

The Economic Impact of the Achievement Gap in America's Schools



Acknowledgments


Recent national and international tests show significant differences in student achievement. Students in the United States perform behind their OECD peers. Within the United States, white students generally perform better on tests than black students; rich students generally perform better than poor students; and students of similar backgrounds perform dramatically differently across school systems and classrooms.

The aim of this paper is to provide a common, neutral fact base on each of these achievement gaps and to illustrate their relative magnitude. In addition, we highlight the impact of the United States achievement gap on the overall economy and on individual life outcomes. This work is not intended to provide a detailed assessment of the causes and potential cures of the achievement gap. Instead, we hope to provide a common fact base from which such discussions may proceed.

Our Steering Committee provided significant input and included members from the Education Equality Project, the National Action Network, the United States Chamber of Commerce, the Bill and Melinda Gates Foundation, and the Center for American Progress. We owe a special debt of gratitude to Cindy Brown, Chris Cerf, Lisa Graham Keegan, Charlie King, Joel Klein, Arthur Rothkopf, Reverend Al Sharpton and Ellen Winn. Their collective guidance and diverse perspectives on educational achievement were critical throughout the project. In addition, numerous experts on education, labor markets, and economic growth - including Martin Bailey, Anthony Carnevale, Michael Casserly, Michael Cohen, Linda Darling-Hammond, Brian Ellner, Karen Elzey, Benjamin Friedman, Jewell Gould, Eric Hanushek, Kati Haycock, Ronald Henderson, Frederick Hess, Lawrence Katz, Ron Krouse, Lydia Logan, Michael Lomax, Reagan Miller, John Mitchell, Andrew Rotherham, Andreas Schleicher, Sheila Simmons, Margaret Spellings and Michael Wotorson - provided their time and invaluable insights to the team.

This work is part of the fulfillment of McKinsey's social sector mission to help leaders and leading institutions to understand and address important and complex societal challenges. As with all McKinsey research, results and conclusions are based on the unique outlook and experience base that McKinsey experts brings to bear. This perspective is independent and this report has not been commissioned or financially supported by any business, government, or other institution



The background of the entire page is a blue-tinted photograph of a school building entrance. In the foreground, several students in white shirts and dark shorts are running towards the camera with joyful expressions. In the background, the entrance of a brick building with large glass doors and windows is visible. The words "High School" are faintly visible above the entrance. The overall scene is bright and energetic.

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Summary of Findings

April 2009

“These educational gaps impose on the United States the economic equivalent of a permanent national recession.”

Introduction

The extent to which a society utilizes its human potential is among the chief determinants of its prosperity. In the United States, one focus of concern in this regard has been the existence of a so-called achievement gap in education between certain groups of students and others.¹ While much controversy exists on the causes of the achievement gap, and on what the nation should do to address it, the full range of the achievement gap's character and consequences has been poorly understood. For one thing, important dimensions of four distinct achievement gaps — (1) between the United States and other nations; (2) between black and Latino² students and white students;³ (3) between students of different income levels; and (4) between similar students schooled in different systems or regions — have not always been clarified and documented. In addition, while great emphasis has been placed on the moral challenges raised by the achievement gap, its economic impact has received less attention.

Given our longstanding work on the factors that influence national productivity, and the perceived urgency of understanding opportunities to improve the US economy's performance, McKinsey & Company believes it is timely to bring together, in one place, a set of analyses that shed light on the price of current educational practices. This study builds on excellent work done by many researchers in the field, while also reflecting the angle of vision and expertise

of McKinsey's Social Sector Office, which serves school systems in the United States and around the world.

This report finds that the underutilization of human potential in the United States is extremely costly. For individuals, our results show that:

- Avoidable shortfalls in academic achievement impose heavy and often tragic consequences, via lower earnings, poorer health, and higher rates of incarceration.
- For many students (but by no means all), lagging achievement evidenced as early as fourth grade appears to be a powerful predictor of rates of high school and college graduation, as well as lifetime earnings.

For the economy as a whole, our results show that:

- If the United States had in recent years closed the gap between its educational achievement levels and those of better-performing nations such as Finland and Korea, GDP in 2008 could have been \$1.3 trillion to \$2.3 trillion higher. This represents 9 to 16 percent of GDP.
- If the gap between black and Latino student performance and white student performance had been similarly narrowed, GDP in 2008 would have been between

1. In this analysis, we focus mainly on “achievement,” which reflects the mastery of particular cognitive skills or concepts as measured through standardized tests, rather than “attainment,” which measures educational milestones such as graduation rates.

2. Latino is used to describe either Latino or Hispanic classifications within data analyzed for this report. Categories were developed in 1997 by the Office of Management and Budget (OMB) that are used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins.

3. This analysis focuses on achievement differentials between black and Latino students and white students. This is primarily because blacks and Latinos are the two largest minority groups in the United States and are represented in many of the regions and school districts across the country. While achievement differentials certainly exist among other minority groups (Native Americans, Asians, students of more than one race), data limitations and small sample sizes often make it difficult to make national and state-level comparisons. We believe this is an area for future research, especially as data collection improves.

