focus resources on districts with the highest poverty concentrations. This lost in a close vote in the House subcommittee. Meanwhile, the Title I threshold for whole-school approaches was lowered from schools with 75 % poverty families to 65 %. IASA introduced the new key provisions requiring districts to test all kids (not just those in Title I) with math and reading assessments that were geared to standards that states would be required to develop and implement. Other equity-related programs besides Title I remained: basic skills (Title II), aid for desegregation (Title VI), bilingual education (Title VII), women's educational rights (Title IX), and Indian education (Title XI).[22]

[22] On the legislative history of Title I in 1994, see Jennings (1998, 118–53). For a summary of all the titles, see "Summary of the Improving America's Schools Act," *Education Week*, November 9, 1994, http://www.edweek.org/ew/articles/1994/11/09/10asacht.h14.html

The second bill was called The Goals 2000 Act. It specified how the states and the federal government would collaborate on systemic education, spurring many debates about the proper roles of the federal government. There were also equal opportunity concerns at stake. Smith and O'Day had focused attention on disadvantaged students and underperforming schools. There could be high standards for all children, and that became a mantra of standards-based reform.

The battle lines were typical: liberals vs. conservatives, and centralists vs. localists. But there were wrinkles. Some Democrats wanted national standards, some did not; some also wanted national assessments. Many Republicans supported standards-based reform but wanted the states to be the main actors and not supervised by the federal government. In the compromises that were hammered out, Goals 2000 proposed a system where states were expected to establish content standards, performance standards, opportunity-to-learn standards, and assessments. Each state was required to establish a board to carry out this work. A new national board, called the National Education Standards and Improvement Council (NESIC), would approve state plans, but only on a voluntary basis.

Even though Goals 2000 did not require states to submit their standards to federal authorities, many Republicans reacted negatively to the establishment of NESIC and it remained unfunded by Congress. As for the controversial opportunity-to-learn standards, they remained in the department's description of a proper systemic effort, but researcher Andrew Porter pointed out that there was little incentive for states to develop them, and even less incentive to subject them voluntarily to federal certification (Porter 1995; for the detailed arguments and debates about standards and federal authority in standards-based education, see Ravitch 1995; Jennings 1998; Kaestle and Lodewick 2007).

Republicans made gains in Congress and asserted themselves. They succeeded in abolishing NESIC, squelched the administration's suggestions for a Voluntary National Test, discredited a federally sponsored set of national history/social studies standards, and blocked the reauthorization of ESEA in 2000. The Democrats staved off some Republican assaults with help from some Senate Republicans who were not in tune with the more conservative program.[23] Nonetheless, Goals 2000 established a framework that spread across the country and would remain the central reform instrument from that time to the present. Policy analyst Margaret "Peg" Goertz reported in 2001 that 49 states had content standards in reading and math, 48 of them had assessments to match, and 33 had developed accountability measures that went beyond student test performance. Paul Manna points out that several Republican governors and many business groups supported the standards movement. Furthermore, general public opinion favored the Clinton education agenda. While the administration's retreat from some issues may have looked like a defeat,

[23] Maris Vinovskis (2009, 111–20) presents a balanced account of education policy in the Clinton years, with many more details. See the book and sources cited there. See also, among the many books dealing with this period, Cross (2014); DeBray (2006); McGuinn (2006); Manna (2007); Jennings (1998); and Ravitch (1995).

standards-based education was progressing in the states. Ironically, that formula would take on a more authoritarian federal face in the administration of President George W. Bush, a Republican (Manna 2007, 103, 152–54).

Peg Goertz reminded me recently of a metaphor for this significant policy success. Title I of IASA, with its requirement that all districts test all students on assessments that are linked to standards, could be considered the "stick," forcing the standards-reform framework on the districts, while Goals 2000 was the "carrot," the framework to help states and districts create standards-based systems. Conjuring up a different metaphor, Mike Smith said that the ESEA, with its requirements for school-wide testing and system accountability, was the "big engine" pulling all the other cars down the track.[24]

No Child Left Behind: Its Trajectory Under George W. Bush and Barack Obama

Bush Launches New Federal Reforms

President Bush's attraction to standards-based reform was similar to Clinton's. Both had been education governors and enjoyed the reputation of having successfully improved his state's schools. Bush was determined to continue the federal role in school reform, and his advocates fanned out to convince their conservative Republican colleagues that either they were out of step with public opinion or should give the President his preferences in education policy because the rest of his agenda was so attractive to conservative Republicans. But it took more effort than that. Sandy Kress, Bush's main education adviser, circulated the program first as a platform rather than as specific legislation. Bush's allies held meetings with carefully selected members of Congress. The campaign was skillfully done and unconventional. With Kress in charge, the administration and its Congressional allies bypassed the Senate Health Education and Pensions Committee, shunned the participation of education lobby groups, and ignored the staff of the Department of Education. In the wake of the attacks on the World Trade Center on September 11, 2001, many Congress members believed that they should work to pass effective legislation and not appear to be in disarray.

For Democrats, there were some attractive features in Bush's proposed No Child Left Behind Act (NCLB): an emphasis on improving failing schools and narrowing the achievement gap between racial groups, with disaggregated achievement test scores by group for each school available publicly, with some tough incentives and disincentives for schools that did not succeed. Senator Ted Kennedy endorsed the bill later in the process, hoping to get increased Title I money and achievement scores disaggregated by race-ethnic group. He got the scores but not much money.

[24] Margaret Goertz and Marshall Smith, personal communications.

His co-sponsorship capped the image of a bipartisan bill (see DeBray 2006). But the goal of reducing achievement gaps was not solely the Democrats' property. Campaigning for the presidency, Bush vowed that his education policy would attack the "soft bigotry of lowered expectations." Speaking at Harvard in the second year of the Bush administration, Secretary of Education Rod Paige, himself African-American, said that the achievement gap "is the civil rights issue of our time," and some leading civil rights lawyers like Christopher Edley of the Harvard Civil Rights Project and Bill Taylor of the Citizens Commission for Civil Rights supported NCLB for its tough approach and for setting an ultimate goal of reducing the gaps.[25]

The Bush team concluded that the Clinton enforcement of Title I had been slack and unproductive. The attempt to ensure that all states would link Title I tests to standards-related tests for the whole student population was still languishing in non-compliance. In response it produced the deepest intrusion into local control since desegregation. Some of its supporters in Congress and out in the states and the schools had second thoughts when they realized how much coercion was to be levied upon local school districts for not very much money. Schools were required to test all students in third through eighth grades annually. States were required to commit themselves to performance standards. Schools that did not come up to their adequate yearly progress (AYP) commitments would eventually be liable for "reconstitution," including sanctions as severe as having new leadership being appointed or being reopened as a charter school. This assumed that the states had the technical capacity to remedy poor performance, which was not always the case.

It began to appear that the rules would generate huge lists of condemned schools, because the end goals were set too high. Elizabeth DeBray (2006) wrote that the unrealistic goals and the concerns about the extent of federal leverage led to a "rocky start" for NCLB. The Bush administration softened some of the demanding features of the law but persisted in the end goal to have all children proficient by 2014. That, some test experts said, was impossible. Robert Linn wrote in 2005, "There is considerable evidence that gains in student performance on the tests tend to be greatest in the first few years after they have been introduced as part of an accountability system and then taper off in later years." Thus, those states that adopted low AYP goals in the early years, expecting to accelerate into higher achievement and smaller gaps later in the process, were working in exactly the wrong way. Said Linn, "It can be anticipated that the AYP goals, which are likely to be hard to meet in the early years, will become increasingly difficult to meet in the out years of the program" (DeBray 2006, 129–43, Rothstein 2004; Linn 2005).

In the latter stages of Congressional consideration, some staff on the Senate Committee on Health, Education, Labor, and Pensions did some research, simulating how many schools would be deemed failing in three of the states known for

[25] George W. Bush's speech to the National Association for the Advancement of Colored People, July 16, 2000, is quoted in "Bush Addresses NAACP Convention," ABC News, http://abcnews.go.com/Politics/story?id=123409; Paige is quoted in Cara Feinberg, "Rod Paige Offers High Praise for No Child Left Behind," *Harvard University Gazette,* April 29, 2004, 1; on Edley's support, see DeBray 2006; Taylor's support is documented in Linn (2005) and personal interviews.

reducing the achievement gap: Texas, North Carolina, and Connecticut. Based on the AYPs, almost all the schools in these states would have been rated as "failing." Presented at a meeting within the administration, these data produced a "stunned silence," said a staffer. Another staff member said, "I left just wanting to cry" (Manna 2007, 124–25).

The Bush people and their allies rushed to adjust the AYP formulas, but the results were unsuccessful. Once the bill was passed and in the field, the Bush administration eased off, allowing different kinds of tests to be used and delaying deadlines. Paul Manna argues that the federal NCLB scheme actually relied on "borrowed state capacity" for its implementation, capacity which most states lacked. They realized this and pushed back. Almost all states had a nominal set of content standards by this time, but many were not coherent and not matched by an aligned assessment regime (Manna 2007; DeBray 2006). Standards-based reform had become a consensus position, with bipartisan appeal to centrists in both parties; Democrats on the civil rights left and conservative Republicans agreed with the Kennedy liberals and the Republican leadership in the Congress that there should be no amendments to the law at the end of Bush's first term, just administrative adjustments (Manna 2007; Cross 2014).

Some appraisals of achievement test scores suggest that there was a trough in which the achievement gaps widened during the end of the Clinton second term and for much of the first Bush term. Many factors could be responsible. Most states had not accomplished the reforms of the 1994 reauthorization, and districts were now faced with the Bush administration's new complex reform regime. In the second Bush term, he had an energetic Secretary of Education, Margaret Spellings, and the rules were clarified. Still, there was much criticism of No Child Left Behind (see Goertz 2005).

Enter Obama and Duncan

As President Obama entered the White House, the country was descending into a fiscal crisis and a major recession. State and local budgets were reduced heavily. As part of the American Recovery and Reinvestment Act (ARRA) of February 2009, the President and Congress put a large amount of federal money into high-priority areas to create jobs, relieve local and state budgets, and put money in the pockets of consumers. Secretary Arne Duncan's budget at the Department of Education was nearly doubled with an ARRA allocation of $97.4 billion. The specific program areas receiving stimulus funding were State Fiscal Stabilization ($48.6 billion), college student Pell grants ($16.5 billion), Individuals with Disabilities Education Act funds ($12.2 billion), Title I programs ($10.0 billion), and formula grants and discretionary funds ($10.1 billion). Duncan and his staff had an unusual opportunity to fashion a new version of standards-based reform through these discretionary funds (Executive Office of the President of the United States 2009).

The Duncan team had to decide what to do about No Child Left Behind. It was still the law of the land, but it was widely discredited for its negative incentives and unrealistic achievement goals. States and school districts were in a budget squeeze with predictions that it would get worse in the coming few years. And all of this fell to a new Secretary who had been a successful superintendent of schools in Chicago but had no experience in Washington. Several of his assistant secretaries had not yet been appointed when ARRA was passed. Meanwhile, the department's day-to-day business had to continue amid pressure to articulate a major reform strategy (U.S. Department of Education 2009).

With help from advisers around the country, Duncan and his staff developed a shift away from the NCLB mode of tight monitoring and negative incentives. In addition to Title I and other entitlement programs, the new strategy was to have competitive grants and reward the best state applications with extra funding to implement their plans, a positive incentive. The state plans had to comply with criteria set by the department.

From a critical perspective, there are (at least) two things to be questioned in retrospect: first, Race to the Top rewarded the 19 states deemed to have the best potential for effective reform, that is, the states with the best grant writers and the most broad support for their plan among their stakeholders. The 31 states that did not receive Race to the Top grants either opted out for various reasons or applied and were not chosen. The amounts were not trivial; in the first round, only two awards were announced, $500 million to Tennessee and $100 million to Delaware. Later awards were reduced as the budget dwindled. In any case, the competition left the children of those 31 states who did not receive Race to the Top awards without funds that those states might have used to improve their systems. This was the price for rewarding excellence.[26]

Second, the Education Department under Duncan took a very prescriptive stance. It insisted that every state applying for Race to the Top had to increase the number of charter schools and adopt pay-for-performance as part of salary decisions for teachers. Among the many possible policy options that one might have urged for mandatory implementation, many would have had a better basis in research than simply establishing more charter schools or using student scores in setting teachers' salaries—for example, access to early childhood education or carefully targeted class-size reduction. Research does not support the idea that simply increasing the number of charter schools will improve academic achievement. Charter schools perform about the same as public schools on a national average (C. Lubienski and S. Lubienski 2014). After some criticism from the field on this issue, the department began explaining that it meant to say it wanted more well-monitored, excellent charter schools, but the states got the first message loud and clear.

Similarly, the department created a list of strategies for rescuing failing schools. To get a federal grant for this work, applicants would have to choose one of the four strategies. Some people in the field thought that having to choose from a list of

[26] "Delaware and Tennessee Win First Race to the Top Grants," U.S. Department of Education, press release, March 29, 2010, www2.ed.gov/news/pressreleases/2010/03/03292010.html

strategies issued by the federal government foreclosed input from those who knew the particular circumstances, assets, and local constituencies of a given school or district. Jack Jennings studied hundreds of districts that had experience with turnarounds, some with federal grants, some not. He found very mixed results. Three of the federal strategies got low grades; one of them got much higher grades. It seemed to Jennings that the Department of Education was basing its confidence "on a hunch rather than on evidence."[27]

By the beginning of the second Obama term, most of the funds from ARRA were expended. Congress, meanwhile, was gridlocked by partisan conflict, so the No Child Left Behind legislation had not been reauthorized and, at the time of this writing, there seems little prospect of it happening before the end of the second Obama term. In response to this gridlock, the department simply relaxed some of the procedures of NCLB regarding failed deadlines for a district's AYP. This practice was formalized into a state-by-state granting of waivers, giving Duncan a new means of leverage. Each state receiving a waiver had to agree to a long list of the Department of Education's procedures that would substitute for the NCLB approaches. Forty-three states plus the District of Columbia had received waivers by November 2014.[28]

The "era" of standards-based education at the federal level has spanned the administrations of three Presidents: Bill Clinton, George W. Bush, and Barack Obama. Their approaches to school reform shared two features: first, all three put a very strong emphasis on schools with concentrations of economically and educationally disadvantaged children, abiding by the durable Elementary and Secondary Education Act. The central indicator of their success in these efforts was a slight but durable narrowing of gaps in student assessment results. This also took account of rising average scores by group, as well as retention and graduation rates. Second, all three placed the federal government in a strong relationship with the states and schools.

In all three cases, the strategy changes were influenced by reactions to the previous administration. Following Reagan's retreat from a strong federal role in education, Clinton asserted leadership in promoting standards-based reform. In the Bush administration there was widespread opinion that Goals 2000 had not worked well in the 1990s because so many of the states were not complying with Congressional decisions. Thus, it was time to get tough. In the Obama case, it was the opinion, again widely shared, that the Bush version of standards-based reform was too negative in its incentives. A swing toward positive incentives and showcasing success

[27] On Jennings' work, see Katherine Gewertz, "Restructuring Schools under NCLB Found to Lag." *Education Week* December 9, 2009; the quotation is from "New Study Questions Turnaround Strategies," *EdNews Blog*, http://blog.ednewscolorado.org/2009/12/09/new-study-questions-turnaround-strategies. For the department's account of the grant program as of 2015, including a map indicating how the four strategies were distributed around the country, see "Turnaround Schools," *Education Week,* June 10, 2015.

[28] Allie Bidwell, "Education Department Drops New NCLB Waiver Guidance: The Waiver Extension Could Lock in Key Obama Administration Education Policies Past 2016," *U.S. News and World Report,* November 13, 2014.

became the rhetoric; in reality, the resources that came with successful competition required states or districts to comply with many specific ideas generated by the Secretary and his top staff.

The Importance of Title I

Background

Title I has a historical importance as the program that led the way in federal efforts to improve educational opportunity. It has generated an ocean of research papers and policy arguments about whether to continue, improve, or abolish the program. Within the research and policy fields there is little consensus on how to interpret test scores such as NAEP in relation to Title I, and little consensus about what would constitute success (eliminating test score gaps across groups, reducing them, or keeping them from getting worse). The program is widely criticized despite increasing scores and slightly declining gaps between race-ethnic groups and decades of solid bipartisan support for the general idea of Title I.

Part of the dominance of Title I in such discussions has to do with the attraction to test scores and Title I's linkage to NAEP. Journalists follow suit, highlighting these test scores, although whether the emphasis on scores is appropriate is an open question. In contrast, consider the field of special education. Although special education's budget exceeds Title I in most districts, and federal support for it now rivals Title I, it does not have a simple annual set of achievement scores to report and receives less notice.

Some critics say that Title I has failed to close the achievement gaps. They also say there is no proof Title I is responsible for the modest narrowing of gaps in the test scores by race-ethnicity because NAEP does not actually identify Title I kids. Therefore, some say, Title I should be discontinued. Thus, Title I is an important topic; it would be an enormous decision to discontinue this durable but plagued symbol of the nation's commitment to improving the education of the children of poverty.

NAEP's Relation to Title I

To satisfy Title I regulations, states had to report academic assessment scores for their districts. As a concession to a long tradition of opposition to national tests, they could devise their own tests, but that meant the scores were not comparable across states. Since 1971, however, NAEP has been taking a representative sample of students across the country and assessing them all on the same material. Those scores were available only for national averages for the first two decades after

NAEP's introduction, due to the same apprehension about a national test and undermining state prerogatives. By the 1990s, however, the states' opposition subsided and state-by-state assessments were developed on a trial basis in 1990. They became routine as of 1996.

NAEP prominently reports two kinds of data on achievement because they map onto the dual goals of Title I and standards-based reform: first, increases in the average scores for all students, and second, the gaps between the scores for students in the different race, ethnic, or income groups. The former is most closely related to the "quality" goal of education reform. (How good is my state doing as a whole compared to other countries or states, and how do my state's scores compare to our own scores for previous years?) The gaps between groups are most closely associated with the "equality" goal. (As the scores rise or fall for various subgroups, are the gaps decreasing or increasing between those groups?)

NAEP has kept comparable national figures since 1971 in reading and since 1973 in mathematics. Some changes were made in content and demands of the assessments during the 1970s and 1980s, but the Department of Education considers the trend lines reliable through to the present (this data series is now called Long-Term NAEP). However, as the changes in the test became more frequent and more fundamental, the NAEP board decided in 1990 to establish a second, more flexible series (Main NAEP) that would keep up with the changes and thus reflect the new work as well. Presently the Department of Education emphasizes the Main NAEP data for the ongoing release of scores and for interpretation of trends since 1990. The department states that the scores on these two series are not comparable to each other, but that *within* each series, the changes made in the test have not caused a break in the trend lines of the scores (U.S. Department of Education, National Center for Education Statistics. 2015b; Beaton and Chromy 2010).

Long-Term NAEP: Trends and Interpretations

For the period before 1990 we have only the Long-Term NAEP, and much analysis has been performed on these data. Nancy Kober, writing in 2001, presented achievement results from the Long-Term NAEP up to 1999. Kober noted that as the NAEP scores for White students in math and reading improved, so did Black scores. But the average scores for Blacks were rising more steeply. Graphs of Black and White scores in mathematics displayed a secular trend, steadily and gradually upward in scores, plus some gradual reduction in gaps by 1999. The reading scores were more bimodal, starting with a large gap of 39 points in 1971, falling to a low gap of 18 points in 1988, and then increasing to a 1999 gap of 29—still 10 points lower than in 1971.

Kober attributed the gaps remaining in 1999 partly to school factors for disadvantaged kids, such as less qualified or less experienced teachers; lower expectations; concentration of low-income students in some schools; school climate less conducive to learning; and disparities in access to preschool. Also, there are com-

munity or home factors: the effects of poverty on learning, a legacy of discrimination, and limited learning supports in homes and communities (Kober 2001; Ferguson and Mehta 2004).

Going beyond NAEP, Geoffrey Borman and Jerome D'Agostino performed a meta-analysis of 17 major assessments from 1966 to 1999. They wanted to test the notion that there had basically been no change over time in the effectiveness of Title I in raising achievement scores, which they say is the conventional wisdom. Their findings support the opposite view. The historical record also supports their view. The earliest years of Title I in the late 1960s and into the 1970s were characterized by weak enforcement, widespread abuse of rules by districts, and lack of consensus at all levels about how to improve the education of poor children in underperforming schools. By the 1980s oversight had improved, rules had tightened, and many more districts had accepted the challenge that had been tossed to them 20 years earlier.

Borman and D'Agostino found that Title I students were achieving greater gains in later decades than their similar peers not in Title I programs. To the argument that it still left substantial gaps between them and their non-Title I peers, Borman and D'Agostino argued that the Title I students "would have fallen farther behind" without Title I. To eliminate such gaps altogether would require the elimination of educational disadvantages beyond the school: poor nutrition, health, housing, and low parents' education, all in a negative, symbiotic relationship with poverty (Borman and D'Agostino 1996).

Ronald F. Ferguson reviewed the research on the effectiveness of the following reforms: reducing ability grouping and tracking; eliminating racially biased placements; providing more Black teachers for Black students; decreasing class sizes; and increasing the academic skills of teachers who predominantly taught students of color. For most of these he sees some merit. He summarizes in a clear and sensible conclusion: "Whether the Black-White test score gap would narrow if schools and teachers become more effective is uncertain. I believe it would. However, if the gap were to remain because all children improved, that too would be acceptable." (Ferguson 1998; see also Hedges and Nowell 1998).

The 1980s and 1990s: Studying Actual Title I Students

Despite some upward trend in NAEP scores in the 1980s and 1990s, Title I received much criticism. One interesting study with some positive findings was the "Sustaining Effects Study" headed up by Launor Carter in the early 1980s, relying on three years of data from the mid-1970s. Unlike NAEP data, their data distinguished between students in compensatory education programs (mostly Title I) and those who were not. Their sample included 120,000 students in 300 elementary schools. It could take achievement scores with participation in compensatory education and match them with the poverty status of families and race-ethnicity of the students taking the test. They compared Title I students with students who were

described at the beginning as "needing" Title I but not assigned. They found the Title I students' scores higher. Very few datasets had as many variables as the Carter "Sustaining Effects" data, so it is not known in most studies of achievement gaps who had been in Title I; all that is known is students' NAEP scores and their race-ethnicity, sex, and an indicator of family income (free lunch, partial free lunch, no free lunch) (Carter 1984).

By the 1990s there was much debate and publicity about achievement gaps, almost all of it around race-ethnicity. These debates were spurred by episodes of academic racism regarding race and IQ. As a result, the focus in Title I studies switched from family income to students' race-ethnicity.

In 1999, Maris Vinovskis reviewed the history of Title I. Vinovskis is a demographic historian and frequent consultant on both sides of the aisle, focusing on federal program effectiveness. With regard to Title I, Vinovskis judged that "efforts to radically change its approach or focus were ignored or defeated in the early 1980s." A Congressionally managed study called "Prospects" followed three cohorts over six years and concluded that Title I "did not appear to help at-risk students in high-poverty schools to close their academic achievement gaps with students in low-poverty schools." Like the Carter study, the Congressional "Prospects" data included whether students were in Title I or not. The authors reported that (in Vinovskis' words) Title I was "insufficient to close the gap in academic achievement between advantaged and disadvantaged students" (Vinovskis 1999a). I lack the expertise and the space here to evaluate the "Prospects" work. I note, however, that "eliminating" the achievement gap is a high hurdle. If disadvantaged students were not totally closing the gap between their scores and those of advantaged students, they might nonetheless have been keeping it from widening, and Title I might have been a factor. But gaps according to income, though they were not as emphasized, were flat or widening in recent decades, while those between race-ethnic groups were decreasing. (Reardon 2011; also see Jencks and Phillips 1998, Chap. 9).

NAEP Score Gaps after 2000

Analyses of Title I's achievement data after 2000 display similar score trends and the same diversity of judgments as those from the 1970s to the 1990s. Considering the large scope of this essay and the ocean of research literature about the effects of Title I, I shall present the Main NAEP scores for the period from 2000 to 2013 for the gaps by race-ethnicity that have been emphasized most in public discussions (Porter 2005; Clarke 2007; Dee and Jacob 2011; Carnoy and Loeb 2002).

Tables 3.3 and 3.4 display the Main NAEP scores by race-ethnic group in reading and mathematics, for the period from 1992 to 2013, for grades 4, 8, and 12. For example, fourth-grade reading scores for White students begin in 1992 with an average of 224, rising gradually but steadily to an average of 232 in 2013. Average scores of Black students on the same assessments go up and down during the 1990s, and then climb steadily to 206, thus reducing the White/Black achievement gap from 32 to 26. The movements are modest and some changes are not statistically significant, but the trends continue across grade levels, as well as across reading and

Table 3.3 Main NAEP reading scores, 1992–2013: White/Black and White/Hispanic gaps

	1992	1994	1998	2000	2002	2005	2007	2009	2011	2013
Grade 4										
White	224	224	225	225	229	229	231	230	231	232
Black	192	185	193	191	199	200	203	205	205	206
W/B gap	32	39	32	34	30	29	28	25	26	26
Hispanic	197	188	193	197	201	203	205	205	206	207
W/H gap	27	36	32	28	28	26	26	25	25	25
Grade 8										
White	267	267	270	–	272	271	272	273	274	276
Black	237	236	244	–	245	243	245	246	249	250
W/B gap	30	31	26	–	27	28	27	27	25	26
Hispanic	241	243	243	–	247	246	247	249	252	256
W/H gap	26	24	27	–	25	25	25	24	22	20
Grade 12										
White	297	293	297	–	292	293	–	296	–	297
Black	273	265	269	–	267	267	–	269	–	268
W/B gap	24	28	28	–	25	26	–	27	–	29
Hispanic	279	270	275	–	273	272	–	274	–	276
W/H gap	28	23	22	–	19	21	–	22	–	21

Table 3.4 Main NAEP mathematics scores, 1992–2013: White/Black and White/Hispanic gaps

	1990	1992	1996	2000	2003	2005	2007	2009	2011	2013
Grade 4										
White	220	227	231	235	243	246	248	248	249	250
Black	188	193	199	204	216	220	222	222	224	224
W/B gap	32	34	32	31	27	26	26	26	25	26
Hispanic	200	202	205	209	222	226	227	227	229	231
W/H gap	20	27	26	26	21	20	21	21	20	19
Grade 8										
White	270	277	281	285	288	289	291	293	293	294
Black	237	237	242	246	252	255	260	261	262	263
W/B gap	33	40	39	41	36	34	31	32	31	31
Hispanic	246	249	251	253	259	262	265	266	270	272
W/H gap	24	28	30	32	29	27	26	27	22	22
Grade 12										
White	n/a	n/a	n/a	n/a	n/a	157	n/a	161	n/a	162
Black	n/a	n/a	n/a	n/a	n/a	127	n/a	131	n/a	132
W/B gap	n/a	n/a	n/a	n/a	n/a	30		30		30
Hispanic	n/a	n/a	n/a	n/a	n/a	133	n/a	138	n/a	141
W/H gap	n/a	n/a	n/a	n/a	n/a	24	n/a	21	n/a	21

math and across the White/Black gap, suggesting some progress. The scores and gaps follow parallel patterns for eighth graders, and for Hispanic students in 12th grade. The gaps in eighth-grade reading achievement of Black and Hispanic students, as well as for Hispanic students in Grade 12, are narrowed. In general, the upward movement is mostly observed in the assessments from 2002 to 2013, rather than in the period 1992–2000.[29]

In sum, the Main NAEP scores for 1990–2013 move gradually upward, with the three groups mostly parallel but narrowing the gaps slightly. These numbers support an argument made by various researchers: If the Black and Hispanic scores are keeping pace, and if those scores are affected by Title I programs, we should continue and improve Title I. The seriousness of the gap between Whites and students of color has been a central feature of discussions about equality of educational opportunity since at least the 1990s.

But do the NAEP scores by race-ethnicity tell us about Title I? As we have seen, the Title I money goes to individual schools according to the number of parents under the poverty line as defined in the legislation, but the instruction is administered to children selected by their low scores in math and reading, regardless of their race-ethnicity or their families' income. Studies that actually track students in Title I instruction are few, and the ones mentioned above come to rather different conclusions (see Borman and D'Agostino 1996; and Carter 1984). Nonetheless, both recommend that Title I be continued and improved. As a historian interested in the history of educational opportunity, I hold this view. Many other researchers, some mentioned above, have made research-based suggestions for improving Title I programs (Carnoy and Loeb 2002; Dee and Jacob 2011; Ferguson 1998; Jennings 1998).

Some Generalizations

Before moving into the concluding sections of the report, I feel it is worth drawing some key generalizations about the evolution of the federal role in education and developments that laid the foundations for the reforms in play today.

Three Eras in the History of the Federal Role in Education

In the history of the federal role in education, there are "eras" that seem pretty clear. The first is from 1965 (or, if you wish, the National Defense Education Act in 1958) to 1980, when you have several important and controversial additions to the federal repertoire in the direction of equity. From 1980 through 1988, we have the Reagan

[29] For mathematics, the fourth-grade scores for Whites move from an average of 220 (in 2000) to an average of 250 (in 2013). Black average scores keep pace, from 188 to 224, reducing the gap from 32 to 24. Hispanic fourth-graders scored an average of 200 in 1990, up to 231 in 2013, leaving the gap essentially level (from 20 to 19). In eighth grade, all three groups' average scores edged up from year to year, virtually parallel.

presidency, the second "era." There is then a transition period under George H. W. Bush, whose inclination was to form a new partnership between states and the federal level but who instead got partisanship as the Democrats voted down his omnibus school reform bill. Thus, he falls between the second and the third era. That third era began in earnest with the presidency of Bill Clinton in 1993. From that time to the present, we have a unifying policy goal: standards-based education reform, spanning a Democratic President, then George W. Bush, a Republican, and Barack Obama, a Democrat.

Conditions for Change

The expansion of the federal role in education that began in 1965 coincided with the escalation of the civil rights movement, a mostly healthy economy, and a Supreme Court that, after a 10-year sleep, was ready to expand the authority of the *Brown* decision by asserting that the 14th Amendment's Equal Protection Clause required the courts to guarantee equal rights in education. During this time, savvy grassroots movements pressed for women's rights and the rights of children with disabilities, and Latino families demanded to see their cultures in their children's schools. This context helped these equity efforts, but still they weren't easy. Still, as James Patterson (1996) argues, the liberal agenda prevailed partly because a majority of people in the United States believed that the country could afford these reforms and that a rising tide would lift all boats.

Congress as the Arena for Advocacy and Compromise

Congress, especially the House of Representatives, was the arena where different interests and different regions began the process of advocacy and compromise. In the case of Title I, Congress spent most of its discussion time debating how the money was going to be divided, not on how the Title I classes might succeed. The resulting compromises ended with too little money spread over too many districts. These compromises were necessary for passage in Congress but impaired the program once in the field.

Lack of Constitutional Authority as a Hindrance

Beyond Congress, Title I advocates had to reckon with the federal role in education having no explicit authority in the Constitution and very little acceptance until the 1950s. That tradition guaranteed that any time there was a federal assertion of authority, it energized those who believed in local and state control. Localism and

centralism, the "alter egos" of our Constitutional government, have never been far from educational policy making.

States and Districts Forced to Focus on New Populations

Lorraine McDonnell uses the three-era framework to make some fresh generalizations about the evolution of the federal role. Her depiction of the first era is relevant here. She urges us to think of it as a period of rather urgent interest in monitoring grants and making more specific rules for states and districts. She emphasizes an important point: The federal government was thereby forcing states and districts to focus on particular clients (English language learners, poor students, students of color, and students with disabilities), which was alien to the culture of schools (McDonnell 2005). The states and districts had sometimes distributed their resources in surreptitious, perhaps unconscious ways with deleterious effects: through assignment to ability groups, through tracking, and through the superior resources of some schools in White neighborhoods. Now they were asked to account for distributions, and they were told that money from some grants had to go, not just to some *activity* (like science education), but to certain *students*. This took time and money for school districts as well as an increase in the intrusiveness of state and federal officials; reformers, however, believed that these drawbacks would be outweighed by the fairness and effectiveness of the new categories and programs.

The Numbers Game

This was a time of fast development in budgets, accounting, and in the social sciences in order to judge programs by their output, not their input. Data became king. James Coleman's famous study of the relationship between academic test scores and race, class, school facilities, and other variables became a model for using achievement as a measure of program performance. The Pentagon's new Planning Programing and Budgeting system (PPBS) spread through the cabinet departments and out into other government levels under the influence of Secretary of Defense Robert McNamara. PPBS faded, but it had picked up on the changing standards of accountability. Frank Keppel, new Commissioner of Education for President Kennedy, was appalled that the Office of Education had almost no data on student learning, and he began to develop NAEP behind the scenes, doing it privately (because of the animus against a possible national test) with funds from John Gardner, then-chairman of the Carnegie Corporation in New York. Thus began the era of accountability that focused on actual performance of children in educational programs. It took years before federal and state officials could get legitimate, sufficient, standardized test data from thousands and thousands of school districts, many of them resistant, but in the late 1960s and the 1970s, the seeds were sown (see Dwyer 2005).

The Reality of Delays

Delays in working out regulations and guidelines, pauses for changes in administrations, and other processes can add several years to the gap between the President's signing a bill and the agency in charge sending out notices of a law's activation date. These are the building blocks it takes to initiate a new major policy area from the federal level, as we have seen in our glimpse of the implementation of bilingual education, Title IX, and special education.

Impressive Action Despite the Odds

Given these pitfalls, it is impressive how many equity issues the federal government embraced and how much legislation it produced that affected schools. During the fertile time from the passage of ESEA in 1965 to the end of the 1970s, bilingual education, equal access and treatment for women students, equal access and treatment of children with disabilities, improvements in Native Americans' schools, and other programs took hold.

The Federal Government's Agenda-Setting Role

It is difficult to prove the benefits of these federal education programs, but at the very least, the federal government put them on the agenda with some regulations, expectations, and assistance. In none of these cases is it easy to document educational outcomes. But these items were, with some exceptions, not even on the radar at state and local levels before federal action. In cases where some of the states were ahead, as in special education, bilingual and other areas, federal advocates were able to benefit from this groundwork and use their national scope to generalize the concerns to other states. It's impressive to see that many new equity programs for new target populations developed in such a short time and in such a complicated system as federalism.

The Half-Truth About the Federal Role

The narrative of a relentless, engulfing federal control of education is a half-truth. The trouble with a half-truth is that half of it is true. The half that's true here is that there is a much greater presence of federal programs and rules in America's schools

today than there was in 1950.[30] Nonetheless, in 1965 the percent of local budgets provided by the federal government was 7.9 %, while in 2008, it was 8.0 %. From 1965 until 2009, it never went lower than 6.1 % or higher than 8.3 %.

Federal Action Can't Do It Alone

As Jack Jennings reminds us, policy collaboration in a federalist system is not a zero-sum game. An increase in federal activity on school reform may occur at a time of increasing state reform activity. Even the local level may find itself creating more policy rather than less at the time that the role of the federal government and the states increase. Systemic reform, or Common Core, are complicated endeavors and require increased policy activity at all levels.[31]

Not a Straight Evolution

Obviously, given the example of the Reagan reduction of a federal role in education, the evolution is not just linear upward. People may argue about how abrupt and how deep Reagan's attempted reversal was. In this chapter I've emphasized the serious reduction in the budget, the small but symbolically important block grant in ECIA, and the reduction in civil rights enforcement. But Congress, including some Republicans, prevented some of the most severe cuts, saved Title I and other programs from being included in the block grant, and prevented President Reagan from abolishing the new Department of Education.

From Laissez-Faire to Monitoring

Quite apart from the drift toward student achievement scores, the Office of Education had to change its mentality beginning in the 1960s. Far from being avaricious bureaucrats anxious to control state education agencies and their school districts, the Office of Education had, for a century, been a sleepy agency with a strong inclination not to tell anyone what to do. It continually assured people in the field that it had no regulatory ambitions. This caused quite a staff crisis when the new breed came in. Keppel found a staff that was disinclined and untrained to monitor compliance. This applied very much to the desegregation effort, but there was also a

[30] This cute but important point is found in my lecture notes from Professor Eric McKitrick's course in mid-nineteenth century America, Columbia University, fall 1966.

[31] In my experience, this important declaration belongs to Jack Jennings, in one private chat, and at a couple of meetings. If it comes initially from Montesquieu, please forgive me.

general disinclination to keep track of education program grants. Quick pressure to get new people and train old veterans shook up the Washington staff. After 1965, the Office of Education gradually became a policy and compliance agency. The vexing question was how much to trust local districts given a history of segregating schools, falsifying conditions, and misappropriating Title I funds. Finding the right balance between trust and compliance remains an ongoing issue, and it requires bureaucratic genius and diplomatic skills to do so.

The Conundrum of the Federal Role in Common Core

The third era, discussed at some length above, ended in an interesting conundrum. The three presidents of the third era, along with their Secretaries of Education and the U.S. Congress, created a federal policy of standards-based education, although the standards themselves were to be forged by each state. Then, after Clinton's forays into possible national standards and national tests were defeated, a group of former governors, educators, and businesspeople began talking about the possibility of a cooperative effort to develop such national standards and tests. This led eventually to the formation of a proposal sponsored by the governors and the chief state school officers to promote a compact called "Common Core." It is quite startling how the states acquiesced in the functions of the big, new collaboration of the National Governors' Association and the Council of Chief State School Officers, which is providing national standards and, through two national contractors, assessments to match. This will have a strong impact on the development of curriculum; indeed, vendors in the private sector have gone into action to offer curriculum materials that will be aligned to the national standards and assessments. The development of standards had until this time been in the hands of the states. In most of the states, reformers persuaded a majority of the public and the school leaders to consent to this new national system. The conundrum is twofold: How did this happen, and where does it leave the role of the federal government? We turn, then, to a brief presentation about the Common Core to understand the complex juncture at which we have arrived.

A National Arena of Education Policy: Common Core

There is an arena of policy formation and dissemination that is properly called "national," in which reforms move across state lines from district to district by informal, nonlegislative means but with some considerable influence. In the early twentieth century, this meant the consolidation of rural districts and the development of a multitrack high school curriculum. In the mid-twentieth century, it involved the articulation of the "comprehensive" American high school, which drew upon ideas from the early twentieth century. In the 1980s, it involved other reform

ideas like increased standards and more discipline. Sometimes this "national" dialogue informed state policy makers just as much as federal legislation, depending upon the issue.

Common Core, a recent movement, is a very large and ambitious hybrid of "national" and "federal." The National Governors' Association and the Council of Chief State School Officers proposed nationwide content standards to be shared across states. Common Core advocates argue that it is not a federal but a "national" project. On the other hand, the Department of Education has put its considerable power and resources behind the Common Core. In the first Obama administration, candidates for the Race to the Top were required to join a consortium for multistate assessments, a key ingredient of Common Core. The department funded these two big assessment consortia. More recently the department withdrew NCLB waivers from two states that withdrew from participation in the Common Core. Thus, it seems accurate to say that this is a national project, initiated by the governors and the chiefs but strongly supported by the Department of Education (see Rothman 2011).

Even though the Common Core is mostly the work of the governors and chief state school officers and their staffs, it is nonetheless a strong assertion of authority exercised by a national group over traditional state authority in the area of school curriculum planning and testing. Advocates emphasize that content standards are not the same as curriculum (indeed they are not) and that Common Core provides content standards, not curricula (also true). But planning a school program (including the curriculum) is much influenced by the standards; furthermore, having also agreed to assessments from multistate consortia, the states will experience another strong interstate effect on their curriculum.

Many advocates think that this is an arrangement worth making, usually justified on quality and capacity grounds, which are unevenly distributed across states. Common Core advocates argue that academic performance will be upgraded by adopting these high standards and common assessments. Still, most of what people feared about "national tests" in earlier debates applies here: The consortia have already made compromises about tests of higher-level abilities because assessing these abilities requires more complicated technology and more test time, something that some states want and others do not. We shall see how it plays out.

Equality and Quality With the Common Core

Common Core emphasizes improvement in the quality of the standards. It includes much more analysis and other higher-order skills. This is laudable and exciting but also raises anxieties. Teachers in many states feel the implementation schedule is far too rapid and that they have not had sufficient professional development to teach to the standards well, especially because for many teachers the test scores will count in their performance evaluations. The other source of opposition to the Common

Core is from local-control conservatives who are beginning to make Common Core a major issue in some states.

The possible effects of the Common Core on equity and disparate impact is not receiving as much attention as these other concerns, but it is crucial to the subject of this chapter: How functional for equal opportunity is the coming realignment of authority under the Common Core? Will children from low-income families and children of color be negatively impacted by the new, high demands of the Common Core? Will their teachers be as ready to teach to the Common Core standards as the teachers of more affluent children? Will our underperforming schools be able to teach effectively to these more demanding standards, with less experienced faculty and many children under the stresses of poverty and racial bias? In any case, the kaleidoscope of federalist governance seems to be turning to a new pattern. It will be fascinating to see what kind of a picture we get in five or six years, when the pieces come into clearer focus at the federal, state, and local levels. In particular, we will be interested in how the new alignment of initiative and authority will serve efforts to broaden educational opportunity and reduce gaps in academic achievement.

Federal Funding: A Final Overview

Before engaging in some policy suggestions, it is worth doing a broad review of the federal funding picture of education to provide an overview of the federal portion's size relative to state and local contributions. What appears to be a substantial expansion of the federal role in education occurred during the 50 years following 1965. This period was marked by a generally expansive economy, bipartisan cooperation, the civil rights movement, the augmented role of the United States in a turbulent world, the growing importance of education in the economy, the skills of education reformers in the Congress and the executive agencies, and the strong roles of advocacy groups on education, both traditional and new. But how big an expansion was it?

Table 3.5 displays the changing share of school districts' expenses paid by local, state, and federal government. From these data we can see a prevailing increase in the federal share during this period of strong increase overall in the context of the long-term trends from 1920 to 2012. The downturn in the 1980s was due to policy preferences of the Reagan administration, though resisted with some success by supporters of education in the Congress. The peak, from 2010 to 2012, was due to emergency funds to the Department of Education from Congress in the wake of the 2008 economic crisis. We can assume that those percentages will decrease when the official statistics are posted for 2013 and following.

In the big expansion in the 1960s and 1970s, the federal share of local dollar expenditures grew from 4.4 to 9.8 %, about double. But is that a lot of money? It's worth pointing out that federal dollars are the kind that local administrators want because they are almost all devoted to new kinds of learning, new clients, and

Table 3.5 Federal, state, and local share: public elementary and secondary school budgets

Year	Federal	State	Local
1920	0.3	16.5	83.2
1930	0.4	16.9	82.7
1940	1.8	30.3	68.0
1945	1.4	34.7	63.9
1950	2.9	39.8	57.3
1955	4.6	39.5	55.9
1960	4.4	39.1	56.5
1965	7.9	39.1	53.0
1970	8.0	39.9	52.1
1975	9.0	42.0	49.0
1980	9.8	46.8	43.4
1985	6.6	48.9	44.4
1990	6.1	47.3	46.8
1995	6.8	46.8	46.4
2000	7.3	49.7	43.0
2005	8.3	n.a.	n.a.
2008	8.0	48.0	44.0
2009	9.5	46.7	43.8
2010	13.0	43.0	44.0
2012	12.3	n.a.	n.a.

improvement of instruction; in contrast, much of the remaining approximately 90 % is largely needed for inflexible costs such as building and maintenance, salaries, student transportation, supplies, and similar necessities. So federal money has two rather large impacts: It provides program money and it allows the federal government to influence the agenda of the schools and require some accountability.

Although it is well to remember that the lion's share of the cost of public education falls to the state and local resources, opposition to the growing federal role is not about money as much as it is against new programs that require changes, rules, and accountability that infringe on local control. Whatever the objective of the federal initiatives—desegregation, better science classes, teacher evaluations, improved education of disadvantaged children, or adopting the Common Core—objections to federal assertions can also be justified on philosophical bases that are deeply ingrained in our history and our political preferences about how democracy best works in a very large country.

Some Policy Suggestions

This chapter has taken a broad look at the federal role in education, particularly about issues of equity. It has looked in detail at efforts to raise the achievement of poor children and those of color and ethnicity, as well as improving education for

English language learners, women, and children with disabilities. Now, I offer some policy suggestions for ways to move U.S. education forward.

Reassessing the Federal Role

First, we should de-emphasize the role of the federal Department of Education in K-12 standards-based reform from defining and enforcing the details of school reform to a collegial support role. The states and districts will have an unprecedented challenge to implement the Common Core in addition to their other duties. Common Core has created a host of new policy questions that must be made by states and districts, not by the federal government or the Common Core national administration. These include which assessment system to choose; how to phase in these new assessments and standards into already complex systems of curriculum, testing, and accountability; how to produce or purchase curriculum materials that will serve their needs and comport with Common Core standards; how to provide the requisite teacher education and professional development; and how to guarantee that students in the least effective schools will have equal access to what they need to achieve in the Common Core. Given the importance of these decisions, which will manifest themselves differently in the various states, it may be an opportune time to reconsider the relationship between the federal Department of Education and the states' role in providing high-quality education and increasing educational opportunity.

Aside from challenges of the Common Core, there is a renewed sense among many educators that the states are "where the action is" and that on many matters the states can assess their needs, capacities, and priorities better than the federal government. This is not suggested in the spirit of a "kinder, gentler" face of the department or to "reduce" the federal role but to suggest some changes given the giant workload Common Core will generate for the districts and the states. Furthermore, in this past 23 years of standards-based reform, the states have had ample time to develop reform systems and accountability; most have more capacity than they have ever had.

One example of federal-state cooperation is suggested by a recent article about California having some documented success with a state program of more extensive on-site technical assistance in individual districts (Strunk and McEachin 2014). If such successes continue, the Department of Education could disseminate information about California and subsidize state education agencies so they can create such units or use California's insights to strengthen their present technical assistance programs.

The relationship between Common Core and the Department of Education will continue to exist. It is hard to imagine that there will not be issues where adjustments might have to be made in federal regulations or in Common Core procedures. One important area might be the relation of the Common Core's heightened standards to possible disparate effects on economically disadvantaged students, students

of color, or other groups. Perhaps it would be appropriate for the department and the Common Core leaderships to collectively look at how the new, more challenging Common Core standards and activities are affecting the lowest achievers. One of the most important contributions the Department of Education has made during the long era of standards-based school reform has been, with the support of their Presidents, to press the states and districts to put special emphasis on helping low-achieving students coming from low-income families or students of color who so often encounter racial prejudice. I am confident that these and other issues are already under discussion as we move into a more collegial relationship between the department and the states. It will be interesting to see what the next reauthorization of ESEA says about the Common Core, and how the existence of the Common Core will impact on the Department of Education's requirements for receipt of grants such as for Title I.

One of the risks of relying more on the states to carry the ball in school reform is that the states' capacities are uneven, and they differ greatly in the achievement of their students and their progress in reform. The department could ameliorate that by incentivizing state action on various important national priorities. The incentives would be to subsidize the costs of introducing new or improved programs in return for reliable agreements to carry them out. The department could choose to start with two or three areas of reform. For example:

Early Childhood Education Individual states have been the leaders in the reform of early childhood education. (Rose 2010). The results have been quite different in these states that have led in attempting to upgrade early childhood opportunities by improving training and salaries, standards, and facilities. The federal government has endorsed this cause.

School Finance Equity Here again, some states are leaders and are well down the road that ran through many courtrooms. The idea of federal subsidies to help other states was raised in the Department of Education's Commission on School Finance a few years ago and would have the same effect as the early education option: stimulating reform and equalizing education across districts and across states (see Chap. 4).

Technical Assistance As mentioned above, another subsidization idea is to support the state education agencies in providing enhanced technical assistance to districts.

Title I Improvements

Congress and the administration should approve the continuation of Title I, at a higher level of authorization. As we have seen, there is much divided opinion about the effectiveness of Title I in reducing achievement gaps between race-ethnic groups and between students from varying family income groups (free lunch, partial free lunch, and not-free lunch). I am an outsider to this literature, but it seems that the

lack of connection between Title I assignment and a student's race or family income level renders most research results inconclusive in judging Title I's effects. The federal government should make a major effort to support research that follows actual Title I students, tracking them through Title I instruction, and probing why children of color are now making better progress on improving scores and narrowing gaps, while children from families with low income are not.

Income inequality, increasing since 1980, has devastating effects on most people in the lowest one-fifth of the population and even above that. With people facing difficulties related to low wages, unemployment, housing, and health care, this would be an illogical time to decrease our support for our main educational program aimed at children from poor families.

Additional Legislation

Major legislation regarding other programs that have attempted to lessen educational disadvantages and bias should be enacted. I do not know as much about current policy controversies in these fields as I do about Title I. I should simply like to say that, as a historian, I believe that the programs included in this essay have achieved historically important breakthroughs yet still need further extension and reform. Because their principal object is to ensure specific group rights and they have been underfunded in the past, I believe that programs regarding these issues—education of children with disabilities; bilingual education and other recognition of the needs of English language learners; women's rights in education and their enforcement, and the improvement of Native American educational resources and governance—should be amply funded to the fullest extent allowed by the resources of the Congress and the nation.

Conclusion

The goal of this chapter was to assess the major efforts by the federal government (with an eye on major advances by the states) to widen educational opportunity. Efforts through the decades have been filled with frustrations, controversies, and imperfections. But in the end, I see progress. Despite their failings, I have come out of the process, on balance, more hopeful about the positive effects these initiatives might still provide.

References

Aron, Lauden, and Pamela Loprest. 2012. Disability and the education system. *The Future of Children* 22(1): 110.

Baker, Bruce D., David G. Sciarra, and Danielle Farrie. 2014. *Is school funding fair? A national report card.* Newark: Education Law Center. http://www.schoolfundingfairness.org

Barley, Numan V. 1997. *The rise of massive resistance: Race and politics in the South during the 1950s*, 2nd ed. Baton Rouge: Louisiana State University Press.

Baugh, Joyce A. 2011. *The Detroit school busing case: Milliken v. Bradley and the controversy over desegregation*. Lawrence: University Press of Kansas.

Beaton, Albert E., and James R. Chromy. 2010. *NAEP trends: Main NAEP vs. long-term trend*. Paper for the NAEP Validity Studies Panel, American Institutes for Research, for National Center for Education Statistics. http://www.air.org/resource/naep-trends-main-naep-vs-long-term-trend

Bell, Theodore, to David Grinstead (White House staff). 1975. Folder 5, Box 801, Office Files of the Commissioner of Education, National Archives and Records Administration, College Park, November 21.

Bestor, Arthur. 1953. *Educational wastelands: The retreat from learning in our schools*. Urbana: University of Illinois Press.

Borman, Geoffrey D., and Jerome D'Agostino. 1996. Title I and student achievement: A meta-analysis of federal evaluation results. *Educational Evaluation and Policy Analysis* 18(4): 309–326.

Bound, John, and Sarah Turner. 2002. Going to war and going to college: Did World War II and the GI Bill increase educational attainment of returning veterans?". *Journal of Labor Economics* 20(4): 784–815.

Carnoy, Martin, and Susanna Loeb. 2002. Does external accountability affect student outcomes? A cross-state analysis. *Educational Evaluation and Policy Analysis* 24 (4: 305f). http://epa.sagepub.com/content/24/4/305

Carter, Launor F. 1984. The sustaining effects study of compensatory and elementary education. *Educational Researcher* 13(7): 4–13.

Cascio, Elizabeth U., Nora Gordon, and Sarah Reber. 2013. Local responses to federal grants: Evidence from the introduction of Title I in the South. *American Economic Journal: Economic Policy* 5(3): 121–159.

Clarke, Marguerite. 2007. *State responses to the No Child Left Behind Act: The uncertain link between implementation and 'Proficiency for All.'* In Kaestle and Lodewick 2007, 144–76.

Clotfelter, Charles T. 2004. *After Brown: The rise and retreat of school desegregation*. Princeton: Princeton University Press.

Cohen, David K., and Susan L. Moffitt. 2009. *The ordeal of equality: Did federal regulation fix the schools?* Cambridge, MA: Harvard University Press.

Conant, James B. 1959. *The American high school today*. New York: McGraw-Hill.

Costain, Anne. 1979. Eliminating sex discrimination in education: Lobbying for implementation of Title IX. In *Race, sex, and policy problems*, ed. Marian Lief Palley and Michael B. Preston. Lexington: Lexington Books.

Cross, Christopher T. 2014. *Political education: Setting the course for state and federal policy*, 2nd ed. New York: Teachers College Press.

Cubberley, Ellwood P. 1909. *Changing conceptions of education*. Boston: Houghton Mifflin.

Davies, Gareth. 2007. *See government grow: Education politics from Johnson to Reagan*. Lawrence: University Press of Kansas.

DeBray, Elizabeth H. 2006. *Politics, ideology, & education: Federal policy during the Clinton and Bush administrations*. New York: Teachers College Press.

Dee, Thomas S., and Brian Jacob. 2011. The impact of no child left behind on student achievement. *Journal of Policy Analysis and Management* 30(3): 418–446.

Dougherty, Jack. 2004. *More than one struggle: The evolution of Black school reform in Milwaukee*. Chapel Hill: University of North Carolina Press.

Douglas, Davison M. 1995. *Reading, writing, and race: The desegregation of the Charlotte schools*. Chapel Hill: University of North Carolina Press.
Dwyer, Carol Anne (ed.). 2005. *Measurement and research in the accountability era*. Mahwah: Lawrence Erlbaum Associates.
Eidenberg, Eugene, and Roy D. Morey. 1969. *An act of Congress: The legislative process and the making of education policy*. New York: Norton.
Executive Office of the President of the United States. 2009. *Educational impact of the American Recovery and Reinvestment Act*. A report issued by the Domestic Policy Council, October. www.whitehouse.gov/assets/FDPC_Education/Report.pdf
Federal Education Policy and the States, 1945–2009. 2009. *States' impact on federal education policy project*. http://nysa32.nysed.gov/edpolicy/research/es_essay_reagan_achvmnt-gap.shtml
Ferguson, Ronald F. 1998. *Can schools narrow the Black-White test score gap?* In Jencks and Phillips 1998, 318–74.
Ferguson, Ronald F., and Jal Mehta. 2004. An unfinished journey: The legacy of *Brown* and the narrowing of the achievement gap. *Phi Delta Kappan* 85(9): 656–669.
Fishel, Andrew, and Janice Pottker. 1977. *National politics and sex discrimination in education*. Lexington: Lexington Books.
Frum, David. 2000. *How we got here: The 70's*. New York: Basic Books.
Gamson, David. 2007. *From progressivism to federalism: The pursuit of equal educational opportunity, 1915–1965*." In Kaestle and Lodewick 2007.
Goertz, Margaret E. 2005. Implementing the No Child Left Behind act: Challenges for the states. *Peabody Journal of Education* 80(2): 73–89.
Goldin, Claudia, and Lawrence F. Katz. 2008. *The race between education and technology*. Cambridge, MA: Harvard University Press.
Gordon, Nora. 2004. Do federal grants boost school spending? Evidence from Title I. *Journal of Public Economics* 88: 1771–1792.
Graham, Hugh Davis. 1990. *The civil rights era: Origins and development of national policy*. New York: Oxford University Press.
Hale, Lorraine. 2002. *Native American education: A reference handbook*. Santa Barbara: ABC CLIO.
Hawkins, Augustus Freeman (Gus), (1907–2007). n.d. *Biographical directory of the United States Congress.* http://bioguide.congress.gov/scripts/biodisplay.pl?index=h000367
Hedges, Larry V., and Amy Nowell. 1998. *Black-White test score convergence since 1965*. In Jencks and Phillips 1998, 149–181.
Jeffrey, Julie Roy. 1978. *Education for children of the poor: A study of the origins and implementation of the Elementary and Secondary Education Act of 1965*. Columbus: Ohio State University Press.
Jencks, Christopher, and Meredith Phillips (eds.). 1998. *The Black-White test score gap*. Washington, DC: Brookings Institute Press.
Jennings, John F. 1998. *Why national standards and tests: Politics and the quest for better schools*. Thousand Oaks: Sage.
Jennings, Jack. 2015. *Presidents, Congress, and the public schools: The politics of education reform*. Cambridge, MA: Harvard Education Press.
Kaestle, Carl F. 2012 *Testing policy in the United States: A historical perspective*. Paper prepared for the Gordon Commission on the Future of Educational Assessment. http://www.gordoncommission.org/publications_reports/assessment_education.html
Kaestle, Carl F. 1983. *Pillars of the Republic: Common Schools and American Society, 1780–1860*. New York: Hill & Wang.
Kaestle, Carl F. 1990. The public schools and the public mood. *American Heritage* 41: 1.
Kaestle, Carl F. 1995. Literate America: High-level adult literacy as a national goal. In *Learning from the past: What history teaches us about school reform*, ed. Diane Ravitch and Maris Vinovskis, 329–354. Baltimore: Johns Hopkins University Press.

Kaestle, Carl F. Forthcoming. *Uncertain mandate: The formative years of the federal role in education*.
Kaestle, Carl F., and Alyssa E. Lodewick (eds.). 2007. *To educate a nation: Federal and national strategies of school reform*. Lawrence: University Press of Kansas.
Kaestle, Carl F., and Larry Stedman. 1987. Literacy and reading performance in the United States, from 1880 to the present. *Reading Research Quarterly* 22(Winter): 8–46.
Kaestle, Carl F., and Maris A. Vinovskis. 1980. *Education and social change in 19th-century Massachusetts*. Cambridge: Cambridge University Press.
Kober, Nancy. 2001. *It takes more than testing: Closing the achievement gap*. Washington, DC: Center on Education Policy.
Krug, Edward. 1964. *The shaping of the American high school*. New York: Harper & Row.
Linn, Robert. 2005. *Scientific evidence and inference in educational policy and practice: Implications for evaluating adequate yearly progress*. In Dwyer 2005, 24.
Lubienski, Christopher A., and Sarah Theule Lubienski. 2014. *The public school advantage: Why public schools outperform private schools*. Chicago: University of Chicago Press.
Manna, Paul. 2007. *School's in: Federalism and the national education agenda*. Washington, DC: Georgetown University Press.
Martin, Ruby, and Phyllis McClure. 1969. *Title I of ESEA: Is it helping poor children?* Washington, DC: Washington Research Project and the NAACP Legal Defense Fund.
Massey, Douglas S., Jonathan Rothwell, and Thurston Domino. 2009. "The changing base of segregation in the United States." *Annals of the American Academy of Political and Social Scien*ce 626 (74). http://www.ncbi.nlm.nih.gov
McCarthy, Joseph Justin. 1991. *Title IX from 1970 to 1988: A study in educational policy-making* (doctoral dissertation). Cambridge, MA: Harvard Graduate School of Education.
McDonnell, Lorraine M. 2005. No Child Left Behind and the federal role in education: Evolution or revolution? *Peabody Journal of Education* 80(2): 19–38.
McGuinn, Patrick J. 2006. *No Child Left Behind and the transformation of federal education policy, 1965–2008*. Lawrence: University Press of Kansas.
McLaughlin, Milbrey W. 1975. *Evaluation and reform: The Elementary and Secondary Education Act of 1965*. Cambridge: Ballenger Publishing.
Miech, Edward J. n.d. *The necessary gentleman: Francis Keppel's leadership in getting education's act together* (doctoral dissertation). Cambridge, MA: Harvard University, Graduate School of Education.
Miguel, San, and Jr. Guadalupe. 2004. *Contested policy: The rise and fall of federal bilingual education in the United States*. Denton: University of North Texas Press.
Moreno, José F. (ed.). 1999. *The elusive quest for equality: 150 years of Chicano/Chicana Education*. Cambridge, MA: Harvard Educational Review.
New America Foundation. n.d. *Cost of educating children with disabilities.* http://febp.newamerica.net/background-analysis/individuals-disabilities-education-act-funding-distribution
Orfield, Gary. 1969. *Reconstruction of Southern education: The schools and the 1964 Civil Rights Act*. New York: Wiley-Interscience.
Orfield, Gary, and Susan E. Eaton. 1996. *Dismantling desegregation: The quiet reversal of Brown v. Board of Education*. New York: New Press.
Orfield, Gary, Erica Frankenberg, Jongyeon Ee, and John Kuscera. 2014. *Brown at 60: Great progress, a long retreat and an uncertain future*. Los Angeles: University of California at Los Angeles.
Parrish, Thomas B. 2001. Who's paying the rising cost of special education? *Journal of Special Education Leadership* 14(1): 4–12.
Patterson, James T. 1996. *Grand expectations: The United States, 1945–1974*. New York: Oxford University Press.
Patterson, James T. 2001. *Brown v. Board of Education: A civil rights milestone and its troubled legacy*. New York: Oxford University Press.
Peterson, Paul. 1983. Background paper. In *Making the grade: Report of the 20th century fund task force on federal elementary and secondary education policy*. New York: 20th Century Fund.

Porter, Andrew. 1995. The uses and misuses of opportunity-to-learn standards. *Educational Researcher* 24(1): 21–27.
Porter, Andrew. 2005. *Prospects for school reform and closing the achievement gap*. In Dwyer 2005.
Pottinger, Stanley. 1970. *Memo regarding language minority children*, May 25. http://www2.ed.gov/pint/about/offices/list/ocr/docs/lau1970.html
President's Commission on School Finance. 1972. *Schools, people, & money: The need for educational reform*. Washington, DC: U.S. Government Printing Office.
Ravitch, Diane. 1995. *National standards in American education: A citizen's guide*. Washington, DC: Brookings Institution.
Reardon, Sean F. 2011. The widening achievement gap between the rich and the poor: New evidence and possible explanations. In *Whither opportunity: Rising inequality, schools, and children's life chances*, ed. Greg J. Duncan and Richard J. Murnane, 91–116. New York: Russell Sage Foundation/Spencer Foundation.
Reardon, Sean F., Elena Tej Grewal, Demetra Kalogrides, and Erica Greenberg. 2012. Brown fades: The end of court-ordered school desegregation and the resegregation of American public schools. *Journal of Policy Analysis and Management* 31(4): 533–547.
Reese, William J. 1995. *The origins of the American high school*. New Haven: Yale University Press.
Reese, William J. 2013. *Testing wars in the public schools: A forgotten history*. Cambridge, MA: Harvard University Press.
Rose, Elizabeth. 2010. *The promise of preschool: From Head Start to universal pre-kindergarten*. New York: Oxford University Press.
Rothman, Robert. 2011. *Something in common: The Common Core standards and the next chapter in American education*. Cambridge, MA: Harvard Education Press.
Rothstein, Richard. 2004. *Class and schools: Using social, economic and educational reform to close the Black-White achievement gap*. Washington, DC: Economic Policy Institute.
Rury, John L. 2005. *Education and social change: Themes in the history of American schooling*, vol. 2. Mahwah: Lawrence Erlbaum.
Salomone, Rosemary C. 1986. *Equal education under law: Legal rights and federal policy in the post-Brown era*. New York: St. Martin's Press.
San Miguel Jr., Guadalupe. 1987. *'Let all of them take heed' Mexican Americans and the campaign for educational equality in Texas, 1910—1981*. Austin: University of Texas Press.
Schneider, Susan Gilbert. 1976. *Revolution, reaction or reform: The 1974 Bilingual Education Act*. New York: Las Americas Publishing Company.
Scotch, Richard K. 2001. *From good will to civil rights: Transforming federal disability policy*, 2nd ed. Philadelphia: Temple University Press.
Simon, Kenneth A., and W. V. Grant (eds.). 1970. *Digest of educational statistics*. Washington, DC: Office of Education.
Smith, Marshall S., and Jennifer A. O'Day. 1991. Systemic school reform. In *The politics of curriculum and testing, Politics of education association yearbook 1990*, ed. Fuhrman Susan and Malen Betty, 233–267. London: Falmer Press.
Stewner-Manzanares, Gloria. 1988. The bilingual education act: Twenty years later. In *Occasional Papers in Bilingual Education* 6 (Fall). Washington, DC: Office of Bilingual Education and Minority Languages Affairs. http://eric.ed.gov/?id=ED337031
Strum, Phillipa. 2010. *Mendez v. Westminster: School desegregation and Mexican-American rights*. Lawrence: University Press of Kansas.
Strunk, Katherine O., and Andrew McEachin. 2014. More than sanctions: Closing achievement gaps through California's use of intensive technical assistance. *Education Evaluation and Policy Analysis* 36(3): 281–307.
Sundquist, James L. 1968. *Politics and policy: The Eisenhower, Kennedy and Johnson Years*. Washington, DC: Brookings Institution.
Swanson, Beverly B. 1991. An overview of the six national education goals. *ERIC Digest.* www.ericdigests.org/pre-9220/six.htm

Szasz, Margaret Connell. 1999. *Education and the American Indian: The road to self-determination since 1928*, 3rd ed. Albuquerque: University of New Mexico Press.

Turnbull, Brenda J., and Ellen L. Marks. 1986. *The education block grant and intergovernmental relations: Effect at the local level*. Menlo Park: SRI International.

Turner, Susan, and John Bound. 2003. Closing the gap or widening the divide: The effects of the G. I. Bill and World War II on educational outcomes of Black Americans. *Journal of Economic History* 63(1): 145–177.

U.S. Department of Education, 2009. *The American Recovery and Reinvestment Act of 2009: Saving and creating jobs and reforming education*, March 7. www2.ed.gov/policy/gen/leg/recovery/implementation.htm

U.S. Department of Education, National Center for Education Statistics. 2015a. Fast facts: Students with disabilities. (Source: *Digest of Education Statistics, 2012*). https://nces.ed.gov/fastfacts/display.asp?id=64

U.S. Department of Education, National Center for Education Statistics. 2015b. *What are the differences between long-term trend NAEP and main NAEP?* National Assessment of Educational Progress. Accessed January 27, 2015. http://nces.ed.gov/nationsreportcard/about/ltt_main_diff.aspx

U.S. Department of Health, Education, and Welfare, Office of Civil Rights. 1975. *Task-force findings specifying remedies available for eliminating past educational practices rule unlawful under* Lau v. Nichols. Copy in *Bilingual education: A reappraisal of federal policy*, edited by Keith A. Baker and Adriana A. de Kanter. Lexington: Lexington Books, 1983, Appendix B.

Urban, Wayne. 2010. *More than science and Sputnik: The National Defense Education Act of 1958*. Tuscaloosa: University of Alabama Press.

Verstegen, Deborah A. 1985. Redistributing federal aid to education: Chapter 2 of the Education Consolidation and Improvement Act of 1981. *Journal of Education Finance* 10(4).

Vinovskis, Maris A. 1999a. Do federal compensatory education programs really work? A brief historical analysis of Title I and Head Start. *American Journal of Education* 107(3): 187–209.

Vinovskis, Maris A. 1999b. *History & educational policymaking*. New Haven: Yale University Press.

Vinovskis, Maris A. 2008. Gubernatorial leadership and American K-12 educational reform. In *Legacy of innovation: Governors and American public policy*, ed. Ethan Scribnick, 185–203. Philadelphia: University of Pennsylvania Press.

Vinovskis, Maris A. 2009. *From A Nation at Risk to No Child Left Behind: National education goals and the creation of federal education policy*. New York: Teachers College Press.

Ware, Susan (ed.). 2007. *Title IX: A brief history with documents*. Boston: Bedford-St. Martin's.

Webb, Clive (ed.). 2005. *Massive resistance: Southern opposition to the second reconstruction*. New York: Oxford University Press.

Wilkinson III, J. Harvie. 1979. *From Brown to Bakke: The Supreme Court and school integration, 1954–1978*. Oxford: Oxford University Press.

Chapter 4
The Changing Distribution of Educational Opportunities: 1993–2012

Bruce Baker, Danielle Farrie, and David G. Sciarra

Abstract Over the past several decades, many states have pursued substantive changes to their state school finance systems. Some reforms have been stimulated by judicial pressure resulting from state constitutional challenges and others have been initiated by legislatures. But despite gains in school funding equity and adequacy made over the past few decades, in recent years we have witnessed a substantial retreat from equity and adequacy. This chapter builds on the national school funding fairness report annually published by the Education Law Center. We track school funding fairness (the relative targeting of funding to districts serving economically disadvantaged children) for all states from 1993 to 2012. This chapter explores in greater depth the consequences of school funding levels, distributions, and changes in specific classroom resources provided in schools. We find that states and districts applying more effort—spending a greater share of their fiscal capacity on schools—generally spend more on schools, and that these higher spending levels translate into higher staffing levels and lower class sizes as well as more competitive teacher wages.

Keywords School funding • School finance • Funding equity • Funding fairness • Class size • Teacher compensation • School quality • Pay for performance • School poverty

B. Baker (✉)
Graduate School of Education, Rutgers University, New Brunswick, NJ, USA

D. Farrie • D.G. Sciarra
Education Law Center, Newark, NJ, USA

I. Kirsch, H. Braun (eds.), *The Dynamics of Opportunity in America*,
DOI 10.1007/978-3-319-25991-8_4

Introduction

Over the past several decades, many states have pursued substantive changes to their state school finance systems. Some reforms have been stimulated by judicial pressure resulting from state constitutional challenges and others have been initiated by legislatures. But despite gains in school funding equity and adequacy made over the past few decades, in recent years we have witnessed a substantial retreat from equity and adequacy, and retrenchment among state legislatures, governors, and federal officials across the political aisle, with many contending that the level and distribution of school funding are not primary factors in quality of education.

This chapter builds on the national school funding fairness report annually published by the Education Law Center, in which we apply regression-based methods to national data on all local public school districts to characterize state school finance systems (Baker et al. 2014). Specifically, we evaluate whether those systems lead to consistent targeting of resources to districts serving higher concentrations of children from economically disadvantaged backgrounds.

In this chapter we expand our analysis in two directions. First, our past three national reports have each been based on the most recent three available years of district level data on state and local revenues. In this chapter, we track school funding fairness (the relative targeting of funding to districts serving economically disadvantaged children) for all states from 1993 to 2012. This time period includes substantive changes to state school finance systems in several states, whether as a function of ongoing litigation or proactive legislative change. Further, this period runs through the recent economic downturn, in which several state school finance systems lost significant ground, both in level of overall funding and in fairness of distribution (Baker 2014). Thus we are able to evaluate the extent of backsliding and the partial rebound that has occurred.

Second, this chapter explores in greater depth the consequences of school funding levels, distributions, and changes in specific classroom resources provided in schools. The majority of school spending is dedicated to staffing, with the primary spending tradeoff being the balance between employee salaries and the numbers of employees assigned. Competitive teacher wages and appropriate class sizes are important to the provision of equitable and adequate educational programs and services. The third edition of *Is School Funding Fair* included additional indicators related to (a) pupil-to-teacher ratios across higher and lower poverty districts and (b) the relative competitiveness of teacher wages statewide when compared with nonteachers at similar education level and age. In that report, we provided preliminary evidence that more equitable funding distributions with respect to poverty concentrations did indeed translate to more equitable distributions of pupil-to-teacher ratios. Further, states with higher funding levels tended to have, on average, more competitive teacher wages relative to other professions.

In this chapter, we explore both of these additional measures during a 20-year time period, and we add measures of class size and variation in teacher wages across schools and districts using data from the National Center for Education Statistics

(NCES) Schools and Staffing Survey. Specifically, we explore whether targeting of funding to higher poverty districts translates to reduction of class sizes and the number of students per teacher in higher poverty settings relative to lower poverty ones. We also explore whether targeting of funding to higher poverty settings leads to more competitive wages in those settings. A substantial body of research points to the need not merely for comparable wages, but substantial added compensation to support recruiting and retaining teachers in high-need settings.

Conceptions of Equity, Equal Opportunity, and Adequacy

Reforms across the nation to state school finance systems have been focused on simultaneously achieving equal educational opportunity and adequacy. While achieving and maintaining educational adequacy requires a school finance system that consistently and equitably meets a certain level of educational outcomes, it is important to maintain equal educational opportunity in those cases where funding falls below adequacy thresholds. That is, whatever the level of outcomes attained across a school system, it should be equally attainable regardless of where a child lives or attends school or his or her background.

Conceptions of school finance equity and adequacy have evolved over the years. Presently, the central assumption is that state finance systems should be designed to provide children, regardless of where they live and attend school, with equal opportunity to achieve some constitutionally adequate level of outcomes (Baker and Green 2009a). Much is embedded in this statement and it is helpful to unpack it, one layer at a time.

The main concerns of advocates, policy makers, academics, and state courts from the 1960s through the 1980s were to (a) reduce the overall variation in per-pupil spending across local public school districts; and (b) disrupt the extent to which that spending variation was related to differences in taxable property wealth across districts. That is, the goal was to achieve more equal dollar inputs—or *nominal spending equity*—coupled with *fiscal neutrality*—or reducing the correlation between local school resources and local property wealth. While modern goals of providing equal opportunity and achieving educational adequacy are more complex and loftier than mere spending equity or fiscal neutrality, achieving the more basic goals remains relevant and still elusive in many states.

An alternative to nominal spending equity is to look at the *real resources* provided across children and school districts: the programs and services, staffing, materials, supplies and equipment, and educational facilities provided (Still, the emphasis is on equal provision of these inputs) (Baker and Green (2009b). Providing real resource equity may, in fact, require that per-pupil spending not be perfectly equal if, for example, resources such as similarly qualified teachers come at a higher price (competitive wage) in one region than in another. *Real resource* parity is more meaningful than mere dollar equity. Further, if one knows how the prices of real

resources differ, one can better compare the value of the school dollar from one location to the next.

Modern conceptions of equal educational opportunity and educational adequacy shift emphasis away from schooling inputs and onto schooling outcomes—and more specifically equal opportunity—to achieve some level of educational outcomes. References to broad outcome standards in the school finance context often emanate from the seven standards articulated in Rose v. Council for Better Education,[1] a school funding adequacy case in 1989 in Kentucky that scholars consider the turning point in shifting the focus from equity to adequacy in school finance legal theory (Clune 1994). There are two separable but often integrated goals here—equal opportunity and educational adequacy.

The first goal is achieved when all students are provided the real resources to have equal opportunities to achieve some common level of educational outcomes. Because children come to school with varied backgrounds and needs, striving for common goals requires moving beyond mere equitable provision of *real resources*. For example, children with disabilities and children with limited English language proficiency may require specialized resources (personnel), programs, materials, supplies, and equipment. Schools and districts serving larger shares of these children may require substantively more funding to provide these resources. Further, where poverty is highly concentrated, smaller class sizes and other resource-intensive interventions may be required to strive for those outcomes achieved by the state's average child.

Meanwhile, conceptions of educational adequacy require that policy makers determine the desired level of outcome to be achieved. Essentially, adequacy conceptions attach a "level" of outcome expectation to the equal educational opportunity concept. Broad adequacy goals are often framed by judicial interpretation of state constitutions. It may well be that the outcomes achieved by the average child are deemed sufficient. But it may also be that the preferences of policy makers or a specific legal mandate are somewhat higher (or lower) than the outcomes achieved by the average child. The current buzz phrase is that schools should ensure that children are "college ready"[2]

[1] As per the court's declaration: "An efficient system of education must have as its goal to provide each and every child with at least the seven following capacities: (i) sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization; (ii) sufficient knowledge of economic, social, and political systems to enable the student to make informed choices; (iii) sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation; (iv) sufficient self-knowledge and knowledge of his or her mental and physical wellness; (v) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage; (vi) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently; and (vii) sufficient levels of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market. Rose v. Council for Better Education, Inc., 790 S.W.2d 186, 212 (Ky. 1989). https://casetext.com/#!/case/rose-v-council-for-better-educ-inc.

[2] See PARCC website at http://www.parcconline.org.

One final distinction, pertaining to both equal educational opportunity and adequacy goals, is the distinction between striving to achieve equal or adequate outcomes versus providing the resources that yield equal opportunity for children, regardless of their backgrounds or where they live. Achieving equal outcomes is statistically unlikely at best, and of suspect policy relevance, given that perfect equality of outcomes requires leveling down (actual outcomes) as much as leveling up. A goal of school finance policy is to provide the resources to offset pre-existing inequalities that otherwise give one child a greater chance than another of achieving the desired outcome levels.

Money and School Finance Reforms

There is an increasing body of evidence that substantive and sustained state school finance reforms matter for improving both the level and distribution of short-term and long-run student outcomes. A few studies have attempted to tackle school finance reforms broadly, applying multistate analyses over time. Card and Payne (2002) found "evidence that equalization of spending levels leads to a narrowing of test score outcomes across family background groups" (Card and Payne 2002, 49). Most recently, Jackson et al. evaluated long-term outcomes of children exposed to court-ordered school finance reforms, finding that "a 10 % increase in per-pupil spending each year for all 12 years of public school leads to 0.27 more completed years of education, 7.25 % higher wages, and a 3.67 percentage-point reduction in the annual incidence of adult poverty; effects are much more pronounced for children from low-income families" (2015, 1).

Numerous other researchers have explored the effects of specific state school finance reforms over time, applying a variety of statistical methods to evaluate how changes in the level and targeting of funding affect changes in outcomes achieved by students directly affected by those funding changes. Figlio (2004) says that the influence of state school finance reforms on student outcomes is perhaps better measured within states over time, explaining that national studies of the type attempted by Card and Payne confront problems of (a) the enormous diversity in the nature of state aid reform plans, and (b) the paucity of national level student performance data.

Several such studies provide compelling evidence of the potential positive effects of school finance reforms. Studies of Michigan school finance reforms in the 1990s have shown positive effects on student performance in both the previously lowest

spending districts[3] and previously lower performing districts.[4] Similarly, a study of Kansas school finance reforms in the 1990s, which also primarily involved a leveling up of low-spending districts, found that a 20 % increase in spending was associated with a 5 % increase in the likelihood of students going on to postsecondary education (Deke 2003).

Three studies of Massachusetts school finance reforms from the 1990s find similar results. The first, by Thomas Downes and colleagues, found that the combination of funding and accountability reforms "has been successful in raising the achievement of students in the previously low-spending districts." (2009, 5) The second found that "increases in per-pupil spending led to significant increases in math, reading, science, and social studies test scores for 4th- and 8th-grade students."[5] The most recent of the three, published in 2014 in the *Journal of Education Finance,* found that "changes in the state education aid following the education reform resulted in significantly higher student performance" (Nguyen-Hoang and Yinger 2014, 297). Such findings have been replicated in other states, including Vermont.[6]

Indeed, the role of money in improving student outcomes is often contested. Baker (2012) explains the evolution of assertions regarding the unimportance of money for improving student outcomes, pointing out that these assertions emanate in part from misrepresentations of the work of Coleman and colleagues in the 1960s, which found that school factors seemed less associated with student outcome differences than did family factors. This was not to suggest, however, that school factors

[3] Roy (2011) published an analysis of the effects of Michigan's 1990s school finance reforms that led to a significant leveling up for previously low-spending districts. Roy, whose analyses measure both whether the policy resulted in changes in funding and who was affected, found that the proposal "was quite successful in reducing interdistrict spending disparities. There was also a significant positive effect on student performance in the lowest-spending districts as measured in state tests." (p. 137).

[4] Papke (2005), also evaluating Michigan school finance reforms from the 1990s, found that "increases in spending have nontrivial, statistically significant effects on math test pass rates, and the effects are largest for schools with initially poor performance." (p. 821).

Most recently, Hyman (2013) also found positive effects of Michigan school finance reforms in the 1990s but raised some concerns regarding the distribution of those effects. Hyman found that much of the increase was targeted to schools serving fewer low-income children. But the study did find that students exposed to an additional "12 %, more spending per year during grades four through seven experienced a 3.9 % point increase in the probability of enrolling in college, and a 2.5 % point increase in the probability of earning a degree." (p. 1).

[5] "The magnitudes imply a $1000 increase in per-pupil spending leads to about a third to a half of a standard-deviation increase in average test scores. It is noted that the state aid driving the estimates is targeted to under-funded school districts, which may have atypical returns to additional expenditures." (Guryan 2001, 1).

[6] Downes had conducted earlier studies of Vermont school finance reforms in the late 1990s (Act 60). In a 2004 book chapter, Downes noted, "All of the evidence cited in this paper supports the conclusion that Act 60 has dramatically reduced dispersion in education spending and has done this by weakening the link between spending and property wealth. Further, the regressions presented in this paper offer some evidence that student performance has become more equal in the post-Act 60 period. And no results support the conclusion that Act 60 has contributed to increased dispersion in performance." (2004, 312).

were entirely unimportant, and more recent reanalyses of the Coleman data using more advanced statistical techniques than available at the time clarify the relevance of schooling resources (Konstantopoulos and Borman 2011; Borman and Dowling 2010).

Eric Hanushek ushered in the modern-era "money doesn't matter" argument in a study in which he tallied studies reporting positive and negative correlations between spending measures and student outcome measures, proclaiming as his major finding: "There appears to be no strong or systematic relationship between school expenditures and student performance" (1986, 1162).[7]

Baker (2012) summarized reanalyses of the studies tallied by Hanushek, applying quality standards to determine study inclusion, and finding that more of the higher quality studies yielded positive findings with respect to the relationship between schooling resources and student outcomes (Baker 2012). While Hanushek's above characterization continues to permeate policy discourse over school funding—and is often used as evidence that "money doesn't matter"—it is critically important to understand that this statement is merely one of uncertainty about the direct correlation between spending measures and outcome measures based on studies prior to 1986. Neither this statement, nor the crude tally behind it, ever provided any basis for assuming with certainty that money doesn't matter.

A separate body of literature challenges the assertion of the positive influence of state school finance reforms in general and court-ordered reforms in particular. Baker and Welner (2011) explain that much of this literature relies on anecdotal characterizations of lagging student outcome growth following court-ordered infusions of new funding. Hanushek (2009) provide one example of this anecdote-driven approach in a book chapter that seeks to prove that court-ordered school funding reforms in New Jersey, Wyoming, Kentucky, and Massachusetts resulted in few or no measurable improvements. However, these conclusions are based on little more than a series of descriptive graphs of student achievement on the National Assessment of Educational Progress (NAEP) in 1992 and 2007 and an undocumented assertion that, during that period, each of the four states infused substantial additional funds into public education, focused on low-income and minority students, in response to judicial orders. They assume that, in all other states that serve as a comparison, similar changes did not occur. Yet they validate neither assertion.

Baker and Welner (2011) explain that Hanushek and Lindseth failed to measure whether substantive changes had occurred to the level or distribution of school

[7] A few years later, Hanushek paraphrased this conclusion in another widely cited article as "Variations in school expenditures are not systematically related to variations in student performance" (Hanushek 1989). Hanushek describes the collection of studies relating spending and outcomes as follows: "The studies are almost evenly divided between studies of individual student performance and aggregate performance in schools or districts. Ninety-six of the 147 studies measure output by score on some standardized test. Approximately 40 % are based upon variations in performance within single districts while the remainder looks across districts. Three-fifths look at secondary performance (grades 7–12) with the rest concentrating on elementary student performance" (Fig. 25).

funding as well as when and for how long. For example, Kentucky reforms had largely faded by the mid- to late 1990s, yet Hanushek and Lindseth measure postreform effects in 2007. Similarly, in New Jersey, infusions of funding occurred from 1998 to 2003 (or, arguably, 2005). But Hanushek and Lindseth's window includes 6 years on the front end where little change occurred. Further, funding was infused into approximately 30 specific New Jersey districts, but Hanushek and Lindseth (2009) explore overall changes to outcomes among low-income children and minorities using NAEP data, where some of the children tested attended the districts receiving additional support but many did not.[8] Finally, Hanushek and Lindseth concede that Massachusetts did, in fact experience substantive achievement gains, but attribute those gains to changes in accountability policies rather than funding.

In an equally problematic analysis, Neymotin (2010) set out to show that court-ordered infusions of funding in Kansas following *Montoy v. Kansas* led to no substantive improvements in student outcomes. However, Neymotin evaluated changes in school funding from 1997 to 2006 even though the key Supreme Court decision occurred in January 2005 and impacted funding starting in the 2005–2006 school year, the end point of Neymotin's outcome data (Baker and Welner 2011). Finally, Greene and Trivitt (2008) present a study in which they claim to show that court-ordered school finance reforms led to no substantive improvements in student outcomes. However, while those authors offer the conclusion that court-ordered funding increases had no effect, they test only whether the presence of a court order is associated with changes in outcomes; they never once measure whether substantive school finance reforms followed the court order (also see Neymotin 2010).

To summarize, there exists no methodologically competent analyses yielding convincing evidence that significant and sustained funding increases provide no educational benefits, and relatively few do not show decisively positive effects (Baker and Welner 2011). On balance, it is safe to say that a sizable and growing body of rigorous empirical literature validates that state school finance reforms can have substantive, positive effects on student outcomes, including reductions in outcome disparities or increases in overall outcome levels (Baker and Welner 2011).

[8] Hanushek (2006) goes so far as to title a concurrently produced volume on the same topic "How School Finance Lawsuits Exploit Judges' Good Intentions and Harm Our Children" [emphasis ours]. The premise that additional funding for schools often leveraged toward class size reduction, additional course offerings or increased teacher salaries, causes harm to children is, on its face, absurd. The book, which implies as much in its title, never once validates that such reforms ever cause observable harm. Rather, the title is little more than a manipulative attempt to instill fear of pending harm in the mind of the uncritical spectator. The book also includes two examples of a type of analysis that occurred with some frequency in the mid-2000s and that also had the intent of showing that school funding doesn't matter. These studies would cherry pick anecdotal information on either or both of the following: (a) poorly funded schools that have high outcomes, and (b) well-funded schools that have low outcomes (see Evers and Clopto 2006; Walberg 2006).

Resources That Matter

The premise that money matters for improving school quality is grounded in the assumption that having more money provides schools and districts the opportunity to improve the qualities and quantities of real resources. The primary resources involved in the production of schooling outcomes are human resources—the quantity and quality of teachers, administrators, support, and other staff in schools. Quantities of school staff are reflected in pupil-to-teacher ratios and average class sizes. Reduction of class sizes or reductions of overall pupil-to-staff ratios require additional staff, and thus additional money, assuming wages and benefits for additional staff remain constant. Quality of school staff depend in part on the compensation available to recruit and retain them—specifically salaries and benefits, in addition to working conditions. Notably, working conditions may be reflected in part through measures of workload, like average class sizes, as well as the composition of the student population.

A substantial body of literature has accumulated to validate the conclusion that both teachers' overall and relative wages affect the quality of those who choose to enter the teaching profession, and whether they stay once they get in. For example, Murnane and Olsen (1989) found that salaries affect the decision to enter teaching and the duration of the teaching career, while Figlio (1997, 2002) and Ferguson (1991) concluded that higher salaries are associated with more qualified teachers. Loeb and Page (2000) tackled the specific issues of relative pay noted above. They showed that:

> Once we adjust for labor market factors, we estimate that raising teacher wages by 10 % reduces high school dropout rates by 3–4 %. Our findings suggest that previous studies have failed to produce robust estimates because they lack adequate controls for non-wage aspects of teaching and market differences in alternative occupational opportunities.

In short, while salaries are not the only factor involved, they do affect the quality of the teaching workforce, which in turn affects student outcomes.

Research on the flip side of this issue—evaluating spending constraints or reductions—reveals the potential harm to teaching quality that flows from leveling down or reducing spending. For example, Figlio and Rueben (2001) note that, "Using data from the National Center for Education Statistics we find that tax limits systematically reduce the average quality of education majors, as well as new public school teachers in states that have passed these limits."

Salaries also play a potentially important role in improving the *equity* of student outcomes. While several studies show that higher salaries relative to labor market norms can draw higher quality candidates into teaching, the evidence also indicates that relative teacher salaries across schools and districts may influence the distribution of teaching quality. For example, Ondrich et al. (2008) "find that teachers in districts with higher salaries relative to non-teaching salaries in the same county are less likely to leave teaching and that a teacher is less likely to change districts when

he or she teaches in a district near the top of the teacher salary distribution in that county."

Others have argued that the dominant structure of teacher compensation, which ties salary growth to years of experience and degrees obtained, is problematic because of weak correlations with student achievement gains, creating inefficiencies that negate the relationship between school spending and quality (Hanushek 2011). Existing funds, they argue, instead could be used to compensate teachers according to (measures of) their effectiveness while dismissing high-cost "ineffective" teachers and replacing them with better ones, thus achieving better outcomes with the same or less money (Hanushek 2009).

This argument depends on four large assumptions. First, adopting a pay-for-performance model, rather than a step-and-lane salary model, would dramatically improve performance at the same or less expense. Second, shedding the "bottom 5 % of teachers" according to statistical estimates of their "effectiveness" can lead to dramatic improvements at equal or lower expense. Third, it assumes there are sufficiently accurate measures of teaching effectiveness across settings and children. Finally, this argument ignores the initial sorting of teachers into schools where more marketable teachers head for more desirable settings.

Existing studies of pay-for-performance compensation models fail to provide empirical support for this argument—either that these alternatives can substantially boost outcomes, or that they can do so at equal or lower total salary expense (Springer et al. 2011). Simulations purporting to validate the long-run benefits of deselecting "bad" teachers depend on the average pool of replacements lining up to take those jobs being substantively better than those who were let go (average replacing "bad"). Simulations promoting the benefits of "bad teacher" deselection assume this to be true, without empirical basis, and without consideration for potential labor market consequences of the deselection policy itself (Baker et al. 2013a). Finally, existing measures of teacher "effectiveness" fall well short of these demands (Ibid.).

Most importantly, arguments about the structure of teacher compensation miss the bigger point—the average level of compensation matters with respect to the average quality of the teacher labor force. To whatever degree teacher pay matters in attracting good people into the profession and keeping them around, it's less about how they are paid than how much. Furthermore, the average salaries of the teaching profession, with respect to other labor market opportunities, can substantively affect the quality of entrants to the teaching profession, applicants to preparation programs, and student outcomes. Diminishing resources for schools can constrain salaries and reduce the quality of the labor supply. Further, salary differentials between schools and districts might help to recruit or retain teachers in high-need settings. So, too, does investment in improved working conditions, from infrastructure to smaller class sizes and total student loads. In other words, resources for teacher quality matter.

Ample research indicates that children in smaller classes achieve better outcomes, both academic and otherwise, and that class-size reduction can be an effective strategy for closing racial or socioeconomic achievement gaps (U.S. Department

of Education et al. 2003). While it's certainly plausible that other uses of the same money might be equally or even more effective, there is little evidence to support this. For example, while we are quite confident that higher teacher salaries may lead to increases in the quality of applicants to the teaching profession and increases in student outcomes, we do not know whether the same money spent toward salary increases would achieve better or worse outcomes if it were spent toward class size reduction. Some have raised concerns that large-scale class-size reductions can lead to unintended labor market consequences that offset some of the gains attributable to class-size reduction (such as the inability to recruit enough fully qualified teachers). For example, studies of California's statewide class-size reduction initiative suggest that as districts across the socioeconomic spectrum reduced class sizes, fewer high-quality teachers were available in high-poverty settings (Jepsen and Rivkin 2002).[9]

While it would be useful to have more precise cost-benefit analyses regarding the tradeoffs between applying funding to class-size reduction versus increased compensation (Ehrenberg et al. 2001), the preponderance of existing evidence suggests that the additional resources expended on class-size reductions do produce positive effects. Both reductions to class sizes and improvements to competitive wages can yield improved outcomes, but the gains in efficiency of choosing one strategy over the other are unclear, and local public school districts rarely have complete flexibility to make tradeoffs because class-size reduction may be constrained by available classrooms (Baker and Welner 2012). Smaller class sizes and reduced total student loads are a relevant working condition simultaneously influencing teacher recruitment and retention (Loeb et al. 2005; Isenberg 2010). That is, providing smaller classes may partly offset the need for higher wages for recruiting or retaining teachers. High-poverty schools require both strategies rather than an either-or proposition when it comes to smaller classes and competitive wages.

As discussed above, achieving equal educational opportunity requires leveraging additional real resources—lower class sizes and more intensive support services—in high-need settings. Merely achieving equal-quality real resources, including equally qualified teachers, likely requires higher competitive wages, not merely equal pay in a given labor market. As such, higher-need settings may require substantially greater financial inputs than lower-need settings. Lacking sufficient financial inputs to do both, districts must choose one or the other. In some cases, higher need districts may lack sufficient resources to reduce class sizes or provide more intensive support.

[9] "The results show that, all else equal, smaller classes raise third-grade mathematics and reading achievement, particularly for lower-income students. However, the expansion of the teaching force required to staff the additional classrooms appears to have led to a deterioration in average teacher quality in schools serving a predominantly Black student body. This deterioration partially or, in some cases, fully offset the benefits of smaller classes, demonstrating the importance of considering all implications of any policy change" (p. 1).

For further discussion of the complexities of evaluating class size reduction in a dynamic policy context, see Sims 2008, 2009; Chingos 2010.

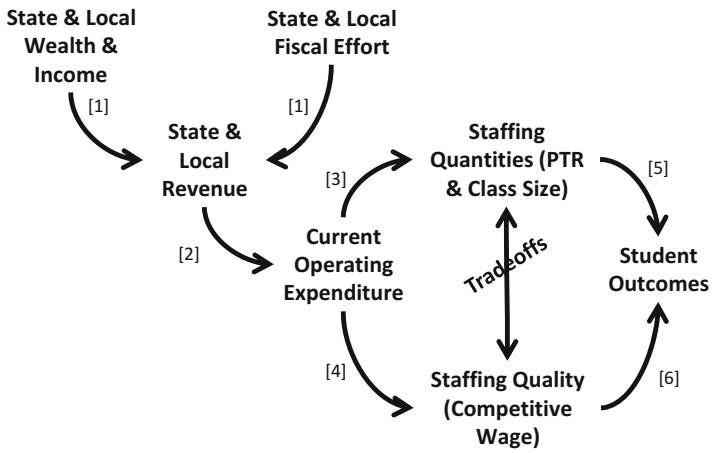

Fig. 4.1 Conceptual map of fiscal inputs & real resources

In this chapter, we explore the relationship between financial inputs and these tradeoffs, both within and across states, and over time. Specifically, we address the following questions:

- What patterns in national and state funding equity and adequacy do we see over the last two decades?
- What patterns do we find in access to important school resources, namely wage competitiveness and staffing ratios, over the same time period?
- What is the relationship between the adequacy and equity of school funding and access to real resources (teacher wages, staffing ratios, and class sizes)?

Measuring Fiscal Input as Well as Real Resource Equity and Adequacy

In this section, we draw on several national data sources to develop indicators of (a) school funding levels and distributions, (b) staffing levels and distributions and (c) relative wage levels and distributions (see Appendix (Table 4A.1) for full list of data sources, years, and measures). Ultimately, our goal is to examine the levels and distributions of fiscal input, staffing, and wages and discern their relationship. Our following analyses use national data sources over time to draw the various connections displayed in Fig. 4.1. First, the amount of effort a state puts forth, in addition to wealth and income, influences the level of resources made available to schools. Revenues available to schools translate to expenditures, and those expenditures may be leveraged to support more competitive wages, hiring and retaining more staff, or both. While we do not in this chapter include measures that connect inputs to student outcomes, we do expect staffing quantities and qualities to substantively

influence those outcomes. We also document the relationships between financial resources and the real resources purchased with those financial resources. We explore these linkages in terms of state average levels of resources and within-state distributions of those resources with respect to concentrations of child poverty across districts.

These relationships, while relatively straightforward, have not been systematically documented across all states over time in recent years.[10] Specifically, there is little documentation of the relationship across states between the level of commitment made by states to their public schooling systems and the average competitiveness of teacher wages, and little documentation of the extent to which differences in and changes in spending levels translate to changes in staffing ratios and class sizes.[11]

Evaluating Funding Levels and Fairness

We begin with our model for estimating levels and variation in school districts' state and local revenue. Our objectives are twofold: first, to compare across states the amount a school district would be expected to receive in state and local revenue (and current operating expenditure) if the district was of a given enrollment size (economies of scale) and population density, faced national average labor costs, and served a population with relatively average child poverty levels; second, to evaluate within states the amount that a school district would be expected to receive in state and local revenue (and current operating expenditure) at varied levels of child poverty, holding constant labor costs, district enrollment size, and population density.

The goal here is to make more reasonable comparisons of revenue and expenditure levels across local public school districts from one state and to another. So adjustments are made accordingly in our models. Average spending per pupil might be higher in states with higher labor costs. To compare the purchasing power of that spending, we adjust for those cost differences. Average spending per pupil might also be higher in states where more children attend school in population-sparse, small, rural districts. Thus, we compare spending for districts of otherwise similar size and population density across states—a "what if" analysis assuming a district size of 2000 or more pupils with average population density. Similarly, unified K-12

[10] For an earlier analysis that parallel school funding disparities and real resource disparities, see Corcoran et al. 2004.

[11] In the absence of clear documentation of these rather obvious connections between fiscal constraints, wages, and class sizes, a body of literature has emerged that suggests that no such linkage exists, that local public school districts of all types possess more than sufficient resources to achieve competitive, restructured compensation systems, or entirely different service delivery approaches altogether with no consequences resulting from resource reallocation. During the economic downturn, much of that non-peer-reviewed, think-tank-sponsored literature found its way to a special section on the U.S. Department of Education website dedicated to improving educational productivity. Baker and Welner (2012) provide a substantive critique of the reports posted on the website.

districts might have different average spending than K-8 or high school districts; thus we base our comparisons on unified K-12 districts. Finally, we compare revenue and spending predictions for districts of similar child poverty rates, as child poverty influences the costs of achieving common outcome goals (Duncombe and Yinger 2005).

For both objectives, we use a 20-year (1993–2012) set of local public school district data to which we fit the following model:

$$\text{Funding per Pupil} = f\big(\text{Regional Competitive Wages, District Size} \times \text{Population Density, Grade Range Served, State} \times \text{Census Child Poverty Rate}\big)$$

To account for variation in labor costs, we use the NCES Education Comparable Wage Index, updated through 2012 by the author of the original index (Extending the NCES CWI 2013). We impute additional years as necessary (see Appendix). We account for district size with a series of dummy variables indicating that a district has (a) under 100 pupils, (b) 101–300 pupils, (c) 301–600 pupils, (d) 601–1200 pupils, (e) 1201–1500 pupils, and (f) 1501–2000 pupils, where the baseline comparison group are districts with over 2000 pupils, a common reference point for scale efficiency. The district size factor is interacted with county-level population density to further correct for cost differences associated with small, sparse, rural districts, separating them from segregated enclaves in population-dense metropolitan areas. Finally, we interact state dummy indicators with district level child poverty rate to estimate the within-state, cross-district distribution of funding with respect to child poverty. The regression model is weighted by district enrollment size.

We then use this model to generate predicted values of the funding measure—total state and local revenues per pupil and current operating spending per pupil—at varied levels of child poverty for each state at national average labor costs, average population density, and efficient size. To compare levels of funding across states, we compare predicted revenue and spending at 10 % census poverty, holding other factors constant. To compare distributions, we construct what we call a "fairness ratio." It is the ratio of the predicted funding level for a high poverty district (30 % census poverty, equivalent to about 60–80 % qualified for the National School Lunch Program), relative to that of a low poverty (0 % census poverty) district. A fairness ratio above 1 indicates that the state provides a greater level of resources to high poverty districts than low poverty districts, while a ratio below 1 indicates that high-poverty districts have fewer resources.

$$\text{Fairness Ratio} = \frac{\text{Predicted Funding at 30\% Poverty}}{\text{Predicted Funding at 0\% Poverty}}$$

Evaluating Resource Levels and Fairness

The next step is to estimate levels of real resources in otherwise comparable settings across states and to estimate variations in real resources with respect to child poverty.

Estimating Staffing Levels and Distributions Our approach to modeling staffing levels follows the one we used to model funding levels. We use annual data from 1993 to 2012 and apply the same model as above, except putting numbers of teachers per 100 pupils on the left-hand side. Again, the premises are: overall staffing ratios might be higher on average (better) in states with more children in small, low-population-density districts; staffing ratios (given spending levels) might be lower (worse) in states facing higher labor costs; and staffing ratios should vary with respect to children's educational needs, as proxied by district poverty measures.

$$\text{Teachers per 100 Pupils} = f\big(\text{Regional Competitive Wages, District Size} \times \text{Population Density, Grade Range Served, State} \times \text{Census Child Poverty Rate}\big)$$

We then use this model to (a) generate predicted values of teachers per 100 pupils at given levels of poverty, within each state and (b) generate a staffing fairness ratio like our funding fairness ratio.

Evaluating the Average Competitiveness of Teacher Wages As discussed above, one way in which teacher wages matter is that the average relative wage of teachers versus other professions in a given labor market may influence the quality of those entering and staying within the teaching workforce. Here, we use the U.S. Census Bureau's American Community Survey (ACS) annual data from 2000 to 2012 to estimate, for each state, the ratio of the expected income from wages for an elementary or secondary school teacher to the expected income from wages for a nonteacher at the same age and degree level.

Of primary interest here are the differences in competitive wage ratios across states, and ultimately, whether states that allocate more resources to education generally are able to achieve more competitive teacher wages. Here, we compare *annual* wages of teachers to nonteachers, but we also note that variation across states remains similar with a comparison of weekly or monthly wages, although teacher wages do become more comparable to nonteacher wages. Recall that literature on teacher wages and teacher quality suggests that the more competitive the teacher wage (relative to other career options), the higher the expected quality of entrants to the profession.

To generate our competitive wage ratios, we begin with a regression model fit to our 13-year set of ACS data, in which we estimate the relationship between "income from wages" as the dependent variable, a series of state indicators, and an indicator that the individual is a teacher (occupation) in elementary or secondary education (industry). We include an indicator of the teacher's age and education level, and we include measures of hours worked per week and weeks worked per year but do not equate our predicted wages by holding constant these latter two factors in the analyses. We estimate the following model:

$$\text{Income from Wages} = f\left(\text{State Place of Work, k12 Teacher, Age, Education Level, Hours per Week, Weeks per Year}\right)$$

We use this model to generate predicted values for teacher and nonteacher wages at specific age points, for individuals with a bachelor's degree, and then take the ratio of teacher to nonteacher wages. Of particular interest are (a) the differences in the teacher/nonteacher wage ratio across states and (b) the changes over time within states in the teacher/nonteacher wage ratio. That is, are teacher wages more competitive in some states than others? And have teachers generally gained or lost ground? Are these differences in wage competitiveness and gains or losses related back to state funding levels?

Estimating Sensitivity of Resources to Funding Across Districts

For these last two analyses, we link our data on district-level finances with teacher-level data from the NCES Schools and Staffing Survey (SASS), which includes over 40,000 public school teachers, surveyed in waves on approximately 4-year cycles. We use data from the 1993–1994, 1999–2000, 2003–2004, 2007–2008, and 2011–2012 cycles.

Because personnel costs vary across labor markets within states, it is important when evaluating either teacher quantity measures or teacher wages to make direct comparisons only among districts facing similar personnel costs. Further, because livable wages similarly vary across labor markets, but income thresholds for determining whether families are in poverty do not, it also makes sense to compare poverty rates only across local public school districts sharing a labor market (Baker et al. 2013b). A convenient solution is to re-express per-pupil spending measures and child poverty rates for each school district in the nation relative to (as a ratio to) the average per-pupil spending and child poverty rates for all districts sharing that same labor market.

We use a similar strategy for evaluating variations in both class sizes and competitive teacher wages, with the latter comparisons requiring a preliminary step of determining the wage for teachers of comparable qualifications and contractual obligations. This analysis is different from the previous analyses because we are working with samples of teachers and schools where total sample sizes and the distribution of sampled teachers for many states are insufficient for characterizing cross-district equity. As a result, we ask whether nationally, across nonrural labor markets, there exists the expected relationship between the relative funding available to local public school districts, and the class sizes and wages of teachers in those school districts. That is, do schools in districts with better funding tend to have smaller class sizes, more competitive wages, or both?

Class Sizes To estimate the sensitivity of class size variation to spending variation across schools within labor markets, we estimate separate models of departmental-

ized and self-contained class sizes. We estimate class sizes as a function of (a) relative spending, (b) relative poverty, and (c) grade level taught.

$$\text{Class Size} = f\left(\text{Relative Spending, Relative Poverty, Grade Level}\right)$$

Teacher Wages While the previous wage indicator compared teacher salaries to nonteachers, this dataset allows us to compare wages among similar teachers within labor markets, but in different school districts. The relative competitiveness of teacher salaries is then examined in the context of the relative poverty and relative funding levels of school districts. This analysis offers further evidence as to whether districts can leverage funding resources to provide more competitive wages to teachers in other, less resourced districts. In other words, does the distribution of funding affect districts' ability to offer competitive wages, and therefore influence the distribution of quality teachers across districts?

We begin by estimating, within each labor market in each state, the relative wage of teachers with a specific set of credentials. We focus on full-time classroom teachers, estimating their salaries (base pay from school year teaching) as a function of (a) experience and (b) degree level within (c) labor market (as defined in the Education Comparable Wage Index, aligned with metropolitan and micropolitan statistical areas). We exclude teachers outside of metropolitan and micropolitan areas because of small sample sizes within rural labor markets. We estimate separate models for each SASS wave.

$$\text{Salary} = f\left(\text{experience, degree, labor market}\right)$$

Next, we generate the predicted salary for each teacher in each labor market, identifying the average wage for a teacher at given experience and degree level across all schools in each labor market. We then take the ratio of actual salary to predicted salary, which indicates for all teachers in the sample whether their salary is higher or lower than expected. Aggregated to the school or district level, we have a measure of the relative competitiveness of teacher wages in each school or district compared to other schools or districts sharing the same labor market.

The next step is to estimate the sensitivity of these wage variations to spending variations across districts sharing the same labor market. We do this with the teacher-level data, linked to a measure of the relative spending of their school district in its labor market, and the relative poverty rate of the school district in its labor market. We take the district's current operating spending per pupil as a ratio to the average of all other districts in the labor market and do the same with district poverty rate. We estimate together the relationship between relative spending and poverty and the relative competitiveness of teacher's salaries. We include additional dummy variables for grade level taught, again including only nonrural full-time teachers:

$$\text{Salary Competitiveness} = f\big(\text{Relative Spending, Relative Poverty, Grade Level Taught}\big)$$

Findings

We begin by reviewing longitudinal trends in funding levels and funding fairness. We also validate the extent to which state school funding levels are associated with differences in fiscal effort—or the share of gross state product allocated to schools. Next, we summarize changes to the distribution of funding across school districts within states, specifically evaluating the funding fairness profiles of states and how those profiles have changed over the past 20 years. We then proceed to explore average competitive wage levels across states from 2000 to 2012, and pupil-to-teacher ratios across states over the full 20-year period.

We subsequently explore the connections between measures of the level and distribution of financial inputs to schooling, and the level and distribution of staffing quantities and staffing qualities. Specifically, we evaluate whether state spending levels are associated with the state average competitiveness of teacher wages and state average staffing ratios (pupil-to-teacher ratios). Then we explore whether within-state distributions of financial inputs to schooling are associated with within-state distributions of staffing ratios, class sizes, and competitive wages.

Adequacy and Equity of Fiscal Inputs Figure 4.2 presents the national averages of current spending per pupil and state and local revenues per pupil, adjusted for

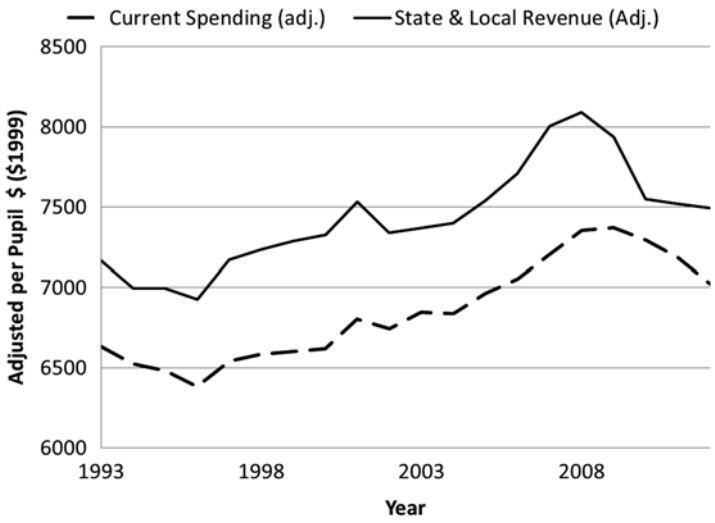

Fig. 4.2 Input price adjusted revenue and spending

changes in labor costs by dividing each district's revenue or spending figure by the comparable wage index for that district. Both revenues and spending are included to illustrate how the two largely move together over time, as one would expect. The Education Comparable Wage Index adjusts for both regional variation in labor costs (input prices) and inflationary change in labor costs. Figure 4.2 shows that on average using district level data weighted by student enrollments, state and local revenues and per pupil spending are up approximately 4.5–5.5 % over the period, reaching a high around 2008 and returning to levels comparable to 2000 by 2012.

Figure 4.3 summarizes the trends in predicted state and local revenue levels for all states, organized by regions. These are combined state and local revenues per pupil, predicted for a district with 10 % child poverty, of 2000 or more pupils at constant labor costs (though not fully corrected for inflation). Of particular interest

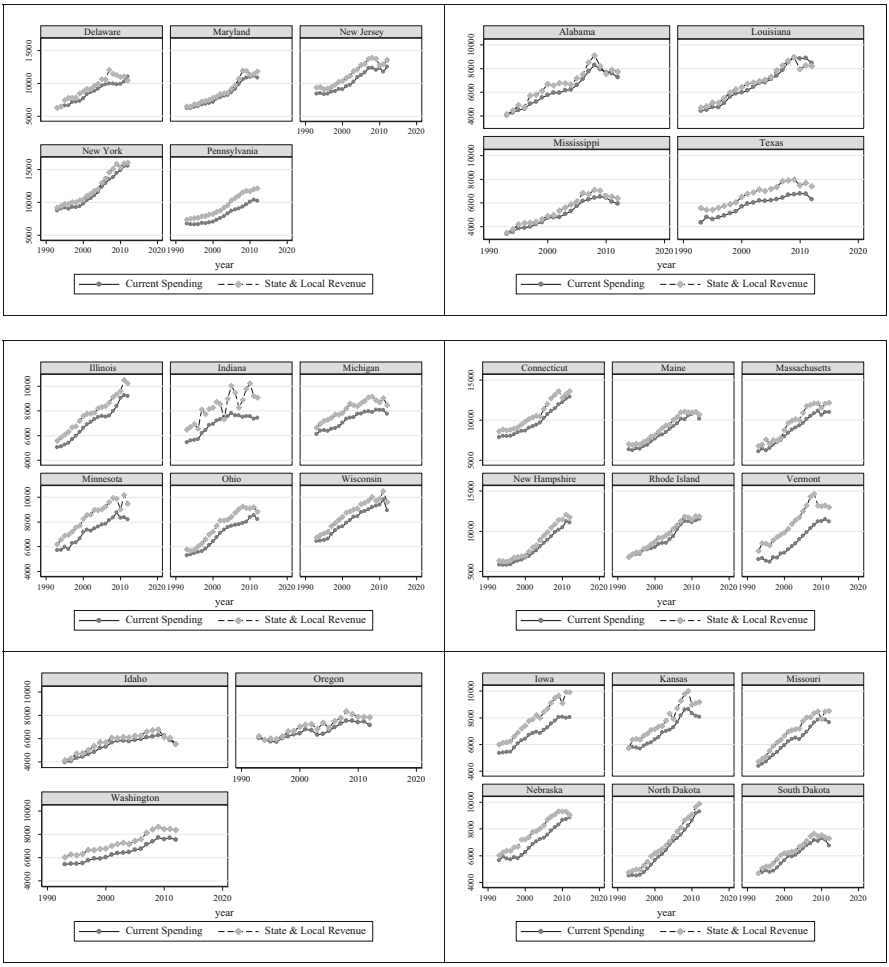

Fig. 4.3 Predicted state and local revenues over time by state

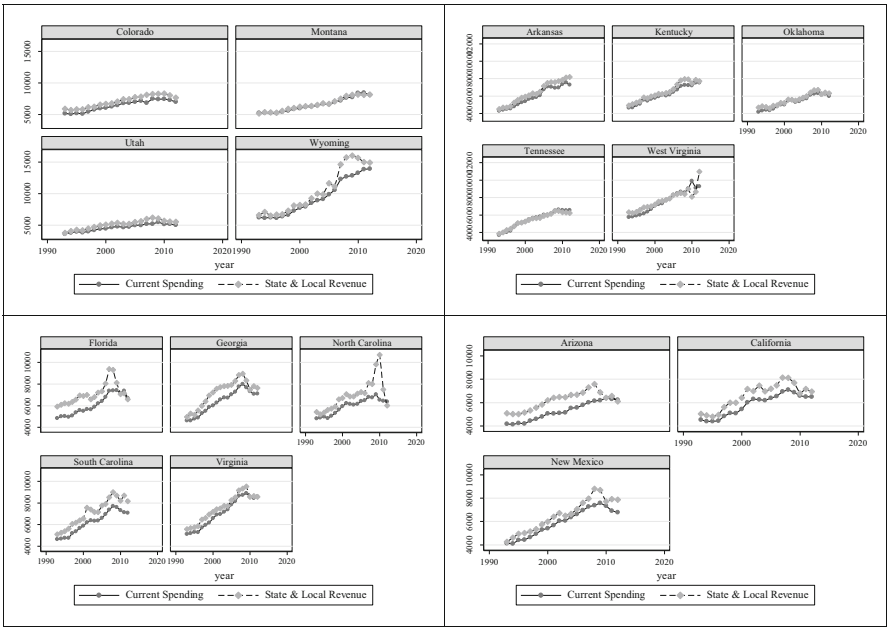

Fig. 4.3 (continued)

are the trends, divergences, and convergences among regionally contiguous states. A notable feature of these figures is the sharp shift in growth trajectories that occurs in most states around 2009 as a function of the recession. New Jersey, for example, experienced a particularly strong downturn. Delaware is the only state in this mix to show no recovery as of yet. Related work has shown that these downturns were largely a function of sharp reductions in state aid, buffered in some cases by increases to local property taxes. But those shifts in responsibility from state funding onto local property tax have potential equity consequences. Average revenue may have rebounded with offsetting property tax increase, but inequity is likely to have increased as a result.

Figure 4.4 illustrates the relationship in 2012 between the percent of gross state product expended on K-12 schools and the average level of state and local revenue. In short, higher effort states do have higher funding levels. Certainly, some relatively low fiscal capacity states like Mississippi apply average effort and still end up with low funding, while high fiscal capacity states like Wyoming or Connecticut are able to apply much lower effort and yield far greater resources. But effort matters above and beyond wealth and income. While some might assume that effort crept upward as fiscal capacity declined during the recession, this assumption is generally wrong. Political proclivity for cutting taxes has led, on average, to reductions in funding effort. Forty-one states reduced effort from 2007 to 2012. Further, 5-year changes in effort are strongly associated with 5-year changes in revenue levels, as

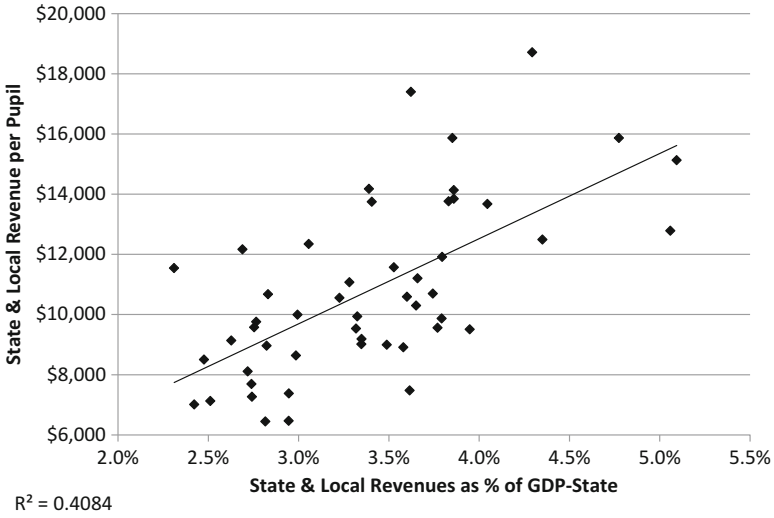

Fig. 4.4 Relationship between effort and revenue (Note: See Appendix (Table 4A.2) for full information by state)

Table 4.1 Numbers of states where funding fairness ratio has improved

		Initial fairness ratio among improved states		
Period	# States that improved fairness	<.95	.95–1.05	>1.05
1993–2012	33	4	9	20
2002–2012	23	3	3	17
2007–2012	21	2	4	15

might be expected (correlation = .7 excluding Alaska). States that reduced effort generally reduced school revenues proportionately.

Current Expenditure "Fairness" (Spending Equity) So what then have been the consequences of the economic downturn for school spending fairness across states? That is, how have higher poverty districts been differentially affected when compared with lower poverty ones? Table 4.1 summarizes numbers of states where funding fairness improved (or not) over specific time periods over the past 20 years. Again, a funding fairness ratio of .95 means that a district with 30 % of children in poverty[12] has only 95 % of the funding of a district with 0 % children in poverty. A fairness ratio of 1.05 indicates that a district with 30 % poverty has 5 % greater funding than a district with 0 % poverty.

From 1993 to 2007 in particular, 40 different states experienced increased funding levels in higher poverty districts relative to lower poverty ones (only 33 sustained the pattern over the entire period from 1993 to 2012). But in the 5 years that

[12] Census poverty rate, where a 30 % rate is equivalent to about 80 % free or reduced priced lunch.

followed, 30 states reduced funding fairness, with some of the greatest reductions coming in states that had previously experienced the greatest improvements, including New Jersey.

Table 4.2 summarizes the state-by-state current expenditure fairness ratios and changes over time. As noted in Table 4.1, most states did improve their fairness ratios over the entire period, but many reduced fairness over the past 5 years. Massachusetts improved fairness at the outset of the period, as did New Jersey, but both states taper off in recent years. Other states like Pennsylvania started the period with relatively flat distributions (similar funding in higher and lower poverty districts) and then slid into more regressive distributions over time.

Notably, these findings present a more positive light on funding progressiveness than those in the report *Is School Funding Fair,* because these figures are based on current operating spending per pupil, which includes the expenditure of federal funds. Those federal funds tend to lift (by around 5 %) the levels of funding in the highest poverty districts, thus improving the funding fairness index.

Resource Models

Relative Annual Wage of Teachers Table 4.3 summarizes changes to the state average competitiveness of teacher wages over the past 12 years, and then for the most recent 5 years. Wage competitiveness is expressed as a ratio of teacher wages to nonteacher wages. A ratio less than 1 means teachers earn less than comparable nonteachers. It's important to understand in this case that there are two moving parts—teacher wages and nonteacher wages. Teacher wages can become more competitive if they remain relatively constant but wages of others (at the same age and education level) decline. Teacher wages can become less competitive even if they appear to grow but do so more slowly than wages in other sectors. Put simply, it's all relative, but it is the relative wage that matters. From 2000 to 2012, teacher wages in every state became less competitive, based on our model, a finding that is consistent with similar work by Mishel et al. (2011). It would appear that over the last 5 years, only in Iowa did teacher wages become marginally more competitive. Over the 12-year period, the state average (unweighted) reduction in wage competitiveness was 12 %. Over the period from 2007 to 2012, the state average reduction in wage competitiveness was 8 %.

But, as can be seen in Table 4.4, these estimates tend to jump around, especially in low population states like Alaska. States with persistently noncompetitive teacher wages include Colorado and Arizona. Teacher wages have tended over time to be more competitive in rural states (where nonteacher wages aren't as high), including Montana and Wyoming. Average teacher wages in New York and Rhode Island have also tended to be more competitive, though data are inconsistent across years.

Teachers per 100 Pupils Table 4.5 summarizes changes to the numbers of teachers per 100 pupils over time. Over the entire 20-year period, nearly all states increased

Table 4.2 Spending fairness indices for select years

	Fairness ratio current operating expenditures per pupil				Change over time			
State	1993	2002	2007	2012	1993–2007	20-year change	10-year change	5-year change
Alabama	1.02	1.06	1.04	1.08	0.02	0.06	0.02	0.04
Alaska	2.14	2.44	2.30	1.87	0.17	–0.27	–0.58	–0.44
Arizona	1.20	1.18	1.33	1.05	0.13	–0.15	–0.13	–0.27
Arkansas	1.13	1.11	1.19	1.23	0.06	0.09	0.11	0.03
California	1.17	1.12	1.32	1.20	0.14	0.03	0.08	–0.12
Colorado	1.09	1.05	1.15	1.16	0.06	0.07	0.11	0.01
Connecticut	1.07	1.30	1.21	1.07	0.15	0.00	–0.23	–0.14
Delaware	1.04	1.19	1.64	1.23	0.60	0.19	0.04	–0.41
Dist. of Columbia	1.02	1.06	1.04	1.08	0.02	0.06	0.02	0.04
Florida	1.33	1.28	1.37	1.19	0.04	–0.14	–0.09	–0.18
Georgia	1.22	1.29	1.23	1.20	0.02	–0.01	–0.08	–0.03
Hawaii	1.02	1.06	1.04	1.08	0.02	0.06	0.02	0.04
Idaho	1.25	1.26	1.16	1.18	–0.09	–0.07	–0.08	0.02
Illinois	1.08	0.96	1.07	1.05	–0.01	–0.03	0.08	–0.02
Indiana	1.26	1.53	1.62	1.45	0.36	0.19	–0.08	–0.17
Iowa	1.19	1.33	1.32	1.20	0.13	0.01	–0.13	–0.12
Kansas	1.15	1.33	1.34	1.22	0.19	0.07	–0.11	–0.11
Kentucky	1.17	1.17	1.26	1.22	0.09	0.05	0.05	–0.04
Louisiana	1.03	1.00	1.08	1.33	0.05	0.30	0.32	0.25
Maine	1.12	1.15	1.11	0.99	–0.01	–0.13	–0.16	–0.12
Maryland	0.89	1.17	1.12	1.14	0.23	0.24	–0.04	0.02
Massachusetts	0.95	1.37	1.39	1.25	0.44	0.30	–0.12	–0.14
Michigan	1.04	1.21	1.23	1.20	0.19	0.16	–0.01	–0.02
Minnesota	1.39	1.82	1.71	1.60	0.32	0.21	–0.22	–0.11
Mississippi	1.19	1.26	1.22	1.30	0.03	0.11	0.04	0.08
Missouri	1.25	1.17	1.10	1.05	–0.15	–0.20	–0.11	–0.05
Montana	1.18	1.30	1.54	1.18	0.36	0.00	–0.11	–0.36
Nebraska	1.14	1.09	1.35	1.36	0.21	0.22	0.27	0.01
Nevada	0.61	0.60	0.61	0.57	0.01	–0.03	–0.02	–0.04
New Hampshire	0.80	0.95	0.85	1.07	0.05	0.27	0.12	0.22
New Jersey	1.05	1.42	1.51	1.26	0.46	0.21	–0.16	–0.25
New Mexico	1.11	1.23	1.27	1.29	0.16	0.17	0.06	0.01
New York	0.79	0.91	0.96	0.99	0.17	0.20	0.08	0.02
North Carolina	1.09	1.13	1.26	1.25	0.17	0.17	0.12	0.00
North Dakota	1.34	1.33	1.40	1.43	0.06	0.09	0.10	0.03
Ohio	1.19	1.29	1.25	1.16	0.05	–0.03	–0.12	–0.08
Oklahoma	1.26	1.31	1.30	1.20	0.04	–0.06	–0.11	–0.10
Oregon	1.17	1.35	1.46	1.22	0.29	0.06	–0.13	–0.24
Pennsylvania	1.01	0.90	0.90	0.92	–0.10	–0.08	0.02	0.02

(continued)

Table 4.2 (continued)

State	Fairness ratio current operating expenditures per pupil				Change over time			
	1993	2002	2007	2012	1993–2007	20-year change	10-year change	5-year change
Rhode Island	0.93	1.08	1.11	1.03	0.18	0.10	–0.05	–0.08
South Carolina	1.04	1.28	1.20	1.26	0.16	0.22	–0.01	0.07
South Dakota	1.27	1.50	1.50	1.61	0.23	0.35	0.11	0.12
Tennessee	1.23	1.15	1.21	1.22	–0.02	–0.01	0.07	0.01
Texas	1.13	1.16	1.21	1.19	0.08	0.06	0.03	–0.02
Utah	1.89	1.68	1.78	1.49	–0.11	–0.40	–0.19	–0.29
Vermont	0.90	0.92	1.00	0.86	0.09	–0.04	–0.06	–0.13
Virginia	1.13	1.08	1.07	1.07	–0.06	–0.06	–0.01	0.00
Washington	1.30	1.28	1.29	1.21	–0.01	–0.10	–0.08	–0.09
West Virginia	1.06	1.16	1.14	1.19	0.08	0.13	0.03	0.06
Wisconsin	1.10	1.19	1.21	1.23	0.11	0.13	0.04	0.03
Wyoming	1.37	1.57	1.35	1.04	–0.02	–0.33	–0.52	–0.31

Table 4.3 Summary of changes in wage competitiveness

Period	# States that increased wage competitiveness	State mean change (%)
2000–2012	1	–12
2000–2007	3	–9
2007–2012	1	–8

numbers of staff per 100 pupils. The state average (unweighted) increase was approximately 1 additional teacher per 100 pupils, moving from about 5.5 to about 6.5 total teachers per 100 pupils. Most of those gains occurred prior to 2002. Over the past 10 years, state average staffing increases have been much more modest, and over the past 5 years, nonexistent.

Table 4.6 displays state-by-state ratios of teachers per 100 pupils and changes in those ratios. States including Alabama and Virginia appear to have reduced teachers per 100 pupils by over 1.0 (or around 13–16 %). About half of states continued to increase numbers of teaching staff per 100 pupils. Notably, these figures change over time both as a function of changing numbers of staff and of changing numbers of pupils. States with constant staffing but declining enrollments will show increasing staffing ratios. States with increasing enrollment but no additional staff will show decreasing staffing ratios.

Table 4.4 Teacher/nonteacher wage ratios for select years

State	Wage competitiveness ratio (Teacher/Nonteacher) (%)				Change over time (%)		
	2000	2002	2007	2012	12-year change	10-year change	5-year change
Alabama	83	83	77	71	−12	−12	−6
Alaska	89	104	118	85	−4	−19	−33
Arizona	79	74	70	62	−18	−13	−9
Arkansas	82	84	82	74	−7	−10	−8
California	79	82	82	75	−5	−7	−7
Colorado	81	75	70	68	−13	−6	−2
Connecticut	78	82	76	71	−7	−11	−5
Delaware	82	87	83	75	−7	−13	−9
District of Columbia	74	85	74	68	−7	−18	−6
Florida	85	82	80	73	−11	−8	−6
Georgia	76	76	74	68	−8	−8	−5
Hawaii	95	83	81	77	−17	−6	−4
Idaho	93	92	86	72	−21	−20	−13
Illinois	77	78	79	73	−4	−5	−6
Indiana	87	85	80	70	−17	−15	−10
Iowa	86	87	83	85	−1	−2	3
Kansas	87	80	77	70	−17	−10	−7
Kentucky	84	80	78	71	−13	−9	−7
Louisiana	78	78	79	75	−4	−3	−5
Maine	90	79	90	81	−9	2	−9
Maryland	80	77	78	75	−4	−2	−3
Massachusetts	77	72	77	69	−8	−3	−8
Michigan	93	88	94	78	−15	−10	−16
Minnesota	84	80	75	71	−13	−10	−5
Mississippi	86	81	78	72	−13	−9	−6
Missouri	83	76	78	68	−16	−9	−11
Montana	100	98	93	74	−26	−24	−19
Nebraska	86	82	78	77	−10	−6	−2
Nevada	93	85	84	82	−11	−3	−3
New Hampshire	78	82	75	73	−5	−9	−2
New Jersey	86	81	82	76	−10	−5	−6
New Mexico	77	82	85	78	1	−4	−7
New York	83	80	82	81	−2	1	−1
North Carolina	80	79	75	67	−13	−12	−8
North Dakota	87	86	77	70	−17	−17	−7
Ohio	80	79	82	75	−5	−4	−7
Oklahoma	80	78	76	67	−13	−11	−9
Oregon	93	82	86	75	−17	−7	−11

(continued)

Table 4.4 (continued)

State	Wage competitiveness ratio (Teacher/Nonteacher) (%)				Change over time (%)		
	2000	2002	2007	2012	12-year change	10-year change	5-year change
Pennsylvania	94	92	85	80	−13	−12	−5
Rhode Island	92	87	94	78	−13	−8	−16
South Carolina	86	89	77	73	−13	−16	−4
South Dakota	82	88	78	68	−15	−21	−10
Tennessee	86	74	76	66	−20	−9	−10
Texas	77	78	73	69	−8	−9	−4
Utah	99	93	79	71	−28	−22	−8
Vermont	90	91	95	75	−15	−16	−20
Virginia	76	75	72	63	−14	−12	−10
Washington	79	78	74	69	−11	−9	−5
West Virginia	89	79	79	77	−12	−3	−2
Wisconsin	94	88	84	76	−18	−12	−8
Wyoming	106	91	99	94	−12	3	−5

Table 4.5 Summary of staffing level changes over time

Period	# States that improved staffing ratios	State average change
1993–2012	49	1.06
2002–2012	34	0.21
2007–2012	25	0.03
1993–2007	48	1.03

Relationships Across Adequacy (Level) Measures

Here we explore the relationships among these indicators. Figure 4.5 conveys that states with higher per pupil spending tend to have more teachers per 100 pupils on average. This suggests that, on balance and across states, higher spending on schools is leveraged to increase staffing quantities. The next question is the extent to which these increased overall staffing quantities translate to decreased class sizes, where research literature tends to point to more positive effects on student outcomes.

Figure 4.6 shows that these differences in overall staffing ratios do translate to smaller class sizes, both for self-contained elementary classes and for secondary departmentalized settings. That is, while some may contest the direct relevance of pupil-to-teacher ratios as having influence on schooling quality, the availability of more staff certainly provides the opportunity for, and eventual reality of, smaller classes.

Table 4.6 Predicted staffing ratios for select years

	Teachers per 100 pupils				Change over time			
State	1993	2002	2007	2012	1993–2007	20-year change	10-year change	5-year change
Alabama	5.58	6.41	7.76	6.68	2.18	1.09	0.27	−1.09
Alaska	5.60	5.76	5.77	6.06	0.18	0.46	0.30	0.29
Arizona	4.99	5.26	5.43	5.50	0.44	0.51	0.24	0.07
Arkansas	5.57	6.66	6.55	6.56	0.98	0.99	−0.10	0.01
California	4.03	4.89	4.85	4.40	0.83	0.37	−0.50	−0.46
Colorado	5.12	5.89	5.93	5.67	0.81	0.55	−0.22	−0.26
Connecticut	6.71	7.37	6.92	8.02	0.21	1.31	0.65	1.10
Delaware	5.77	6.54	6.60	6.95	0.83	1.18	0.41	0.35
District of Columbia	5.57	7.78	7.74	8.46	2.17	2.90	0.68	0.72
Florida	5.59	5.49	6.25	7.01	0.66	1.42	1.52	0.77
Georgia	5.30	6.48	7.16	6.79	1.87	1.49	0.31	−0.38
Hawaii	4.90	6.08	6.42	6.57	1.52	1.67	0.49	0.15
Idaho	4.81	5.34	5.39	5.54	0.58	0.73	0.20	0.15
Illinois	5.42	6.14	5.84	6.39	0.43	0.98	0.25	0.55
Indiana	5.33	5.83	5.62	5.85	0.29	0.52	0.02	0.23
Iowa	5.66	6.71	6.92	6.66	1.27	1.00	−0.05	−0.27
Kansas	6.06	6.68	6.89	7.39	0.84	1.33	0.70	0.49
Kentucky	5.45	6.00	6.50	6.17	1.05	0.72	0.17	−0.33
Louisiana	5.81	7.04	7.21	7.10	1.40	1.29	0.06	−0.11
Maine	6.49	7.43	8.04	7.64	1.55	1.15	0.21	−0.40
Maryland	5.90	6.45	7.22	7.13	1.32	1.24	0.68	−0.08
Massachusetts	6.28	8.24	7.61	7.35	1.33	1.07	−0.90	−0.26
Michigan	4.86	5.54	5.56	5.36	0.69	0.50	−0.17	−0.19
Minnesota	5.38	6.20	6.08	6.09	0.70	0.71	−0.12	0.01
Mississippi	5.24	6.10	6.56	6.56	1.32	1.32	0.45	0.00
Missouri	5.44	6.62	6.77	6.84	1.33	1.40	0.23	0.07
Montana	4.91	5.63	5.86	5.98	0.95	1.07	0.35	0.12
Nebraska	5.91	6.65	6.88	6.94	0.97	1.04	0.30	0.07
Nevada	5.47	5.90	5.87	5.81	0.40	0.34	−0.08	−0.05
New Hampshire	5.96	6.84	7.48	7.29	1.52	1.33	0.45	−0.19
New Jersey	7.04	7.78	8.26	8.22	1.22	1.19	0.44	−0.04
New Mexico	5.24	6.66	6.68	6.45	1.44	1.21	−0.22	−0.23
New York	6.52	7.45	7.97	8.10	1.45	1.58	0.65	0.12
North Carolina	5.72	6.56	7.45	6.60	1.73	0.88	0.04	−0.85
North Dakota	5.17	6.26	6.99	7.40	1.82	2.22	1.14	0.41
Ohio	5.41	6.38	5.67	5.76	0.26	0.35	−0.62	0.09
Oklahoma	5.53	6.06	6.05	5.84	0.52	0.31	−0.22	−0.21
Oregon	4.90	4.96	4.18	4.72	−0.71	−0.18	−0.24	0.54
Pennsylvania	5.43	6.25	6.59	7.10	1.16	1.67	0.86	0.51

(continued)

Table 4.6 (continued)

State	Teachers per 100 pupils				Change over time			
	1993	2002	2007	2012	1993–2007	20-year change	10-year change	5-year change
Rhode Island	6.96	7.23	7.70	8.57	0.74	1.62	1.34	0.87
South Carolina	5.56	6.68	7.02	6.50	1.46	0.93	–0.18	–0.53
South Dakota	5.52	6.30	6.52	6.45	1.00	0.93	0.15	–0.07
Tennessee	4.80	6.45	6.47	6.75	1.67	1.96	0.30	0.29
Texas	5.75	6.91	6.95	6.73	1.19	0.98	–0.18	–0.22
Utah	4.17	4.67	4.61	4.38	0.44	0.21	–0.30	–0.23
Vermont	5.48	7.00	7.59	7.49	2.11	2.01	0.50	–0.10
Virginia	6.24	7.45	8.92	7.54	2.68	1.30	0.09	–1.38
Washington	5.56	5.20	5.30	5.13	–0.26	–0.43	–0.07	–0.17
West Virginia	6.19	6.79	5.70	7.08	–0.50	0.89	0.29	1.38
Wisconsin	5.73	6.79	6.70	6.58	0.97	0.85	–0.21	–0.12
Wyoming	6.03	7.51	7.66	7.94	1.63	1.91	0.43	0.28

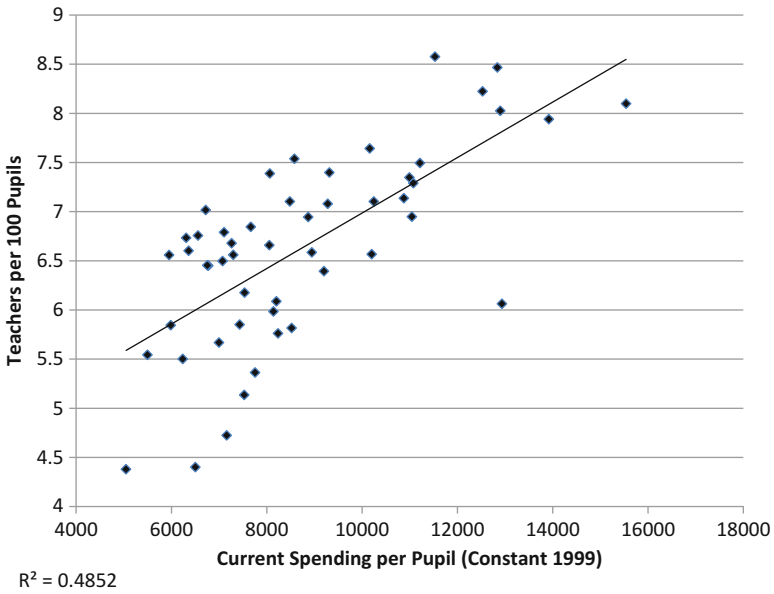

Fig. 4.5 Spending levels and staffing levels 2011–2012 (Note: See Appendix (Table 4A.2) for full information by state)

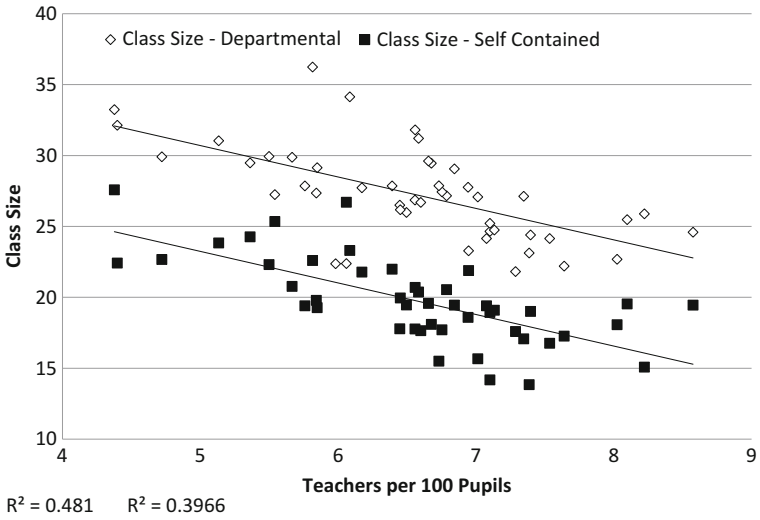

Fig. 4.6 Relating total staffing and class size (Note: See Appendix (Table 4A.2) for full information by state)

Figure 4.7 shows that variation across states in current spending levels also translates to variation in the competitiveness of teacher wages. We have already seen that states where spending is higher tend to have more teachers per pupil and smaller class sizes, consuming a share of the funds that might also be used for providing more competitive wages.

Figure 4.7 shows that states where school districts spend more also tend to have teacher wages more comparable to nonteachers at the same age and degree level. In other words, combining Figs. 4.5 through 4.7, it would appear that much of the cross-state variation in school spending, which is driven by cross-state variation in fiscal effort, translates into real resource differences likely to matter—more competitive wages, lower pupil-to-teacher ratios, and smaller classes.

Figure 4.8 explores the within-state distribution of resources, asking whether there exists a relationship between current spending fairness across states' school districts and staffing fairness. That is, if current spending per pupil is higher in higher poverty districts within a given state, are staffing concentrations also higher—and vice versa? Do states that provide for fairer distribution of funding yield, on average, fairer distribution of staffing ratios? The answer to that question as seen in Fig. 4.8 is, setting aside outliers (North Dakota and Alaska), yes. See Appendix (Table 4A.2) for full information by state.

Each of the above graphs and related correlations expresses only the relationship across states within the most recent year of data. These graphs do not speak to the question of whether increases or decreases in funding translate to increases or decreases in real resource levels or fairness. Unfortunately, our only real resource measure collected annually from 1993 to 2012 at the district level—thus useful for

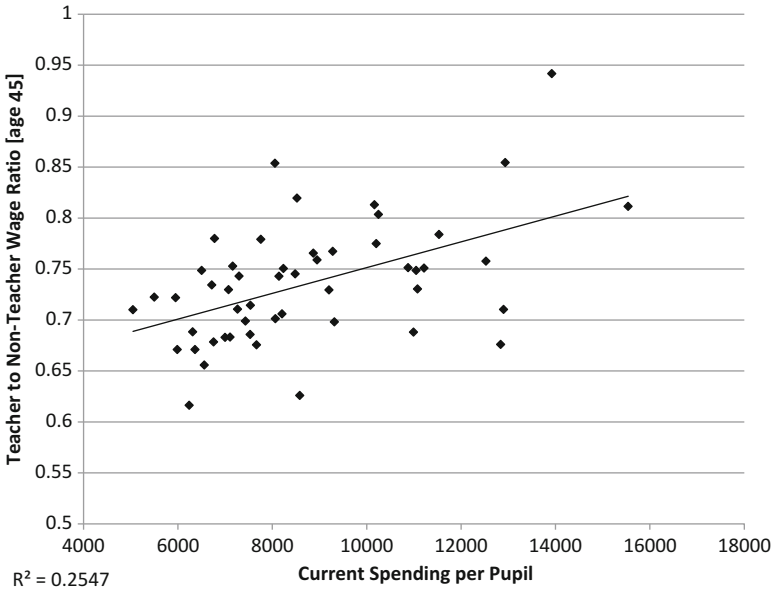

Fig. 4.7 Spending levels and competitive wages (Note: See Appendix (Table 4A.2) for full information by state)

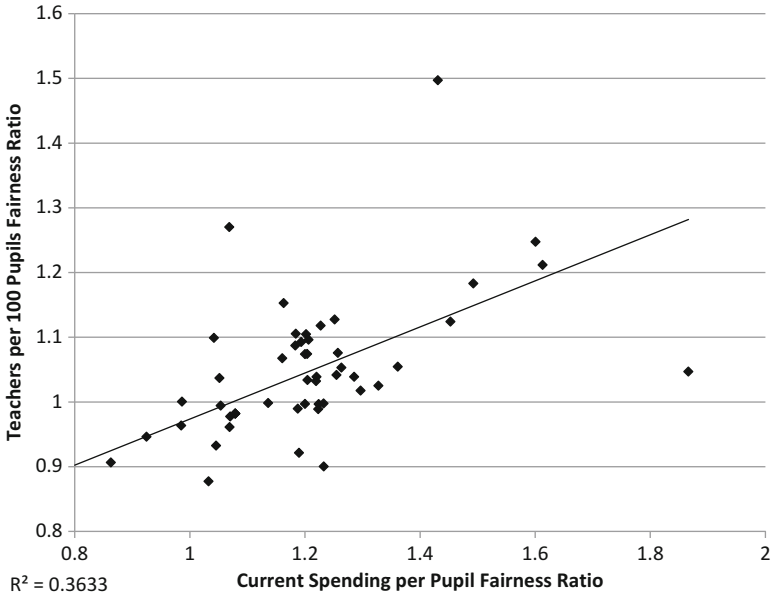

Fig. 4.8 Spending fairness and staffing fairness 2011–2012 (Note: See Appendix (Table 4A.2) for full information by state)

Table 4.7 Fixed effects model of pupil-to-teacher ratio fairness

	Fixed effects			Random effects		
	N = 50×20 years			N = 50×20 years		
DV = Teachers per 100 pupils fairness	Coef.	Std. err.	P>t	Coef.	Std. err.	P>t
Spending measures						
Spending fairness	0.417	0.022	[a]	0.432	0.020	[a]
Constant	0.564	0.026	[a]	0.546	0.026	[a]
R-Squared						
Within		0.278			0.278	
Between		0.694			0.694	
Overall		0.572			0.572	

[a]p < .01

evaluating both predicted state levels and within-state variation over time—is our pupil-to-teacher ratio measure.

Table 4.7 shows the results of a 20-year fixed effects model (also random effects) of the relationship between annual changes in spending levels and fairness, and pupil-to-teacher ratio fairness. The fixed effects model evaluates year-over-year changes within states. That is, to what extent do within-state changes in spending result in within-state changes in pupil-to-teacher ratio distributions? The random effects model combines evaluation of within-state differences over time with across-state differences. Cross-state differences evaluate the extent that states with fairer (or less fair) distributions of spending have fairer (or less fair) distributions of pupil-to-teacher ratios. R-squared values display the extent of variance that is explained by the models *within* states over time (averaged across states) and *between states* at each point in time (averaged over time). The more substantial variations across states than within any state over time yield more predictable variation (r-squared = .694).

In short, the model shows that when spending fairness improves, so too do staffing ratios in higher poverty districts. Each unit increase in funding fairness (increase in relative spending of higher poverty districts compared to lower poverty districts) translates to an additional 0.4 units of staffing per 100 pupils. Put into more realistic terms, an increase in fairness ratio from 1.0 (flat funding) to 1.25 (modestly progressive funding) leads to an increase in 0.1 of a teacher per 100 pupils in high poverty, relative to low poverty districts.

These differences exist across states but also occur within states over time. The magnitude of the change over time effect is only slightly smaller than the combined change over time and cross sectional effect. In other words, whether across states at all time periods, or within states over time, the responsiveness of pupil-to-teacher ratio fairness to spending fairness is relatively consistent.

To summarize, if we target additional funding to higher poverty settings, that funding translates to increased numbers of teachers and a fairer statewide distribution of staffing ratios in those districts. Of course, the inverse also follows.

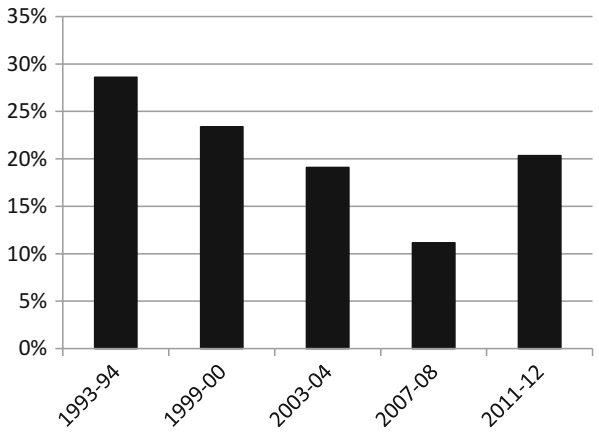

Fig. 4.9 Change in class size for 1 unit change in relative spending and relative poverty (Note: *Solid colored bars* indicate statistically significant class size differences)

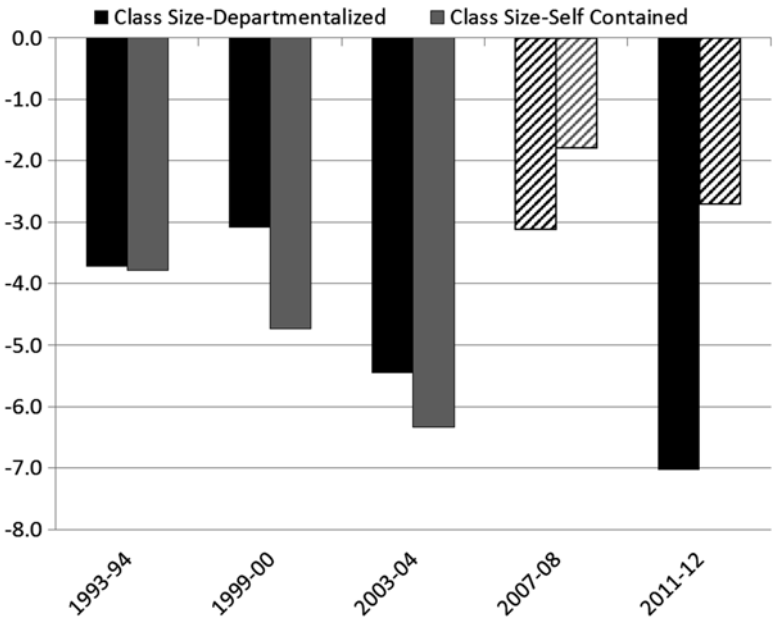

Fig. 4.10 Change in salary competitiveness for 1 unit change in relative spending (Note: *Solid colored bars* indicate statistically significant salary differences)

Figures 4.9 and 4.10 explore within year, over time, relationships between within-state variation in current spending and within-state (within-labor market) variation in (a) class sizes and (b) teacher wages (conditioned on age, experience, teaching assignment, grade level). Both figures are based on within-year (within SASS wave) models. Figure 4.9 shows that within-year (except for 2007–2008) class sizes across districts within metropolitan areas are sensitive to relative spend-

ing differences across districts within metropolitan areas. For example, as we move from average to double the average current spending, in 2011–2012, departmentalized class sizes are reduced by over seven pupils. More realistically, as a district moves from average spending for its labor market to 20 % above average, class sizes are reduced by about 1.4 students (20 % of 7). Such reductions are sufficient to be policy relevant. Recall that these estimates are conditioned on grade level taught and relative district poverty rate and include only nonrural schools.

Figure 4.10 displays the relationship between the competitiveness of teacher salaries to other teachers with similar credentials in similar jobs on the same labor market. Teachers in districts in a given labor market where per-pupil spending is double the labor market average have 20 % higher wages than similar teachers in average spending districts on average in 2011–12. Taken together, Figs. 4.9 and 4.10 support the conclusion that spending variation translates to meaningful real resource variation across children and across districts within the same labor market. These differences are significant, and the resources in question are meaningful.

Conclusions and Implications

The analyses presented validate the conclusion that variations in available revenues and expenditures are associated with variations in children's access to real resources—as measured by the competitiveness of the wages paid to their teachers and by pupil-to-teacher ratios and class sizes. Put simply:

- States that apply more effort—spending a greater share of their fiscal capacity on schools—generally spend more on schools.
- These higher spending levels translate into higher statewide staffing levels—more certified teaching staff per pupil.
- These higher staffing levels translate to smaller statewide class sizes.
- These higher spending levels translate to more competitive statewide teacher wages.
- Districts that have higher spending levels within states tend to provide smaller class sizes than surrounding districts with lower spending levels.
- Districts that have higher spending levels within states tend to provide more competitive teacher salaries than surrounding districts with lower spending levels.

These relationships hold (a) across states, (b) within states over time as resource levels change and (c) across districts within states and labor markets. The connections identified here between school funding and real resource access speak to both equity and adequacy concerns. Equity and adequacy of financial inputs to schooling across states are required if we ever expect to achieve more equitable access to a highly qualified teacher workforce (as dictated in part by the competitiveness of their compensation) and reasonable class sizes.

The loftier goal of equal educational opportunity—or equal opportunity across children to strive for common outcome goals—requires not merely equal real resources, but appropriately differentiated resources, including smaller classes and additional support services with at least equally qualified teachers and other school staff. While the press is on to nationalize those outcome expectations through Common Core Standards and the assessments by which we measure them, our current system for financing schools is in full retreat from the equity and adequacy gains made between 1993 and 2007.

The recent recession yielded an unprecedented decline in public school funding fairness. Thirty-six states had a 3-year average reduction in current spending fairness between 2008–2009 and 2010–2011, and 32 states had a 3-year average reduction in state and local revenue fairness over that same time period. Even after the partial rebound of 2012, 30 states remained less fair in current spending than in 2007. Nearly every state has experienced a long-term (10-year) decline in the competitiveness of teacher wages. Between 2007 and 2012, 33 states saw increases in pupil-to-teacher ratios.

Notably, while equity overall took a hit between 2007 and 2012, the initial state of funding equity varied widely at the outset of the period, with Massachusetts and New Jersey being among the most progressively funded states in 2007. Thus, they arguably had further to fall. Funding equity for many states has barely budged over time and remained persistently regressive, for example, in Illinois, New York, and Pennsylvania. Potential influences on these patterns are also elusive and widely varied. In Missouri, we see the 1990s influence of desegregation orders, which capitalized on the state's matching aid program to generate additional revenue in Kansas City and St. Louis driving spending progressiveness, but when the state adopted a need-weighted foundation aid formula in 2006, spending continued to become more regressive.

We see the more logical influence of school finance reforms in Massachusetts in the early 1990s and in New Jersey in the late 1990s after court orders targeting additional funds to needy districts, yielding an overall pattern of progressiveness. Court orders in New York state (2006) appears to have had little or no influence on equity, and the influence of court orders over time in Kansas have moved the needle only slightly. A better understanding of the role of judicial involvement requires significant additional exploration of these data linked to information on both judicial activity and legislative reforms.

Finally, the coming years will tell us both whether state school finance systems can rebound from the effects of the downturn or whether these effects have become permanent, and they will inform us about the consequences for short- and long-term student outcomes. A significant body of literature has now shown the positive effects of equity and adequacy improvements of the prior 40-plus years of school finance reform. Similar methods applied years from now may reveal the deleterious influences of these dark ages of American public school finance.

Appendix

Table 4A.1 Data sources, years, and measures

Data element	Unit of analysis	Data source	Years available	Years imputed
District level fiscal measures				
Per pupil spending	District	U.S. Census F-33 Public Elementary-Secondary Education Finance Survey (F-33)[a]	1993–2012	
State revenue	District	F-33	1993–2012	
Local revenue	District	F-33	1993–2012	
Federal revenue	District	F-33	1993–2012	
District characteristics				
Enrollment	District	National Center for Education Statistics (NCES), Common Core of Data (CCD)[b]	1993–2012	
Grade ranges	District	CCD	1993–2012	
Pupil/teacher ratios	District	CCD	1993–2012	
Regional cost variation				
Education comparable wage index	District	Taylor's Extended NCES Comparable Wage Index	1997–2012	1993–1996, 2012
Population needs/characteristics				
Child poverty[c]	District	U.S. Census Small Area Income and Poverty Estimates[d]	1995, 1997, 1999, 2000–2012	1993–1994, 1996, 1998
Teacher characteristics				
Teacher/nonteacher wages	Individual worker	IPUMS Census & American Community Survey	2000–2012	
Wages/compensation	Teacher linked to school/district (sample)	NCES Schools and Staffing Survey[e]	1993–1994, 1999–2000, 2003–2004, 2007–2008, 2011–2012	
Class size	School (sample)	NCES Schools and Staffing Survey	1993–1994, 1999–2000, 2003–2004, 2007–2008, 2011–2012	

[a]U.S. Census. Public Elementary–Secondary Education Finance Data
[b]U.S. Department of Education, National Center for Education Statistics. Common Core of Data
[c]See Baker et al. (2013b)
[d]U.S. Census. Small Area Income and Poverty Estimates, School District Data Files
[e]U.S. Department of Education, National Center for Education Statistics. Schools and Staffing Survey

Table 4A.2 Summary data by state

State	Effort & revenue		Spending & staffing					Fairness	
	Effort index (%)	State & local revenue ($)	Spending level ($)	Staffing level	Class size – departmental	Class size – Self contained	Wage ratio (%)	Spending Fairness	Staffing Fairness
Alabama	3.3	9013	7263	6.68	29.45	18.09	71.0	1.08	0.98
Alaska	3.4	13,745	12,934	6.06	22.38	26.70	85.4	1.87	1.05
Arizona	2.5	7122	6239	5.50	29.93	22.30	61.6	1.05	0.99
Arkansas	3.8	9554	7296	6.56	31.80	20.69	74.3	1.23	1.12
California	2.7	8104	6503	4.40	32.12	22.41	74.9	1.20	1.00
Colorado	2.8	8959	7000	5.67	29.87	20.77	68.3	1.16	1.07
Connecticut	3.9	15,863	12,901	8.02	22.68	18.07	71.0	1.07	0.96
Delaware	2.7	12,160	11,046	6.95	23.28	21.88	74.8	1.23	1.00
Florida	2.7	7684	6718	7.01	27.08	15.66	73.4	1.19	0.92
Georgia	3.6	8905	7104	6.79	27.16	20.54	68.3	1.20	1.03
Hawaii	3.1	12,339	10,203	6.57			77.5	1.08	0.98
Idaho	2.9	6462	5498	5.54	27.24	25.34	72.2	1.18	1.09
Illinois	3.8	11,911	9202	6.39	27.85	21.98	72.9	1.05	0.93
Indiana	3.6	10,587	7431	5.85	29.14	19.27	69.9	1.45	1.12
Iowa	3.5	11,565	8055	6.66	29.61	19.57	85.4	1.20	1.07
Kansas	3.7	10,693	8065	7.39	23.12	13.83	70.1	1.22	1.00
Kentucky	3.5	8992	7536	6.17	27.72	21.77	71.4	1.22	1.04
Louisiana	2.8	9568	8483	7.10	24.65	14.18	74.5	1.33	1.02
Maine	4.4	12,486	10,162	7.64	22.19	17.26	81.3	0.99	0.96
Maryland	3.8	13,759	10,877	7.13	24.75	19.08	75.1	1.14	1.00
Massachusetts	3.4	14,171	10,993	7.35	27.12	17.07	68.8	1.25	1.13
Michigan	3.8	9862	7756	5.36	29.47	24.26	77.9	1.20	1.10

Minnesota	3.3	11,067	8204	6.09	34.13	23.30	70.6	1.60	1.25
Mississippi	3.6	7471	5951	6.56	26.86	17.77	72.2	1.30	1.02
Missouri	3.3	9932	7666	6.84	29.05	19.44	67.5	1.05	1.04
Montana	3.3	9527	8141	5.98	22.36		74.3	1.18	1.11
Nebraska	3.2	10,550	8870	6.94	27.76	18.58	76.6	1.36	1.05
Nevada	2.8	10,668	8523	5.81	36.23	22.59	81.9	0.57	0.69
New Hampshire	4.0	13,668	11,077	7.29	21.81	17.58	73.0	1.07	1.27
New Jersey	4.8	15,862	12,528	8.22	25.89	15.08	75.8	1.26	1.08
New Mexico	3.3	9185	6775	6.45	26.49	17.78	78.0	1.29	1.04
New York	4.3	18,708	15,540	8.10	25.47	19.53	81.1	0.99	1.00
North Carolina	2.4	7004	6363	6.60	26.69	17.64	67.1	1.25	1.04
North Dakota	2.3	11,538	9316	7.40	24.40	19.01	69.8	1.43	1.50
Ohio	3.7	10,295	8236	5.76	27.86	19.40	75.0	1.16	1.15
Oklahoma	2.9	7371	5987	5.84	27.34	19.78	67.1	1.20	1.07
Oregon	2.6	9133	7159	4.72	29.90	22.66	75.3	1.22	0.99
Pennsylvania	3.9	14,127	10,248	7.10	25.20	18.93	80.3	0.92	0.95
Rhode Island	3.9	13,843	11,532	8.57	24.59	19.44	78.4	1.03	0.88
South Carolina	3.9	9505	7072	6.50	25.98	19.46	73.0	1.26	1.05
South Dakota	2.5	8498	6755	6.45	26.17	19.95	67.8	1.61	1.21
Tennessee	2.7	7263	6559	6.75	27.43	17.71	65.6	1.22	1.03
Texas	3.0	8634	6311	6.73	27.87	15.50	68.8	1.19	0.99
Utah	2.8	6443	5047	4.38	33.23	27.58	71.0	1.49	1.18
Vermont	5.1	15,126	11,214	7.49			75.1	0.86	0.91
Virginia	3.0	9989	8583	7.54	24.14	16.76	62.6	1.07	0.98
Washington	2.8	9752	7529	5.13	31.04	23.82	68.6	1.21	1.10
West Virginia	5.1	12,781	9279	7.08	24.14	19.40	76.7	1.19	1.09
Wisconsin	3.7	11,199	8947	6.58	31.20	20.37	75.9	1.23	0.90
Wyoming	3.6	17,394	13,920	7.94			94.2	1.04	1.10

References

Baker, Bruce D. 2012. *Revisiting the age-old question: Does money matter in education?* Washington, DC: Albert Shanker Institute.

Baker, Bruce D. 2014. Evaluating the recession's impact on state school finance systems. *Education Policy Analysis Archives* 22(91). doi:http://dx.doi.org/10.14507/epaa.v22n91.2014

Baker, Bruce, and Preston Green. 2009a. Conceptions, measurement and application of educational adequacy standards. In *AERA handbook on education policy*, ed. David N. Plank. New York: Routledge.

Baker, Bruce, and Preston Green. 2009b. Does increased state involvement in public schooling necessarily increase equality of educational opportunity? In *The rising state: How state power is transforming our nation's schools*, ed. Bonnie C. Fuscarelli and Bruce S. Cooper, 133. Albany: State University of New York Press.

Baker, Bruce D., and Kevin G. Welner. 2011. School finance and courts: Does reform matter, and how can we tell. *Teachers College Record* 113(11): 2374–14.

Baker, Bruce D., and Kevin G. Welner. 2012. Evidence and rigor scrutinizing the rhetorical embrace of evidence-based decision making. *Educational Researcher* 41(3): 98–101.

Baker, Bruce D., Joseph O. Oluwole, and Preston C. Green III. 2013a. The legal consequences of mandating high stakes decisions based on low quality information: Teacher evaluation in the race-to-the-top era. *Education Policy Analysis Archives* 21(5).

Baker, Bruce D., Lori Taylor, Jesse Levin, Jay Chambers, and Charles Blankenship. 2013b. Adjusted poverty measures and the distribution of title I aid: Does Title I really make the rich states richer? *Education Finance and Policy* 8(3): 394–417.

Baker, Bruce D., David G. Sciarra, and Danielle Farrie. 2014. *Is school funding fair? A national report card.* Newark: Education Law Center. http://www.schoolfundingfairness.org.

Borman, Geoffrey D., and Maritza Dowling. 2010. Schools and inequality: A multilevel analysis of Coleman's equality of educational opportunity data. *Teachers College Record* 112(5): 1201–1246.

Card, David, and A. Abigail Payne. 2002. School finance reform, the distribution of school spending, and the distribution of student test scores. *Journal of Public Economics* 83(1): 49–82.

Chingos, Matthew M. 2010. *The impact of a universal class-size reduction policy: Evidence from Florida's statewide mandate* (Program on Education Policy and Governance Working Paper 10–03). Cambridge, MA: Harvard University.

Clune, William H. 1994. The shift from equity to adequacy in school finance. *Educational Policy* 8(4): 376–394.

Corcoran, Sean, William N. Evans, Jennifer Godwin, Sheila E. Murray, and Robert M. Schwab. 2004. The changing distribution of education finance, 1972 to 1997. In *Social inequality*, ed. Kathryn M. Neckerman. New York: Russell Sage Foundation.

Deke, John. 2003. A study of the impact of public school spending on postsecondary educational attainment using statewide school district refinancing in Kansas. *Economics of Education Review* 22(3): 275–284.

Downes, Tom A. 2004. School finance reform and school quality: Lessons from Vermont. In *Helping children left behind: State aid and the pursuit of educational equity*, ed. John Yinger. Cambridge, MA: MIT Press.

Downes, Tom A., Jeff Zabel, and Dana Ansel. 2009. *Incomplete grade: Massachusetts education reform at 15*. Boston: MassINC. http://www.massinc.org/Research/Incomplete-Grade.aspx.

Duncombe, William, and John Yinger. 2005. How much more does a disadvantaged student cost? *Economics of Education Review* 24(5): 513–532.

Ehrenberg, Ronald G., Dominic J. Brewer, Adam Gamoran, and J. Douglas Willms. 2001. Class size and student achievement. *Psychological Science in the Public Interest* 2(1): 1–30.

Evers, Williamson M., and Paul Clopto. 2006. High-spending, low-performing school districts. In *Courting failure: How school finance lawsuits exploit judges' good intentions and harm our children*, ed. Eric Hanushek, 103–194. Palo Alto: Hoover Institution Press.

Ferguson, Ronald. 1991. Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation* 28(2): 465–498.

Figlio, David N. 1997. Teacher salaries and teacher quality. *Economics Letters* 55: 267–271.

Figlio, David N. 2002. Can public schools buy better-qualified teachers? *Industrial and Labor Relations Review* 55: 686–699.

Figlio, David N. 2004. Funding and accountability: Some conceptual and technical issues in state aid reform. In *Helping children left behind: State aid and the pursuit of educational equity*, ed. John Yinger, 87–111. Cambridge, MA: MIT Press.

Figlio, David N., and Kim Rueben. 2001. Tax limits and the qualifications of new teachers. *Journal of Public Economics* (April): 49–71.

Greene, Jay P., and Julie R. Trivitt. 2008. Can judges improve academic achievement? *Peabody Journal of Education* 83(2): 224–237.

Guryan, Jonathan. 2001. *Does money matter? Estimates from education finance reform in Massachusetts* (NBER Working Paper 8269). Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w8269.

Hanushek, Eric A. 1986. Economics of schooling: Production and efficiency in public schools. *Journal of Economic Literature* 24(3): 1141–1177.

Hanushek, Eric A. 1989. The impact of differential expenditures on school performance. *Educational Researcher* 18(4): 45–62.

Hanushek, Eric A. (ed.). 2006. *Courting failure: How school finance lawsuits exploit judges' good intentions and harm our children*. Palo Alto: Hoover Press.

Hanushek, Eric A. 2011. The economic value of higher teacher quality. *Economics of Education Review* 30(3): 466–479.

Hanushek, Eric A. 2009. Teacher deselection. In *Creating a new teaching profession*, ed. Dan Goldhaber and Jane Hannaway, 168, 172–173. Washington, DC: Urban Institute Press.

Hanushek, Eric A., and Alfred Lindseth. 2009. *Schoolhouses, courthouses and statehouse*s. Princeton: Princeton University Press.

Hyman, Joshua. 2013. *Does money matter in the long run? Effects of school spending on educational attainment* (Working Paper). Ann Arbor: University of Michigan. http://www-personal.umich.edu/~jmhyman/Hyman_JMP.pdf.

Isenberg, E. P. 2010. The effect of class size on teacher attrition: Evidence from class size reduction policies in New York State. *US Census Bureau Center for Economic Studies* Paper CES-WP-10-05.

Jackson, C. Kirabo, Rucker Johnson, and Claudia Persico. 2015. *The effects of school spending on educational and economic outcomes: Evidence from school finance reforms* (NBER Working Paper No. 20847). Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w20847

Jepsen, Christopher, and Steven Rivkin. 2002. *What is the tradeoff between smaller classes and teacher quality?* (NBER Working Paper 9205). Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w9205.

Konstantopoulos, Spryros, and Geoffrey Borman. 2011. Family background and school effects on student achievement: A multilevel analysis of the Coleman data. *Teachers College Record* 113(1): 97–132.

Loeb, Susanna, and Marianne E. Page. 2000. Examining the link between teacher wages and student outcomes: The importance of alternative labor market opportunities and non-pecuniary variation. *Review of Economics and Statistics* 82(3): 393–408.

Loeb, Susanna, Linda Darling-Hammond, and John Luczak. 2005. How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education* 80(3): 44–70.

Mishel, Lawrence, Sylvia A. Allegretto, and Sean P. Corcoran. 2011. *The teaching penalty: An update through 2010* (EPI Issue Brief 298). Washington, DC: Economic Policy Institute. http://www.epi.org/publication/the_teaching_penalty_an_update_through_2010/.

Murnane, Richard J., and Randall Olsen. 1989. The effects of salaries and opportunity costs on length of state in teaching. Evidence from Michigan. *Review of Economics and Statistics* 71(2): 347–352.

Neymotin, Florence. 2010. The relationship between school funding and student achievement in Kansas public schools. *Journal of Education Finance* 36(1): 88–108.

Nguyen-Hoang, Phuong, and John Yinger. 2014. Education finance reform, local behavior, and student performance in Massachusetts. *Journal of Education Finance* 39(4): 297–322.

Ondrich, Jan, Emily Pas, and John Yinger. 2008. The determinants of teacher attrition in upstate New York. *Public Finance Review* 36(1): 112–144.

Papke, Leslie E. 2005. The effects of spending on test pass rates: Evidence from Michigan. *Journal of Public Economics* 89(5–6): 821–839.

Roy, Joydeep. 2011. Impact of school finance reform on resource equalization and academic performance: Evidence from Michigan. *Education Finance and Policy* 6(2): 137–167.

Sims, David. 2008. A strategic response to class size reduction: Combination classes and student achievement in California. *Journal of Policy Analysis and Management* 27(3): 457–478.

Sims, David. 2009. Crowding Peter to educate Paul: Lessons from a class size reduction externality. *Economics of Education Review* 28: 465–473.

Springer, Matthew G., Dale Ballou, Laura S. Hamilton, Vi-Nhuan Le, J.R. Lockwood, Daniel F. McCaffrey, Matthew Pepper, and Brian M. Stecher. 2011. *Teacher pay for performance: Experimental evidence from the project on incentives in teaching (POINT)*. Evanston: Society for Research on Educational Effectiveness.

U.S. Census. *Public elementary–Secondary education finance data*. http://www.census.gov/govs/school/

U.S. Department of Education. National Center for Education Statistics. Common Core of Data. http://nces.ed.gov/ccd/ccddata.asp

U.S. Department of Education. National Center for Education Statistics. Schools and Staffing Survey. http://nces.ed.gov/surveys/sass/

U.S. Census. *Small area income and poverty estimates*, School District Data Files. http://www.census.gov/did/www/saipe/data/schools/data/index.html

U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. 2003. *Educational practices supported by rigorous evidence: A user friendly guide*. Washington, DC. http://www2.ed.gov/rschstat/research/pubs/rigorousevid/rigorousevid.pdf

Walberg, Herbert J. 2006. *High poverty, high performance schools, districts and states*, 79–102. In Hanushek 2006.

Chapter 5
The Dynamics of Opportunity in America: A Working Framework

Henry Braun

Abstract Since its founding, America has been seen as a land of opportunity, where an individual with skills who was willing to work hard could achieve success and expect his children to do even better. Today we live in turbulent times: A tsunami of change is washing over us, driven by forces operating at multiple levels that have not only led to almost unprecedented inequalities in income and wealth, but also have dramatically restructured the economy and changed the landscape of work. Having sufficient amounts of relevant human and social capital are more critical than ever—and too many Americans are finding they are not equipped to succeed as workers and citizens. Growing inequities in access to opportunities to develop needed capital, strongly linked to socioeconomic status should be cause for grave concern. This chapter presents a framework—gates, gaps, and gradients—that can facilitate understanding of both the dynamics governing the distribution of access to opportunity across the developmental lifespan and the implications of those dynamics for intragenerational and intergenerational mobility. Further, it indicates in broad strokes how this nation can begin to broaden opportunity in order to revitalize the American Dream for the twenty-first century.

Keywords Opportunity • Globalization • Technology • Human capital • Wages • Educational attainment • Skills • Intergenerational mobility • Socioeconomic status (SES) • Unmarried mothers • Unemployment

Introduction

We live in turbulent times—economically, technologically, socially, and politically. A tsunami of change is washing over us, driven by forces operating at all levels: global, national, regional, and local. Some of these forces, such as globalization and technology, are supranational. Some, such as fiscal and trade policy, are decided at

H. Braun (✉)
Lynch School of Education, Boston College, Chestnut Hill, MA 02467, USA

I. Kirsch, H. Braun (eds.), *The Dynamics of Opportunity in America*,
DOI 10.1007/978-3-319-25991-8_5

the national level. Others, such as education and health policies, are the result of a combination of national and state actions. Yet others, such as changes in the demographics of neighborhoods, are influenced by forces at all levels, such as international migration patterns, as well as by local laws and regulations adopted to achieve certain policy objectives or to accommodate the interests of various stakeholders.

Even prior to the Great Recession, stable employment and guaranteed retirement were pledged to fewer and fewer workers. Today, the nation is experiencing not only ongoing "creative destruction" of firms (and of jobs within firms) but also threats to both public and private pensions. Correspondingly, increasing numbers of individuals are either "under water" or confronting that prospect. Although some are able to ride the wave and prosper, they, too, face greater uncertainties. Indeed, for almost everyone, this is the *Age of Anxiety*.

That justifiable anxiety is, in part, a consequence of increasing inequality in both income and wealth driven by trends in labor and capital markets, as well as by differences in opportunities to accumulate relevant human capital. Arguably, today's differences will lead to even greater divergence in opportunities in the future. The implications of such a self-reinforcing, multigenerational cycle—for the economy, for society, and for our democratic polity—are a matter of current debate.[1] I believe that such a prospect is one we cannot afford to ignore. As Nobel Laureate Joseph Stiglitz argues, "An economic and political system that does not deliver for most citizens is one that is not sustainable in the long run. Eventually, faith in democracy and the market economy will erode, and the legitimacy of existing institutions and arrangements will be called into question.[2]

This is certainly not the first time in our country's history that we face great difficulties. In the past, however, there were two beliefs, held by many, that helped to sustain and inspire us to meet the challenges. The first was American exceptionalism—America was unlike (and better than) other countries, truly a light unto the nations. The second was that the U.S. was a land of unprecedented opportunity—no matter their circumstances at birth, individuals could realistically expect to improve themselves through education, hard work, and persistence, and more importantly, their children could aspire to do even better.

These beliefs are harder to maintain today. World events have shaken our belief in American exceptionalism, and reams of statistics—not to mention the experiences of tens of millions of individuals—cast doubt on meaningful opportunity in America being available to all. Indeed, surveys show that many older persons, especially parents, believe that the next generation will not do as well

[1] Stiglitz 2012; Cowen 2013.

[2] Joseph Stiglitz, "Climate Change and Poverty Have Not Gone Away," *Guardian*, January 7, 2013, http://www.theguardian.com/business/2013/jan/07/climate-change-poverty-inequality.

as they have—and even fewer adults consider themselves members of the middle class.[3]

Historically, differences in opportunity were associated with race and, indeed, this was the prime motivation for the Great Society legislation pursued by President Lyndon Johnson in the mid-1960s. Although differences by race and ethnicity persist and remain substantial, there is considerable evidence that differences (say, in test scores) by income are now larger than those by race. Moreover, differences by income within a race/ethnicity category are also quite striking (Reardon 2011; Murray 2012). As will be demonstrated in what follows, individual differences in opportunity result in differences in individuals' levels of preparedness to successfully meet the demands of adult life—as workers, citizens and, for most, parents. That level of preparedness is often signified by the term human capital. This chapter focuses on human capital: what it is, how it develops and is accumulated, what is happening to its distribution across the U.S. population, and some possible consequences if current trends continue.

Before diving in, let's look at some data to give us a sense of the state of inequality in America. Following the old adage that a picture is worth a thousand words, we begin with some graphs. Figure 5.1 shows the percentile trajectories for wages and salaries from 1961 to 2000. For about 30 years after World War II, the relationships among the trajectories remained fairly stable, that is, greater prosperity was generally shared. After 1975, and certainly after 1980, the income trajectories began to diverge, quite dramatically. What is especially noteworthy is how the top percentiles

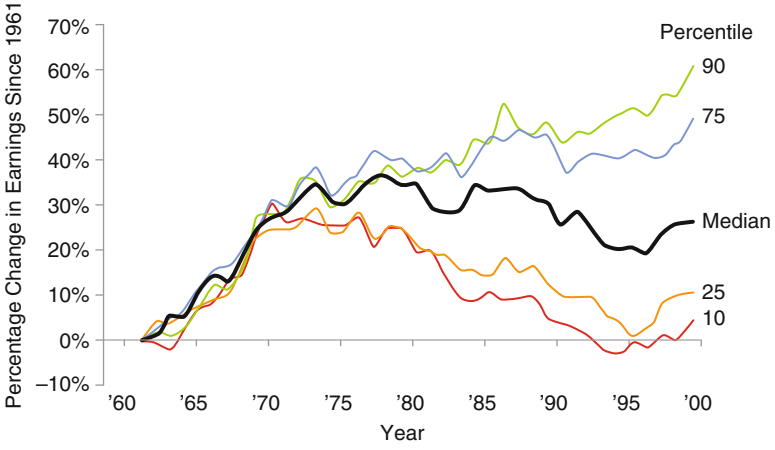

Fig. 5.1 Distribution of real wage and salary earnings for full-year, full-time males workers aged 18–64 as compared to 1961–2000 (Used by permission of The Aspen Institute)

[3] Leslie McCall, "Political and Policy Responses to Problems of Inequality: Past, Present and Future" (unpublished presentation, *Opportunity in America* advisory panel meeting, June 2014).

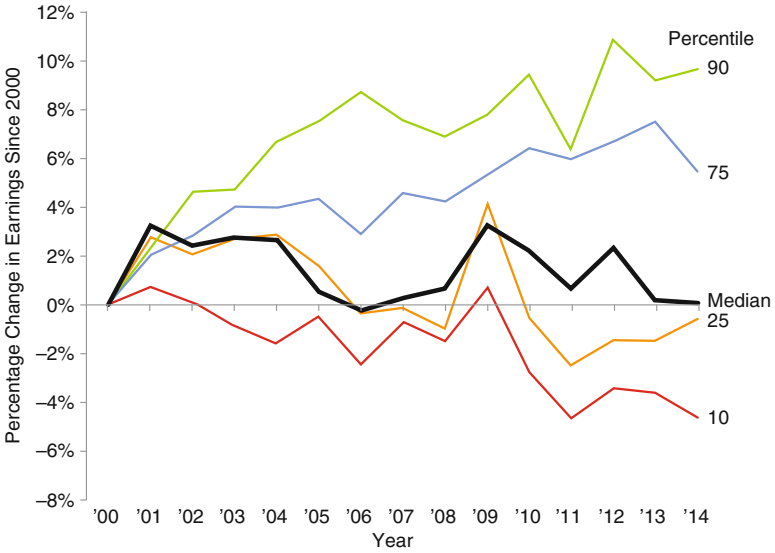

Fig. 5.2 Distribution of real wage and salary earnings for full-year, full-time male workers aged 16 and over, as compared to 2000 (Source: Author's tabulations of the Current Population Survey)

have pulled away from the rest—a striking manifestation of increasing inequality.[4] Figure 5.2 presents an analogous picture but employs 2000 as a new starting point. Clearly the divergence in earnings between the higher and lower percentiles has continued through 2014. Putting the two figures together yields a disturbing picture of increasing inequality.

Figure 5.3, which offers a more focused view of this phenomenon, displays the cumulative change (1979–2010) in real annual wages by income group, defined by percentiles of the income distribution.[5] Evidently, the increases garnered by the top 1 % dwarf those in the 95th—99th and the 90th—95th percent categories. But these are still more than double the 15 % gain of the rest (the "bottom" 90 %) (Thompson 2012). The divergence is even more striking for changes in total annual household income (i.e., including both capital gains and income transfers)—and more striking still if one considers household wealth or shares of the stock market (Piketty 2014; for a quicker look, see Thompson 2012).[6] At the same time, some economists argue

[4] Tabulations by Professor David Ellwood, Harvard University.

[5] Economic Policy Institute (State of Working America). It is important to understand that this graph does not follow specific people over time but, rather, is constructed anew each year. Thus, it doesn't tell us anything about the (relative) income mobility or immobility of particular individuals.

[6] Data from the Congressional Budget Office shows that the cumulative growth in average after-tax income (sum of market income and government transfers minus federal tax liabilities) did not vary much across the bottom four quintiles.

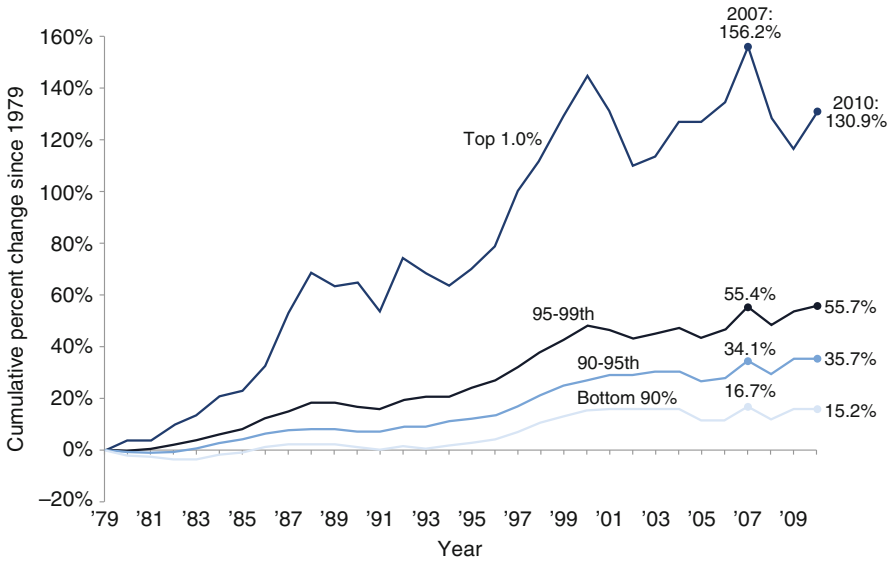

Fig. 5.3 Cumulative change in real annual wages, by wage group, 1979–2010 (Economic Policy Institute, 2012, "Cumulative Change in Real Annual Wages, by Wage Group, 1979–2010", The State of Working America, Washington, DC: Economic Policy Institute, Aug. 22, 2012, www.stateofworkingamerica.org/jobs/figure4H)

that focusing on the trajectory of the "1 %" is misguided, at least with respect to addressing the broader issues of inequality (Mankiw 2013).[7]

Figure 5.4 displays the 50-year trajectories of real wages for different levels of educational attainment, separately for men and women (Autor 2014; see also Acemoglu and Autor 2012, Fig. 3). Although there are some differences between males and females, in general, individuals with higher levels of attainment have done well, while those at the lowest levels have either stagnated (high school diploma) or even lost ground (less than a high school diploma). Who are the individuals in that last category? Table 5.1 offers one answer. It displays the probability of individuals lacking a high school diploma or GED as a function of their family income and their Armed Services Vocational Aptitude Battery (ASVAB) score, a composite measure of developed skills.[8] More than 35 % of individuals coming from poor families with ASVAB scores in the lowest quintile fall in this category of attainment, with the percentages falling with increasing family income and dramatically so with higher ASVAB scores.

[7] Tyler Cowen," It's Not the Inequality; It's the Immobility." *New York Times,* April 5, 2015, http://www.nytimes.com/2015/04/05/upshot/its-not-the-inequality-its-the-immobility.html?abt=0002&abg=1.

[8] Data compiled by the Center for Labor Market Studies, Northeastern University. For more information see http://official-asvab.com/index.htm.

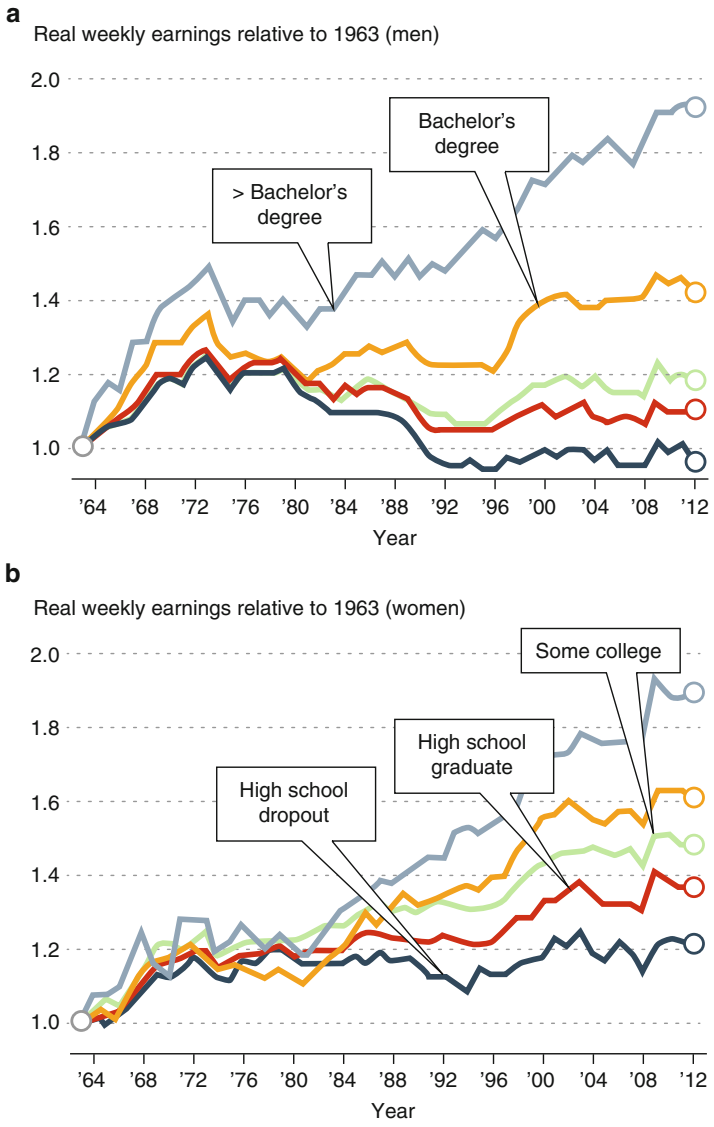

Fig. 5.4 Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012 (Reproduced from Autor 2014)

The last graph in this series, Fig. 5.5, compares the problem-solving skills of American adults (ages 16–65) to those of other developed countries. Comparisons are displayed for two age classes. This is also very striking: For the oldest age class (55–64), the U.S. is at the top, but for the youngest age class (16–24), the U.S. is at the bottom (OECD 2013, Fig. 3.3).

What do these pictures tell us? Figures 5.1, 5.2 and 5.3 demonstrate that rising income inequality is real. Even when government benefits are taken into account there is still a widening gap between the bottom 50 % and the top 10 %, and even more so if attention focuses on the top 1 % or, especially, the top 0.1 %. Figure 5.4 and Table 5.1 together show that income inequality is strongly related to the amount

Table 5.1 Percent of 24- to 28-year-old adults in the U.S. in 2008 without a high school diploma or GED by ASVAB test score quintile and family's income in their teenaged years in 1997 (Andrew Sum 2014, presentation to *Opportunity in America* panel)

	(A)	(B)	(C)	(D)	(E)	(F)
Family income	Bottom	Second	Middle	Fourth	Top	All
Poor	35.9	15.4	10.6	4.7	0	22.9
1–2* poor	30.0	11.1	6.5	2.3	4.3	15.4
2–3* poor	19.8	8.4	5.2	1.2	0	6.7
3–4* poor	19.0	5.8	7.4	1.2	0	4.0
4 or more * poor	16.3	1.7	.6	0	0	2.1
All	28.3	8.2	3.7	1.5	.5	

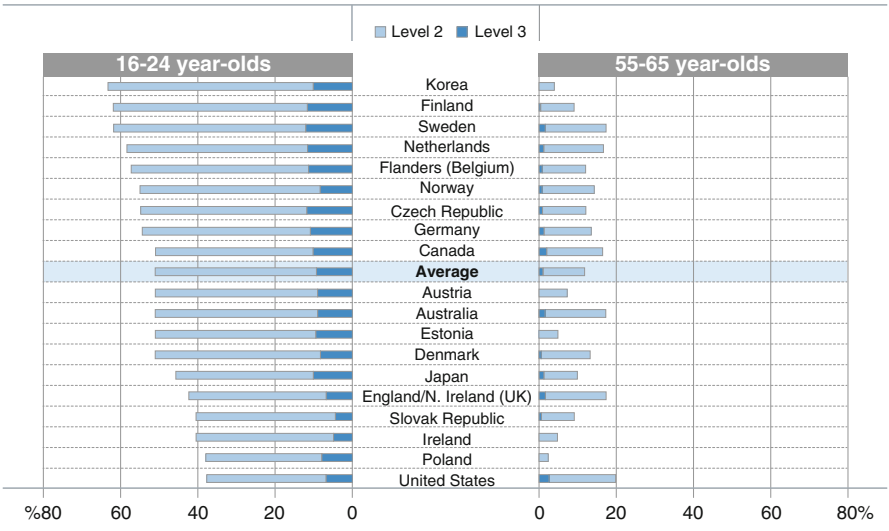

Fig. 5.5 Problem-solving proficiency among younger adults (age 16–24) and older adults (age 55–65) (OECD 2013)
Percentage of adults aged 16–24 and 55–65 scoring at level 2 or 3 in problem solving in technology-rich environments

of education achieved and that those with weak skills and coming from poor families are likely to fall in the lowest category of attainment.[9] It is reasonable to conclude that individuals with low skills are unlikely to earn a good wage while those with high skills have an excellent chance of doing so. In point of fact, there are now millions of individuals with low skills confronting poor job prospects.

Figure 5.5 signals America's relative decline. Today's young adults may not be less literate than their elders (and may well be more proficient with technology), but other countries have charged ahead so that too many of our young adults are not competitive in the global marketplace and, more and more, the global marketplace influences what happens in towns and cities across America. Unfortunately, the problem is not confined to the youngest cohort. As Kevin Carey of the New America Foundation has pointed out, comparisons of literacy skills among 25 to 29-year-olds who are college graduates show that Americans again fall well below the Organisation for Economic Co-operation and Development average.[10] Similar findings hold for numeracy skills (see Fig. 8 of Goodman, Sands, and Coley 2015).

There is a growing consensus that current trends, if left unchecked, pose a serious threat not only to the American Dream, but to the American way of life (Stiglitz 2012; Noah 2013). If that is the case, we must understand these forces and their interactions if we are to have even a possibility of countering their effects. At the same time, given the multiplicity of factors and the range of dynamics among them, it would be naïve to believe that there is a simple fix such as to just "improve education" or "make the income tax more progressive"; rather, it is surely necessary to undertake a broad set of strategies that are systematic, systemic, and sustained. This will be neither simple nor easy.

The chief purpose of this chapter, undertaken under the auspices of the *Opportunity in America* project and funded by Educational Testing Service, is to present a framework that can help us to understand both the dynamics governing the distribution of access to opportunity in America and the implications of those dynamics for intragenerational and intergenerational mobility. It offers some of the relevant evidence and constitutes an initial foray into an exceedingly complex and controversial topic. The ultimate goal of the project is to contribute to a constructive public debate on the implications of increasing inequality and social stratification, however measured, and how we can dramatically expand opportunity in order to revitalize the American Dream for the 21st century.

[9] It appears that differences in educational attainment better account for differences in income below the median than they do above the median – especially differences within the top quintile.

[10] Kevin Carey, "Americans Think We Have the World's Best Colleges. We Don't," *New York Times,* June 28, 2014, http://www.nytimes.com/2014/06/29/upshot/americans-think-we-have-the-worlds-best-colleges-we-dont.html.

What Is Opportunity?

Opportunity is defined by Merriam-Webster as *a favorable juncture of circumstances.* For our purposes it can be thought of as the set of paths by which a child's potential develops over time into the broad set of skills, competencies, and dispositions (i.e., the human capital) that will enable him or her to successfully navigate adult life. By inequality of opportunity we mean that the paths for some children present relatively few obstacles to their developmental trajectories; for others, there are many obstacles and, consequently, they are less likely to be able to amass needed human capital.[11]

Not surprisingly, the path a child traverses is strongly related to his or her family's circumstances at birth and the early years that follow. In fact, the data show that those children born with substantial advantages are on track to accumulate a great deal of human capital and, consequently, are very unlikely to fall much below their beginnings, at least with respect to their relative standing on the income ladder.[12] By contrast, those children born into pervasive disadvantage face great difficulties in accumulating human capital and are very unlikely to rise much above their beginnings with respect to their relative standing.[13] As one recent study in Baltimore argues, an impoverished childhood casts a "long shadow" on adult outcomes (Alexander et al. 2014).

Of course there are anecdotes of children "beating the odds" and achieving great success despite an unpromising start.[14] But the data indicate that they are the rare exception and not the rule. And we must ask: Do we want America to be a country where millions of children must be heroes in order to achieve a modicum of security and stability?

[11] Although the focus of this chapter is on the distribution of opportunities to develop human capital over the age span of 0–25, there are also differential opportunities in adulthood to productively employ that human capital and continue to amass it through one's lifespan. The former is addressed in a later section on gradients. Relevant factors include general skill-labor market fit, workplace discrimination, and secular economic trends. The latter depends on the nature of employment, the availability and affordability of venues for education and training, and individual choice.

[12] As one reviewer pointed out, the typical child whose father earns $500,000 at age 40 may, when he or she reaches age 40, be earning only $300,000. This would be a manifestation of regression to the mean. The child then may have lost ground on absolute mobility but very little on relative mobility.

[13] See for example, publications based on The Brookings Institution's *Social Genome Project* (Brookings Institution 2013). For a more positive outlook on the impact of sustained and systematic interventions, see Sawhill and Karpilow 2014.

[14] There is some empirical evidence that succeeding against the odds takes a physical and psychological toll that has consequences in later years. See Brody et al. (2013).

The Challenge

Understanding the dynamics underlying current trends and patterns in the distribution of opportunity across income levels and social strata, as well as increasing income inequality and stagnant intergenerational mobility, is critical to formulating meaningful policy responses.[15] This is an exceedingly difficult task, made more challenging because the forces in question have a wide range. They include such factors as global macroeconomic trends, the transmission from parents to children of advantage (or disadvantage) related to family characteristics and resources, and neighborhood environment. Adding to this challenge is that both inequality and intergenerational mobility have been defined in different ways and studied with different populations, sometimes yielding different results (Black and Devereux 2010; Blanden 2013).

We also must take into account personal responsibility—the choices that individuals make along their life path and the consequences of those choices. That is, success in accumulating human capital and, subsequently, in the labor market depends on not only having opportunities but also taking advantage of them (see Chap. 8). Finally, the statistical averages that are often cited, whether of cognitive skills or income, mask enormous variation by geographical location, race/ethnicity, and other factors. This variation must be taken into account not only in understanding inequality but also in formulating policy prescriptions.

In order to sort out and make some sense of the wealth of empirical research that has been carried out, it is helpful to have a framework that can structure a description of how a child's potential and family circumstances at birth, interacting over time with forces large and small, result in a young adult (say, age 25) who is more or less ready to take responsibility for his or her future and lead a life of accomplishment and fulfillment.

The framework we propose is captured by the three-part metaphor of *gates, gaps,* and *gradients*. The next section introduces this framework, which is then used to describe some of the factors that contribute to differences in opportunity and the resulting variation in accumulated human capital. The final section looks forward to some policy actions that could counter current trends.

The Framework: Gates/Gaps/Gradients

The first element of the framework is *Gates*, a metaphor for how opportunity in America is increasingly determined by income, wealth, and socioeconomic status (SES), as well as by race/ethnicity. From birth to, say, age 25, individuals

[15] Intergenerational mobility (IGM) is a measure of the probability that a child with parents at one level in society will, as an adult, reside in a different level—higher or lower. The most commonly used scales are income, years of education, and socioeconomic status. Economists sometimes use the term intergenerational elasticity (IGE), which is the opposite of IGM.

accumulate the human capital, broadly conceived, that will play a critical role in their adult outcomes. The dimensions of human capital include a variety of cognitive and noncognitive skills, as well as dispositions, experiences, and flexibility (see Keeley 2007; Pellegrino and Hilton 2012). At each stage of development, the gates represent access or obstacles to opportunities to add human capital, building on whatever potential individuals may have, as well as the human capital they already possess. For individuals born in higher strata (by income, SES, or other) the gates are mostly open, offering access to a multitude of opportunities. For individuals born in lower strata, the gates are mostly closed so that there are fewer opportunities to amass essential high-quality human capital at a developmentally appropriate stage (Fishkin 2014).

The use of the term "gates" is motivated by the gated communities that have sprung up over the last few decades and are perhaps the most visible aspect of the stratification of opportunity. Children born in such privileged communities have multiple opportunities to develop their human capital, while those born outside of them often have fewer.

However, stratification of opportunity goes far beyond these enclaves of privilege. According to some investigators, over the last few decades, residential segregation by income has remained fairly stable and by race/ethnicity has even declined slightly. Others argue that residential segregation by income has increased. All agree, however, that Blacks and Hispanics remain much more segregated than Whites and Asians (Rugh and Massey 2013; Bischoff and Reardon 2013). Neighborhood differences in income are, in turn, strongly associated with differences in private and public investments in children such as parental attention, school quality, the nature and extent of social networks, and so on (Bischoff and Reardon 2013). These and other factors largely determine which gates are open to some children—and closed to others.

Indeed, it is worth noting that as neighborhoods become more homogeneous with respect to income, so do children's peer groups (Ibid.). This homogeneity carries over to school—whether a neighborhood public school or a private school (parochial or nonsectarian). Increasingly, children find themselves in schools segregated by income as well as by race and ethnicity (Coley and Baker 2013).

Stratification by income also leads to neighborhoods that are more homogeneous with respect to percentages of adults in the labor force or facing long-term unemployment, as well as the types of work engaged in by those who are employed. Such patterns are determined in large part by the type and extent of the human capital that adults bring to the labor market, as well as labor market trends in the kinds of occupations with openings, the salaries and benefits offered, and their locations (Levy and Murnane 2013). At the low end of the spectrum, neighborhoods in which a plurality of adult males either are or have been incarcerated are characterized by high unemployment, high levels of crime, and a lack of positive role models.

As noted at the outset, these trends are driven not only by globalization and the rapid advances in technology but also by interactions among market forces, regulatory decisions, and legislation. Inasmuch as how these trends shape parents' or

guardians' circumstances, children's opportunities are indirectly—but powerfully—affected by both macroeconomic factors and general societal trends.

Gaps is a metaphor for the differences among individuals in an age cohort at various points in time in the distributions of human capital. The gaps at the start of full adulthood are a consequence of the dynamic interactions between gates and gaps at each stage of the age span (Sawhill and Karpilow 2014). For example, differences at birth related to various gates being open, ajar, or fully closed lead to gaps as early as they can be measured (see Chap. 8). In turn, those gaps interact with the gates at age 5 (strongly correlated with those at birth) to produce additional gaps by age 14. This process evolves through successive transition points to age 25 and beyond. By age 25 there is great variability in the types and magnitudes of human capital that have been accumulated—and much of that variability can be traced back to individuals' family circumstances at birth and in their formative years.

Gates and Gaps Together

It is particularly important to understand how gates and gaps interact over time to produce gates and gaps at the next stage.[16] A good example is provided by individuals applying to college at the end of high school. Students from poorer families with weak grades and low test scores face many closed gates: Not only are top-tier colleges and universities out or reach, but when they enroll at community colleges they find that they must take one or more so-called remedial courses, a path that often leads to dropping out before obtaining a degree or certificate. (Bettinger et al. 2013; National Center for Public Policy and Higher Education Special Report 2010).[17]

Sometimes the gates are less obvious. Students coming from families without college experience are less adept at navigating the admissions and financial aid processes and have fewer resources upon which to draw. In fact, a recent study finds that many able, top-scoring minority students coming from lower SES families don't even apply to top-tier colleges, thinking they don't qualify and couldn't afford them if they were accepted (Hoxby and Avery 2013). This problem stems from the lack of a certain kind of social capital, a lack that is amenable to policy intervention (Hoxby and Turner 2014).

One consequence of this dynamic between gates and gaps is relatively homogeneous college campuses, leading to assortative mating and further divergence in

[16] The recognition that such dynamic interactions over, say, ages 0–18 can have powerful effects on the distribution of adult skills is implicit in Brookings Institution, *Social Genome Project,* and explicit in the work of James Heckman and his associates http://heckmanequation.org/content/resource/case-investing-disadvantaged-young-children.

[17] The problem of high school graduates going on to tertiary education but required to take one or more noncredit-bearing courses (sometimes designated as *remedial* or *developmental*) is more pervasive than one that just concerns students from low-income families. While some studies estimate 35–40 % of students entering college need at least one remedial course, other studies place the estimate as high as 60 %.

personal/family trajectories (McClanahan 2014). This divergence is even more pronounced when one looks at the full birth cohort, which includes those who dropped out of high school or completed high school but did not go on for further education or training (see Chap. 7, Fig. 7.13).

*Gradients i*s a metaphor for the strength of the relationships between the dimensions of human capital on the one hand, and various life outcomes on the other. Life outcomes include whether the individual is employed, the nature and remuneration (salary and benefits) of that employment, the possibility of obtaining further education/training, accumulation of wealth, the likelihood of forming stable family units, and having children in the context of those partnerships. The data show that the gradients are typically quite steep; that is, modest differences in human capital can result in substantial differences in outcomes. For example, both the likelihood of full-time employment and the likelihood of having children in the context of a two-parent family are strongly correlated with levels of educational attainment and cognitive skills. Gradients are critical because they account for much of the relative advantage or disadvantage that is passed on to the next generation.

It is worth pointing out that gradients are typically not linear. That is, there are inflection points such that there can be large differences in outcomes for individuals who are close in many facets of human capital. For example, individuals with similar cognitive skills but who differ in whether they obtained a college degree can have very different adult trajectories. On the other hand, differences between inflection points may be less consequential.

In the remainder of the chapter, the gates/gaps/gradients framework will be used to organize some of the voluminous literature concerning the forces and processes driving differences in opportunity, as well as the extent of those differences.

The Dynamics of Inequality

The Birth Lottery

For a newborn, whether the gates to different opportunities are open or closed depends very much on family structure and income. Of course, these are mutually dependent and strongly associated with other relevant factors such as parental education, housing, neighborhood characteristics, and school quality.[18] All these factors have a direct bearing on the investments, private and public, that are made in children.

In general, children born to mothers who are single or in unstable relationships face more closed gates, and the rates of such births vary substantially by mother's race/ethnicity, age, educational attainment, and location. Although nonmarital birth rates are generally declining for all groups, the proportion of all births to unmarried

[18] The work of Heckman and his associates is relevant here. For a summary of that work, see Heckman, *Case for Investing.*

mothers is still very high. For example, as of 2012, the proportion of nonmarital births overall was 40.7 %.[19] However, the proportions varied considerably by race/ethnicity: They were 72.6 % for non-Hispanic Blacks, 54 % for Hispanics, and 29 % for non-Hispanic Whites. As one might expect, there is also considerable variation among states in both birth rates and proportions of nonmarital births.[20]

To introduce further nuance to this picture, it appears that less than 20 % of mothers who give birth out of wedlock are truly single; the others are in some form of relationship with the father (Wise 2013). However, these dyads are quite fragile. Follow-up data show that by their fifth birthday, 61 % of these children have experienced the dissolution of the relationship between the parents. By contrast, of children born to married parents, only 18 % have experienced a dissolution by their fifth birthday.[21]

Research supports the criticality of the period from birth to age 5. Not only is brain growth greater than at any other postnatal stage, but also the character of the early learning environment influences patterns of neural growth that in turn are related to the capacity to develop human capital (Fox et al. 2010).[22] By now there is an extensive research base that documents the conditions that strongly predict whether or not a child thrives in this critical period (Barton and Coley 2013). Some of these conditions typically involve monetary investments. They include pre- and postnatal care, good maternal health, adequate shelter and nutrition, living in a nontoxic environment, appropriate medical and dental care, and high quality day care (when needed). Other conditions involve nonmonetary investments. These include establishing a nurturing relationship, parental attention, socioemotional development, as well as cultivation of early language and numeracy skills.

There is an equally extensive research base that demonstrates that the probability that a child experiences something close to the ideal increases with income and stable family structure. Toward the high end of the income ladder, the gates are mostly open and the child is very likely to thrive; that is, grow up healthy and secure—arriving at school ready both cognitively and socioemotionally. Toward the low end of the ladder, many gates are closed and the child is much less likely to

[19] Birth rates are usually calculated as the number of births per 1,000 women in a particular category (e.g., unmarried women aged 15–19). Although nonmarital birth rates have been declining, it is still possible for the proportion of nonmarital births overall to be increasing. The explanation is that the proportion is a function of both category-specific birth rates and the distribution of women among the categories.

[20] For example, teen birth rates varied from a low of 13.8 % in New Hampshire to a high of 42.5 % in New Mexico; Centers for Disease Control 2013. For an explanation of the apparent paradox of declining birth rates and high proportions of nonmarital births, see Wise 2013.

[21] Tach's tabulations from the Fragile Families & Child Wellbeing Surveys, Waves 3–4, quoted in Smeeding, "*Connecting Inequality and Intergenerational Mobility: Looking Ahead, Not Behind*" (unpublished presentation).

[22] There is also evidence of continuing neuroplasticity into adolescence. An experiment in Chicago Public Schools focuses on accelerating the development of the math skills of African-American and Latino ninth and 10th graders who are lagging behind their age peers. See David L. Kirp, "Closing the Math Gap for Boys," Sunday Review, *New York Times,* January 31, 2015.

thrive. Similarly, children who are raised in two-parent families are more likely to find the gates open than are children raised in single-parent families, particularly if the mother is younger and not in a committed relationship (Grannis and Sawhill 2013; Doyle et al. 2009, 1–6; Heckman and Masterov 2007). Whether the gates are mostly open or closed is one manifestation of the constellation of conditions that are typical of higher incomes and/or two-parent families on the one hand, and of lower income and/or single parent families on the other. In both cases, there are powerful implications for future development.

Adequate nutrition can serve as a bellwether indicator of a child's environment. Food insecurity is strongly associated with family structure. Using 2011 survey data, it was found that female-headed households (no spouse) had a 37 % rate of food insecurity, while married couple households had a 14 % rate (Coley and Baker 2013, Fig. 7); both groups saw increases from 2005). Not surprisingly, the relationship between family income and food insecurity is particularly strong. For families with incomes below the poverty level, the rate is 45 %, while for families with incomes at least 1.85 times the poverty level, the rate is only 8 %.

Poverty is also associated with other obstacles to normal development. For example, studies find that lower income mothers report higher rates of maternal depression than do their higher income peers. A depressed individual is less likely to provide the attention and nurturing that are important to an infant thriving. Moreover, in comparison to children born to more affluent families, children growing up in poorer homes are more likely to be exposed to tobacco smoke and have higher blood levels of lead (Aizer and Currie 2014; Coley and Baker 2013, p. 19).

Many toddlers receive care outside of their own home, either in another home (a relative's or other) or in a center (e.g., early learning centers, nursery schools, and preschools). Among children around 4 years old receiving nonparental day care, poor ones were much more likely to receive low-quality care than nonpoor were (Coley and Baker 2013, Table 8). Not surprisingly, family income is strongly associated with the ability to make private expenditures on behalf of children. Data show that, in 2005–2006, parents in the highest income quintile invested nearly $8900 in children's enrichment, while those in the lowest quintile invested slightly more than $1,300, a ratio of 6.8. By comparison, in the years 1972–1973, the ratio was only 4.2 (Duncan and Murnane 2011, Fig. 1.6; see also Kaushal, Magnuson, and Waldfogel 2011).

As noted earlier, the gates to different opportunities tend to be open or closed in tandem. A child born to a young, single mother is more likely to grow up in poverty than one born to parents in a committed, stable relationship. The former is also more likely to live in a stressful environment, less likely to have positive extra-home experiences, such as visits to museums or exhibitions, and to receive beneficial contributions from extended family. It is repeatedly encountering closed gates (or, in other terms, multiple risk factors) that places many children at great disadvantage in their early years and beyond.

Thus, children born to families in different circumstances tend to develop along very different trajectories. Differences in cognitive skills, which are examples of what we here refer to as gaps, appear early on—as early as can be measured (Halle

et al. 2009, 87–119; for an international perspective, see Bradbury et al. 2013). By the time children enroll in kindergarten, differences in readiness are striking. These results are consistent with the well-known findings of very large differences in vocabulary among kindergarten children from different SES strata (Hart and Risley 1995).

Clearly, the variation in environmental factors documented above is an important contributor. Direct parental investment in children's cognitive development also plays a role. Survey data reveal large differences by SES quintile. The percentage of kindergarteners whose parents read to them every day ranges from 62 % in the highest quintile to 36 % in the lowest. As one might expect, even within quintiles, there are noteworthy differences by race/ethnicity (Coley and Baker 2013).

Beginning School

The same conditions that are conducive to development from birth to age 5 are important for further development in the elementary grades. To the extent that family circumstances remain reasonably stable, the pattern of gates open or closed at birth is typically replicated at age 5—unless (usually) public interventions are successful in opening those gates that are closed.[23]

Children with more accumulated human capital tend also to have more gates open to new opportunities, such as attending schools that are of higher quality (with respect to such features as teaching staff, safety, and physical plant), more parental involvement in schooling, more extracurricular experiences, and benefiting from good nutrition and adequate medical/dental care. Children with lesser amounts of accumulated human capital are more likely to attend lower quality schools with fewer extracurricular activities. They are also more likely to suffer from health problems (e.g., asthma) and medical/dental problems that result in increased school absences and less engagement when in school.

Children starting behind in K-1 have difficulty catching up. Many are not reading on grade level by the end of grade 3—they are still "learning to read" rather than "reading to learn." Studies show that students who enter kindergarten with little to no text comprehension skills are far behind peers with average or high text comprehension skills, and this gap continues to widen through third grade. A similar trend is found in mathematics—a child entering kindergarten who does poorly in basic numbers skills will only fall further and further behind peers by third grade (Foster and Miller 2007; Bodovski and Farkas 2007).

Of course, an important mission of schools is to close the gaps that are evident on the first day of class. But the schools attended by poor children—many if not most of whom are on the wrong side of the gap—are often ill-equipped to do so. Teachers in these schools are more likely to have fewer years of experience and less likely to have the requisite qualifications than teachers in schools serving more

[23] A discussion of such interventions is beyond the scope of this chapter.

affluent students. Moreover, those schools experience greater instability, with respect to both staff and students, so that there are fewer opportunities for students to receive coherent, systematic instruction.

Of course, peer interactions are an important component of schooling. In parallel with increased residential segregation, over the past two decades schools have become more segregated both by income and by race/ethnicity. As commentators have noted, "While the average White student attends a school where poor students account for a quarter to a third of enrollment, the typical Black or Hispanic student attends a school where nearly two-thirds of their peers are low-income" (Orfield et al. 2012, quoted in Coley and Baker 2013, p. 25). They also point out that "38 and 43 % of Black and Hispanic students, respectively, attended schools where 90–100 % of students were minorities."

As poor and minority students make their way through school, they are more likely to experience suspensions, be required to repeat a grade and, eventually, drop out before completing high school. In 2009, students from the lowest family income quintile were about five times more likely to drop out than students from the highest quintile were.[24] Thus, by late adolescence or early adulthood, the gaps in cognitive skills are substantial and likely the result of the interaction of earlier gaps and current school quality. Presumably, this is one of the mechanisms by which later gaps are still strongly associated with family background.

Another kind of gap relates to flexibility and resilience. Those who have had the benefit of open gates—and have taken advantage of the opportunities offered them—find themselves on the right side of the gaps related to flexibility (cognitive skills, maturity, etc.) in adapting to new circumstances or demands. They also have the capacity to recover from setbacks. As an example, poor students who enroll in postsecondary programs are more likely to accumulate college debts that are large in relation to family income and to carry that debt for a long time, particularly if they leave without a degree or a marketable certificate. As a consequence, they will lack the flexibility to respond to job opportunities that require moving and incurring further expenses. On the other hand, students from more advantaged backgrounds are less likely to accumulate substantial debt, more likely to graduate, and are able to call on family resources to take advantage of opportunities, such as unpaid internships, that demand further expenditures.[25]

[24] For suspensions, see report of U.S. Department of Education 2014; For dropouts, see SES Indicator, "Poverty and High School Dropouts," blog entry by Russell W. Rumberger, American Psychological Association, May 2013, http://www.apa.org/pi/ses/resources/indicator/2013/05/poverty-dropouts.aspx, and references therein. See also Kearney and Levine (2014).

[25] Suzanne Mettler, "College, the Great Unleveler," *New York Times*, March 1, 2014. For a somewhat different view of college debt, see Chingos 2014.

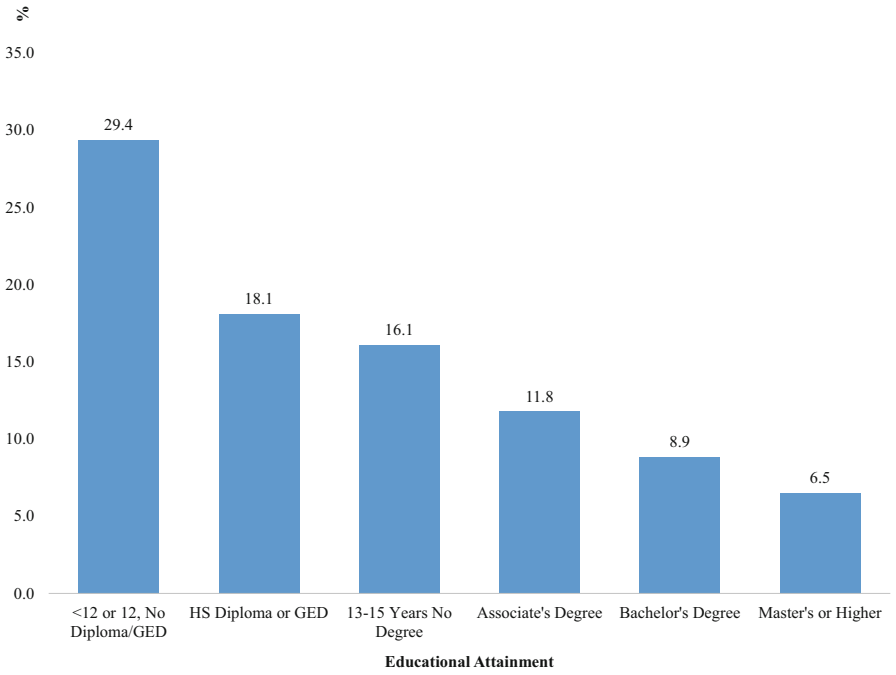

Fig. 5.6 Underutilization rates among U.S. workers (16 and over) by educational attainment, January 2012–August 2013 averages (in %) (see Chap. 7, Fig. 7.12)

Gradients

As noted earlier, the term "gradients" denotes the relationships between accumulated human capital and outcomes in adulthood. One oft-cited example is the relationship between unemployment and educational attainment. During the period from January 2013 to August 2014, the unemployment rate for high school dropouts with no GED stood at 13.9 %, with the rates decreasing with increasing levels of educational attainment; for those with master's degrees or higher, the rate was only 2.9 % (see Chap. 7, Fig. 7.2). Unfortunately, the problem is far worse than first appears. As some labor economists argue, one must also take into account underemployment and hidden unemployment.[26] They define the labor underutilization rate as the sum of the unemployment, underemployment, and hidden unemployment rates. Figure 5.6 shows the labor underutilization rates as a function of educational attainment. The rates range from nearly 30 % for those with no high school diploma and no GED to 6.5 % for those with a master's degree or above (see Khatiwada and Sum, Chap. 7, Fig. 7.12). Even among those with full-time employment, there is a

[26] Underemployment refers to individuals who are working fewer hours than they desire. Hidden unemployment refers to individuals who are jobless and not actively seeking work, but indicated that they wanted to work.

Table 5.2 Comparisons of the unemployment rates of U.S. adults 16 and older by educational attainment, 2000 and 2012–2013 (in %) (Sum presentation 2014)

	(A)	(B)	(C)
Educational Attainment	2000	2012–2013	Percentage point change
<12 or 12, no diploma or GED	8.6	14.9	+6.3
H.S. diploma or GED	4.4	9.8	+5.4
13–15 years, no degree	3.5	8.4	+4.9
Associate's degree	2.4	6.2	+3.8
Bachelor's degree	2.0	4.7	+2.7
Master's or higher degree	1.4	3.3	+1.9
All (16+)	4.0	8.0	+4.0

steep gradient in weekly earnings with respect to educational attainment. In 2009, the ratio in weekly earnings for individuals (aged 25 or more) with a bachelor's degree was 1.64 relative to those with a high school diploma and 2.26 relative to high school dropouts. The ratios were quite similar for comparisons both among men and among women.[27]

There are similarly steep gradients on social outcomes, broadly conceived. For example, in 2009, the percentage of mothers who were never married ranged from 20.1 % for those with less than 12 years of education to only 3.3 % for those with 18 or more years of education.[28] Not surprisingly, in 2010, the percentage of births to unmarried women stood at nearly 50 % for those with lower education and at 10 % for those with higher education (Ibid.). These differences by education level have widened substantially over the last three decades.

There is considerable evidence that workplace-related gradients have been getting steeper over time as well. As Table 5.2 shows, from 2000 to 2012–2013, the unemployment rate rose for all levels of educational attainment, but the percentage point increase was greater for those with lower educational attainment.[29] Concomitantly, Table 5.3 shows that for individuals with full-time employment, those with lower educational attainment lost ground absolutely (in inflation-adjusted dollars) from 1979 to 2009; only those with bachelor's degrees or higher gained ground (Chap. 7). Consequently, wage ratios increased substantially over the period. For example, the ratio for those holding a bachelor's degree to those holding a high school diploma went from 1.32 to 1.64, an increase of almost 25 %.

These patterns appear to be the result of a confluence of several forces and trends. Over the last two decades, technology has enabled many jobs to be off-shored, made obsolete, or changed them so dramatically that many fewer workers with different

[27] Andrew Sum, personal communication, May 2, 2014.

[28] Timothy Smeeding, "Connecting Inequality and Intergenerational Mobility: Looking Ahead, Not Behind" (unpublished PowerPoint presentation. Madison, WI: Institute for Research on Poverty, 2014).

[29] Current Population Survey monthly household surveys [public use files 2000 and January 2012-August 2013]. Data compiled by the Center for Labor Market Studies, Northeastern University.

Table 5.3 Wages for full-time employment by educational attainment, 1979–2009 (Sum presentation 2014)

	(A)	(B)	(C)	(D)
Educational attainment	1979	2009	Absolute change, 1979–2009	Percent change, 1979–2009
High school dropouts	696	500	−196	−28 %
High school graduates	869	716	−153	−18 %
Some college, including associate degree	942	835	−107	−11 %
Bachelor's degree	1086	1200	+114	+10 %
Master's or higher degree	1170	1535	+365	+31 %
H.S. graduate/H.S. dropout	1.25	1.43	+.18	
Some college/H.S. graduates	1.08	1.17	+.09	
B.A. degrees/H.S. graduates	1.25	1.68	+.43	
Master's or higher/H.S. graduates	1.35	2.14	+.79	

skills are required, as is the case with advanced manufacturing.[30] Some economists argue that technology, in various forms, leads to a "winner take all" economy that produces greater inequality.[31] The combination of technology, globalization, and the broad deregulation of industry that began in the 1980s, with the specter of offshoring in the background, has exerted a downward pressure on wages in the many sectors that are now characterized by both fewer jobs and more job seekers. The decline of private sector unions, along with differences between states in "right to work" laws, has reduced the bargaining power of local workforces. While the decline of the buying power of the minimum wage contributes to the decline of those at the low end of the skill distribution, there is generally an upward pressure on wages for those who possess specialized skills that are scarce and in demand. The driver of this divergence is sometimes referred to as "skill-biased technological change."

More ominously, the "second IT revolution" will feature even faster computers with more powerful forms of artificial intelligence that will automate, partially or fully, many jobs that are now considered to be more skilled (Brynjolfsson and McAfee 2014, 34–37). Even today the new workplace rewards high-level cognitive skills, flexibility, and the capacity to continuously upgrade skills as job requirements change (Levy and Murnane 2013). Moreover, individuals who have found a good place in the new economy are more likely to be offered training and educational opportunities that enable them to keep pace with workplace changes. Those who are in low-wage, low-skill occupations rarely have such opportunities and face many obstacles in trying to obtain new skills on their own (e.g., through enrollment in a community college or vocational training center).

[30] Goldin and Katz 2008.

[31] Alan Krueger, "Land of Hope and Dreams: Rock and Roll, Economics, and Rebuilding the Middle Class" (remarks, Rock and Roll Hall of Fame, Cleveland, June 12, 2013).

Why Is Expanding Opportunity Important?

Employing the gates/gaps/gradients framework helps us understand how initial differences in opportunity can be magnified over time, resulting in wide disparities in accumulated human capital and increasing inequality in life outcomes that, in turn, contribute to greater differences in opportunity in the next generation. This cycle leads to what might be termed an *accelerated accumulation of advantage* (or *disadvantage*).[32] An America that offers opportunity to all, we noted at the outset, has been an enduring belief and contributed to the strength of this country—in part by drawing immigrants from all over the world searching for a better life for themselves and for their children. That this was never the case for everyone, and that it may be less true today than many imagine, in no way diminishes its importance and the obligation to promote its resurgence.

That obligation has many facets. It is a moral obligation, particularly to the children born to disadvantage who, nonetheless, deserve a decent chance to realize their potential. Denying them that opportunity is not just a betrayal of America's promise but does a disservice to us all—in greater social costs and lower overall economic growth (Stiglitz 2012).[33] In fact, there is good empirical evidence that greater inequality and the concomitant disparities in opportunity are associated with poorer health and less general satisfaction for everyone, even those on the top rungs of the ladder (Wilkinson and Pickett 2010; Sanger-Katz 2015).

There is some debate about whether increasing inequality portends lower intergenerational mobility (IGM) (Winship and Schneider 2014; Jerrim and Macmillan 2014). Although cross-nationally there is a strong association between greater income inequality and lower IGM, it is less clear whether that pattern holds within a country over time. Recent research suggests that in the U.S., IGM has remained steady, though at rather low levels. IGM appears to be particularly low at the extremes of the income distribution (Chetty et al. 2014a; Corak 2013). However, it will take another 15–20 years for the impact of the recession of 2007–2010 on IGM to fully play itself out.

Irrespective of its consequences for IGM, the increasing separation between rungs of the income ladder has immediate implications for the lives of all. On the one hand, many goods, such as televisions and cell phones, have become both cheaper and better. Indeed, some argue that, from an historical perspective, the percentage of the population that is poor has decreased markedly (Jencks 2015). On the other hand, individuals and families at the low end are spending a greater proportion

[32] For a comprehensive review of cumulative advantage, see DiPrete and Eirich 2006.

[33] See interview with Christopher Jencks for a different view. Eduardo Porter, "Income Equality: A Search for Consequences," *New York Times,* March 25, 2014, http://www.nytimes.com/2014/03/26/business/economy/making-sense-of-income-inequality.html. Also see interview with Lane Kenworthy. Eduardo Porter, "Q&A: A Sociologist on Inequality," *New York Times*, March 25, 2014. http://economix.blogs.nytimes.com/2014/03/25/qa-a-sociologist-on-inequality/.

of their disposal income on such necessities as food, rent, utilities, and transportation that relate directly to their ability to invest in themselves and their children.[34]

We appear to be moving from a market economy to a market society, where everything has a price. When this extends beyond goods and services to social practices, it changes social relations and the meanings we attach to those relations (Sandel 2012). More prosaically, but no less importantly, this can be seen in the role of money in political campaigns. With the recent Supreme Court decisions striking down campaign finance restrictions, the influence of wealthy contributors to political campaigns will only grow.

Increasing inequality, in conjunction with other trends and developments, helps to shape civil society and the democratic polity. As we become more segregated by income and education, we typically have less empathy for those with whom we have little contact (Friedman 2005). Such polarization necessarily undermines the notion of a shared future. When and if a large proportion of the population loses faith in the fairness of the social order and the extant political arrangements, then the stability that depends on the "consent of the governed" is threatened. Unfortunately, there is good evidence that differences in opportunity continue to increase over time and that many people have become disengaged from both civil society and the political process (Murray 2012). Looking ahead to the next generation, Putnam (2015) argues that, among high school students and young adults, there is an increasing divergence in this respect between those at the high end of the socioeconomic scale and those at the low end.

Moving Forward

The critical question is whether the dynamics of increasing divergence in opportunities and in life outcomes are self-correcting or self-reinforcing. More simply, was the pattern of shared prosperity seen in the three decades following World War II an anomaly?

Employing a vast trove of historical data, the French economist Thomas Piketty argues that increasing inequality in wealth is the inexorable outcome of a market economy in which, over the long run, the returns to capital outpace the returns to labor and, consequently, result in the increasing concentration of wealth and political power. This trend, he avers, can only be held in check by government action. Such actions should include a global wealth tax as well as greater investments in education and training (Piketty 2014).

[34] Planet Money (NPR blog), "How the Poor, the Middle Class and the Rich Spend Their Money," blog entry by Jacob Goldstein, August 1, 2012, http://www.npr.org/blogs/money/2012/08/01/157664524/how-the-poor-the-middle-class-and-the-rich-spend-their-money; Real Time Economics (*Wall Street Journal* blog), "How Rich and Poor Spend (and Earn) Their Money," April 6, 2015, http://blogs.wsj.com/economics/2015/04/06/how-the-rich-and-poor-spend-and-earn-their-money/.

His diagnosis is supported by the economist Alan Krueger, who decries the "erosion of the institutions and practices that supported shared prosperity." He argues that private industry has to take the lead in righting this balance and government's responsibility is to set the conditions for that recommitment to the common good. This seems a bit weak—and he does end with a list of more forceful interventions, including an increase in the minimum wage, financial reform, income tax reform, and greater infrastructure investment.[35]

To be sure, some economists argue that this phenomenon is a natural outgrowth of human variation: Starting with a perfectly equal society, individual differences in talent, energy, and motivation, as well as random shocks, would inexorably lead to an unequal society; moreover, this inequality, however extreme, does not signal unfairness or inefficiency (Mankiw 2013). This view leads to a recommendation of minimal policy interventions. Stiglitz, who is quoted at the outset of this chapter, takes a less benign view: He sees increasing inequality as a signal of market inefficiencies, such as rent-seeking (trying to obtain economic gain without any reciprocal benefit to society), and argues that those with greater resources are in an ever better position to influence laws and regulations to preserve and strengthen these advantages, for their benefit, their families, and associates (Stiglitz 2012).

If one adopts the less sanguine view, then there are certainly formidable barriers to countering the self-reinforcing dynamics of inequality of opportunity. A polarized central government is unlikely to take bold action, especially in light of the unavoidable uncertainties involved in projecting current trends into the future. (This situation is much like the one confronting those who argue for strong action on climate change.) Indeed, budget plans from the House of Representatives prescribe scaling back some of the supports now provided to the poor. Yet at the same time, the Affordable Care Act acts to extend medical insurance to millions of individuals who have done without, although efforts continue to derail or scale it back.

One can certainly hope that some segments of private industry will take the lead. Here there is certainly a mixed picture. On the one hand, the finance industry spends millions on protecting such benefits as the "carried interest" provision in the tax code or on weakening the financial regulations spurred by the Dodd-Frank Act.[36] For the most part, large retailers and fast food chains are resisting an increase in the minimum wage, even though its real purchasing power has plummeted since it was last raised.[37]

On the other hand, there is some evidence that a few corporations are taking a broader view of their responsibilities—not only to their shareholders and customers but also to their employees, the communities in which they are located, and even to

[35] Krueger, "Land of Hope."

[36] Paul Krugman, "Obama's Other Success," *New York Times,* August 4, 2014, http://www.nytimes.com/2014/08/04opinion/paul-krugman-dodd-frank-financial-reform-is-working.html/.

[37] On February 19, 2015, Doug McMillon, Walmart President and CEO, announced a program of increases in the minimum wage for current and new associates, as well as for department managers. About a month later, McDonald's followed suit with a wage increase for employees in its corporate-run stores.

society at large. That broader view goes beyond the traditional "bottom line" to consideration of community stability and environmental stewardship (Googins, Mirvis, and Rochlin 2007; Freeland presentation to *Opportunity in America* panel 2014). At present it is hard to determine whether this movement toward *sustainable capitalism* will prove to be long lasting and whether it will have any effect on the dynamics of inequality.

In the search for viable policies and the strategies to build consensus around them, it is necessary to consider some further complications. For example, the family circumstances that play such a critical role in the access to opportunity are not just determined by the impersonal forces we have been discussing. They are also a product of individual choices, sometimes poor ones. To what extent can and should government intervene, at least on behalf of children, to compensate for those choices, for insufficient private investment in the children, or even parental neglect? There can be reasoned disagreement on government's responsibility.

At the same time there is considerable evidence that early interventions, say between birth and age 3, if effective, can yield benefit-to-cost ratios substantially above 1 and considerably greater than those for later interventions can. Moreover, it appears that those early interventions can enhance the effects of later interventions in a virtuous cycle (particularly if they target both cognitive and noncognitive skills) with important implications for later labor market success (Heckman, *Case for Investing*).[38]

Another complication arises because the distribution of opportunity is "lumpy"—it varies substantially by location, as well as by demographic characteristics such as race-ethnicity, immigration status, prison record, and so on. Presumably, the conjunction of these factors can either mitigate or exacerbate access to opportunity. For example, recent data indicate that other things being equal, Blacks are more likely to have lost ground in the distributions of income and wealth during the recession (for a general discussion of race in America, see Orfield 2014).

Over the last decade, certain areas have become hubs of the new economy with a high concentration of well-paying jobs, while others stagnate or decline. For the former, there are spillover effects, so that even those further down the skills ladder derive some benefit from being located in those areas (Acs 2013; Moretti 2013). Although intergenerational mobility may well be stable (or stagnant) overall, it varies very substantially by location. For example, recent work shows that, roughly speaking, for children growing up in below-median income families, upward mobility is highest in the Midwest, lowest in the Southeast, and moderate at the coasts (Chetty 2014b).

Thus, it appears that a viable policy strategy will have to comprise multiple initiatives at various governmental levels, with serious attempts to bring the resources of both the for-profit and nonprofit sectors to bear on the problem. Although the dynamics underlying the current situation are complex, they are not beyond under-

[38] As results from the Brookings Institution Social Genome Project make clear, real impact on human capital accumulation results from systematic interventions throughout the a child's development.

standing or mitigation. As one commentator put it: "Rising inequality is a trend, but it is one we have helped create and one we can still change."[39]

References

Acemoglu, Daron, and David Autor. 2012. "What does human capital do?", Review of *The race between education and technology,* by Claudia Goldin and Lawrence F. Katz. *Journal of Economic Literature* 50(2): 426–463.

Acs, Gregory. 2013. *The Moynihan report revisited.* Washington, DC: Urban Institute. http://www.urban.org/UploadedPDF/412839-The-Moynihan-Report-Revisited.pdf.

Aizer, Anna, and Janet Currie. 2014. The intergenerational transmission of inequality: Maternal disadvantage and health at birth. *Science* 344(6186): 856–861.

Alexander, Karl, Doris Entwistle, and Linda Olson. 2014. *The long shadow: Family background, disadvantaged urban youth, and the transition to adulthood*. New York: Russell Sage.

Autor, David. 2014. Skills, education, and the rise of earnings inequality among the 'other 99 percent'. *Science* 344(6186): 843–851.

Barton, Paul, and Richard Coley. 2013. *Parsing the achievement gap, II*. Princeton: Policy Information Center, Educational Testing Service. http://www.ets.org/Media/Research/pdf/PICPARSINGII.pdf

Bettinger, Eric, Angela Boatman, and Bridget Terry Long. 2013. Student supports: Developmental education and other academic programs. *The Future of Children* 23(1): 93–115. http://futureofchildren.org/publications/journals/article/index.xml?journalid=79&articleid=582.

Bischoff, Kendra, and Sean F. Reardon. 2013. *Residential segregation by income, 1970–2009*. New York: Russell Sage.

Black, Sandra E., and Paul J. Devereux. 2010. *Recent developments in intergenerational mobility* (NBER Working Paper 15889). Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w15889.

Blanden, Jo. 2013. Cross-country rankings in intergenerational mobility: A comparison of approaches from economics and sociology. *Journal of Economic Surveys* 27(1): 38–73.

Bodovski, Katerina, and George Farkas. 2007. Mathematics growth in elementary school: The roles of beginning knowledge, student engagement, and instruction. *Elementary School Journal* 108(2): 115–130.

Bradbury, Bruce, Corak Miles, Waldfogel Jane, and Washbrook, Elizabeth. 2013. Inequality in early childhood outcomes. In *From parents to children: The intergenerational transmission of disadvantage*, ed. John Ermisch, Markus Jantii, and Timothy Smeeding, 87–119. New York: Russell Sage.

[39] David Leonhardt, "Inequality Has Been Going On Forever … but That Doesn't Mean It's Inevitable," *New York Times magazine,* May 2, 2014, http://www.nytimes.com/2014/05/04/magazine/inequality-has-been-going-on-forever-but-that-doesnt-mean-its-inevitable.html.

Brody, Gene H., Yu. Tianyi, Chen Edith, E. Miller Gregory, M. Kogan Steven, and R.H. Beach Steven. 2013. Is resilience only skin deep? Rural African-Americans' socioeconomic status-related risk and competence in preadolescence and psychological adjustment and allostatic load at age 19. *Psychological Science* 24(7): 1285–1293.

Brookings Institution. 2013. *Social genome project: Mapping pathways to the middle class.* Washington, DC: Brookings Institution (April). http://www.brookings.edu/~/media/Centers/ccf/SGP_overview.pdf.

Brynjolfsson, Erik, and Andrew McAfee. 2014. *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. New York: W.W. Norton.

Centers for Disease Control. 2013. *Births: Final data for 2012,* by Joyce A. Martin, Brady E. Hamilton, Michelle J. K. Osterman, Sally C. Curtin, and T. J. Matthews, 62(9) (National Vital Statistics Reports, December 30). http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_09.pdf.

Chetty, Raj, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez. 2014a. *Is the United States still a land of opportunity? Recent trends in intergenerational mobility*, NBER working paper 19843. Cambridge, MA: National Bureau of Economic Research.

Chetty, Raj, Nathaniel Hendren, Patrick Kline, and Emmanuel Saez. 2014b. *Where is the land of opportunity? intergenerational mobility in the US, VoxEU.org*. Center for Economic Policy Research. http://www.voxeu.org/article/where-land-opportunity-intergenerational-mobility-us.

Chingos, Matthew M. 2014. *Why student loan rhetoric doesn't match the facts* (Brown Center, Chalkboard 75). Washington, DC: Brookings Institution, July 17. http://www.brookings.edu/research/papers/2014/07/17-student-loan-rhetoric-chingos.

Coley, Richard, and Bruce Baker. 2013. *Poverty and education: Finding the way forward*. Princeton: Policy Information Center, Educational Testing Service. http://www.ets.org/s/research/pdf/poverty_and_education_report.pdf.

Corak, Miles. 2013. Income inequality, equality of opportunity, and intergenerational mobility. *Journal of Economic Perspectives* 27(3): 79–102.

Cowen, Tyler. 2013. *Average is over: Powering America beyond the age of the great stagnation*. New York: Dutton.

Current Population Survey monthly household surveys [public use files, 2000 and January 2012–August 2013]. Data compiled by the Center for Labor Market Studies, Northeastern University.

DiPrete, Thomas A., and Gregory M. Eirich. 2006. Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments. *Annual Review of Sociology* 32: 271–297.

Doyle, Orla, Colm P. Harmon, James J. Heckman, and Richard E. Tremblay. 2009. Investing in early human development: Timing and economic efficiency. *Economics and Human Biology*, 7(1) (March). doi: 10.1016/j.ehb.2009.01.002.

Duncan, Greg J., and Richard J. Murnane. 2011. Introduction: The American dream, then and now. In *Whither opportunity: Rising inequality, schools, and children's life chances*, ed. Greg J. Duncan and Richard J. Murnane, 3–23. New York: Russell Sage Foundation/Spencer Foundation.

Fishkin, Joseph. 2014. *Bottlenecks: A new theory of equal opportunity*. New York: Oxford University Press.

Foster, Wayne A., and Merideth Miller. 2007. Development of the literacy achievement gap. *Language, Speech, and Hearing Services in Schools* 38: 173–181. doi:10.1044/0161-1461(2007/018).

Fox, Sharon E., Pat Levitt, and Charles A. Nelson III. 2010. How the timing and quality of early experiences influence the development of brain architecture. *Child Development* 81: 28–40.

Friedman, Benjamin M. 2005. *The moral consequences of economic growth*. New York: Knopf.

Goldin, Claudia, and Lawrence F. Katz. 2008. *The race between education and technology*. Cambridge: Harvard University Press.

Goodman, Madeline J., Anita M. Sands, and Richard J. Coley. 2015. *America's skills challenge: Millennials and the future*. Princeton: ETS Center for Research on Human Capital and Education, Educational Testing Service.

Googins, Bradley K., Philip H. Mirvis, and Steven A. Rochlin. 2007. *Beyond good company: Next generation corporate citizenship*. New York: Palgrave McMillan.

Grannis, Kerry Searle, and Isabel V. Sawhill. 2013. *Improving children's life chances: Estimates from the Social Genome Model.* Social Genome Project Research (49). Washington, DC: Brookings Institution.

Halle, Tamara, Nicole Forry, Elizabeth Hair, Kate Perper, Laura Wandner, Julia Wessel, and Jessica Vick. 2009, June. *Disparities in early learning and development: Lessons from the early childhood longitudinal study—Birth Cohort (ECLS-B)*. Washington, DC: Council of Chief State School Officers and Child Trends. http://www.childtrends.org/wp-content/uploads/2013/05/2009-52DisparitiesELExecSumm.pdf.

Hart, Betty, and Todd Risley. 1995. *Meaningful differences in the everyday experiences of young American children*. Baltimore: Brooks Publishing.

Heckman, James J. (n.d.). *The case for investing in disadvantaged young children*. The Heckman Equation. http://heckmanequation.org/content/resource/case-investing-disadvantaged-young-children.

Heckman, James J., and Dimitriy V. Masterov. 2007. The productivity argument for investing in young children. *Applied Economic Perspectives and Policy* 29(3): 446–493. http://aepp.oxfordjournals.org/content/29/3/446.extract.

Hoxby, Caroline, and Christopher Avery. 2013. *The missing "One-Offs": The hidden supply of high-achieving, low-income students.* Washington, DC: Brookings Papers on Economic Activity (Spring). http://www.brookings.edu/~/media/projects/bpea/spring%202013/2013a_hoxby.pdf.

Hoxby, Caroline, and Sarah Turner. 2014. *Expanding college opportunities for high-achieving, low income students.* SIEPR Discussion Paper 12–014. Stanford: Stanford Institute for Economic Policy Research.

Jencks, Christopher. 2015. The war on poverty: Was it lost? *New York review of books*, April 2.

Jerrim, John, and Lindsey Macmillan. 2014. *Income inequality, intergenerational mobility and the Great Gatsby curve: Is education the key?* London: Institute of Education, University of London.

Kaushal, Neeraj, Katherine Magnuson, and Jane Waldfogel. 2011. How is family income related to investments in children's learning? In *Whither opportunity: Rising inequality, schools, and children's life chances*, ed. Greg J. Duncan and Richard J. Murnane, 187–206. New York: Russell Sage Foundation/Spencer Foundation.

Kearney, Melissa Schettini, and Phillip B. Levine. 2014. *Income inequality, social mobility, and the decision to drop out of high school*, NBER Working Paper 20195. Cambridge, MA: National Bureau of Economic Research. http://www.nber.org/papers/w20195.

Keeley, Brian. 2007. *Human capital: How what you know shapes your life*. Paris: OECD Publishing. doi:10.1787/9789264029095-en.

Levy, Frank, and Richard Murnane. 2013. *Dancing with robots: Human skills for computerized work.* Washington, DC: Third Way. http://content.thirdway.org/publications/714/Dancing-With-Robots.pdf.

Mankiw, Gregory W. 2013. Defending the 1 %. *Journal of Economic Perspectives* 27(3): 21–34.

McClanahan, Sara. 2014. Diverging destinies: How children are faring under the second demographic transition. *Demography* 41a(4): 607–627. https://muse.jhu.edu/journals/demography/v041/41.4mclanahan.pdf.

Moretti, Enrico. 2013. *The new geography of jobs*. Boston: Mariner Books.

Murray, Charles. 2012. *Coming apart: The state of White America 1960–2010*. New York: Crown Forum.

National Center for Public Policy and Higher Education Special Report. 2010. *Beyond the Rhetoric: Improving college readiness through coherent state policy*. http://www.highereducation.org/reports/college_readiness/index.shtml.

Noah, Timothy. 2013. *The great divergence: America's growing inequality crisis and what we can do about it*. London: Bloomsbury Press.

OECD (Organisation for Economic Co-operation and Development). 2013. *First results from the survey of adult skills*. Paris: OECD Skills Studies, OECD Publishing. doi:10.1787/9789264204256-en.

Orfield, Gary. 2014. A new civil rights agenda for American education. *Educational Researcher* 43(6): 273–292.

Orfield, Gary, John Kucsera, and Genevieve Siegl-Hawley. 2012. *E pluribus … separation: Deepening double segregation for more students*. Los Angeles: The Civil Rights Project, as cited in Coley and Baker, Poverty and Education.

Pellegrino, James W., and Margaret L. Hilton (eds.). 2012. *Education for life and work: Developing transferable knowledge and skills in the 21st century*. Washington, DC: National Academies Press.

Piketty, Thomas. 2014. *Capital in the 21st century*. Cambridge, MA: Harvard University Press.

Putnam, Robert. 2015. *Our kids: The American dream in crisis*. New York: Simon & Schuster.

Reardon, Sean F. 2011. The widening achievement gap between the rich and the poor: New evidence and possible explanations. In *Whither opportunity: Rising inequality, schools, and children's life chances*, ed. Greg J. Duncan and Richard J. Murnane, 91–116. New York: Russell Sage Foundation/Spencer Foundation.

Rugh, Jacob S., and Massey, Douglas S. 2013. Segregation in post-civil rights America: Stalled integration or end of the segregated century? *The DuBois Review: Social Science Research on Race*. doi:10.1017/S1742058X13000180.

Sandel, Michael J. 2012. *What money can't buy: The moral limits of markets*. New York: Farrar, Strauss, and Giroux.

Sanger-Katz, Margot. 2015. How income inequality can be bad for your health. *New York Times*, March 31. http://www.nytimes.com/2015/03/31/upshot/income-inequality-its-also-bad-for-your-health.html?abt=0002&abg=1.

Sawhill, Isabel V., and Quentin Karpilow. 2014. *How much could we improve children's life chances by intervening early and often?,* CCF Brief 54. Washington, DC: Brookings Institution.

Stiglitz, Joseph. 2012. *The price of inequality*. New York: W. W. Norton.

Thompson, Derek. 2012. A giant statistical round-up of the income inequality crisis in 16 charts, *Atlantic*, December 12. http://www.theatlantic.com/business/archive/2012/12/a-giant-statistical-round-up-of-the-income-inequality-crisis-in-16-charts/266074/.

U.S. Department of Education, Office for Civil Rights, Civil Rights Data Collection of 2011–2012, Washington, DC: 2014 (March 21). http://www2.ed.gov/about/offices/list/ocr/whatsnew.html#2014.

Wilkinson, Richard G., and Kate Pickett. 2010. *The spirit level: Why greater equality makes societies stronger*. New York: Bloomsbury Press.

Winship, Scott, and Donald Schneider. 2014. The collapse of the Great Gatsby curve. *e21*, February 3. http://www.economics21.org/research/collapse-great-gatsby-curve.

Wise, Tim. 2013. Explaining conservative deception about out-of-wedlock births in the Black community. *BlackVisions.org,* Aug. 3. http://www.blackvisions.org.

Part II
The Labor Market