“The wide variation in performance among schools serving similar students suggests that these gaps can be closed. **Race and poverty are not destiny.**”

\$310 billion and \$525 billion higher, or 2 to 4 percent of GDP. The magnitude of this impact will rise in the years ahead as demographic shifts result in blacks and Latinos becoming a larger proportion of the population and workforce.

- If the gap between low-income students and the rest had been similarly narrowed, GDP in 2008 would have been \$400 billion to \$670 billion higher, or 3 to 5 percent of GDP.
- If the gap between America’s low-performing states and the rest had been similarly narrowed, GDP in 2008 would have been \$425 billion to \$700 billion higher, or 3 to 5 percent of GDP.

Put differently, the persistence of these educational achievement gaps imposes on the United States the economic equivalent of a permanent national recession. The recurring annual economic cost of the international achievement gap is substantially larger than the deep recession the United States is currently experiencing.⁴ The annual output cost of the racial, income, and regional or systems achievement gap is larger than the US recession of 1981–82.

While the price of the status quo in educational outcomes is remarkably high, the promise implicit in these findings is

compelling. In particular, the wide variation in performance among schools and school systems serving similar students suggests that the opportunity and output gaps related to today’s achievement gap can be substantially closed. Many teachers and schools across the country are proving that race and poverty are not destiny; many more are demonstrating that middle-class children can be educated to world-class levels of performance. America’s history of bringing disadvantaged groups into the economic mainstream over time, and the progress of other nations in education, suggest that large steps forward are possible.

The balance of this summary report is organized into three sections. First, the report shares key findings on the international, racial, income, and systems-based gaps facing the United States. Next, the report assesses the economic impact of these gaps for the economy as a whole and for individuals. Finally, the report notes potential implications of the work and suggests areas for further study. A companion document containing McKinsey’s full analysis, “Detailed Findings on The Economic Impact of the Achievement Gap in America’s Schools,” is available for download on the Web at <http://www.mckinsey.com/achievementgap>.⁵

4. Based on GDP decline in the fourth quarter of 2008 of minus 6.3 percent.

5. This expanded document includes sources for facts and analyses cited in this summary as well as explanations of methodologies.

Findings On The Achievement Gap

To document the dimensions of the four identified achievement gaps, we conducted a thorough literature review, interviewed a number of the leading researchers in the field, and performed new independent analyses. Our key findings follow.

The international achievement gap

The United States lags significantly behind other advanced nations in educational performance and is slipping further behind on some important measures. In addition, the gap between ours and others' performance widens the longer children are in school. The facts here demonstrate that lagging achievement in the United States is not merely an issue for poor children attending schools in poor

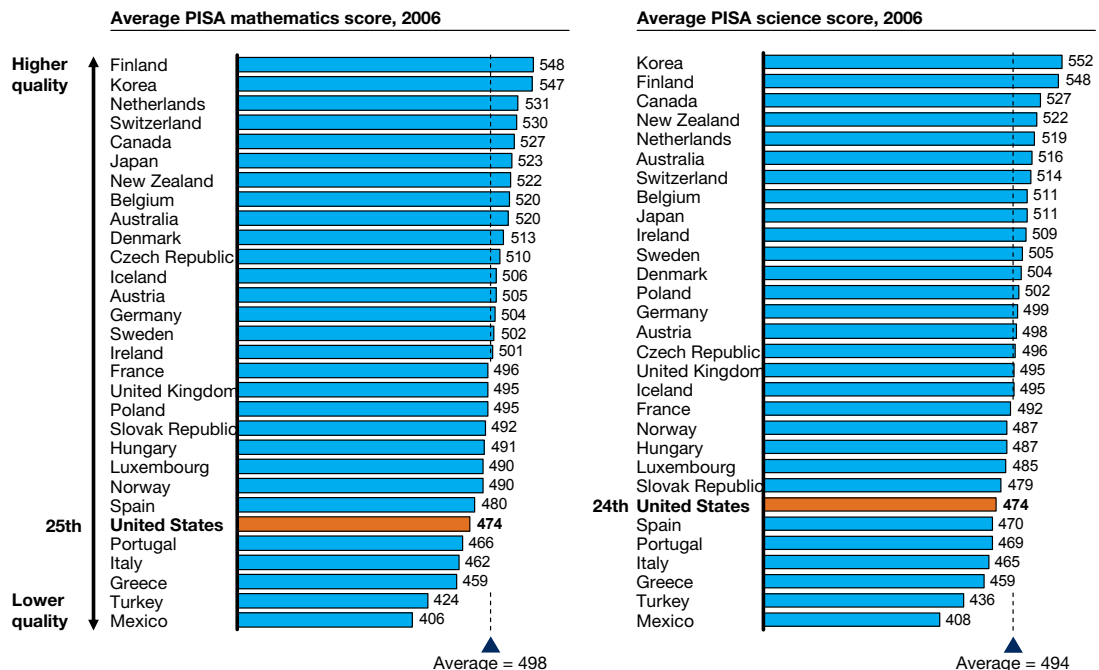
neighborhoods; instead, it affects most children in most schools.

The Program for International Student Assessment (PISA) is a respected international comparison of 15-year-olds by the OECD that measures "real-world" (applied) learning and problem-solving ability. In 2006 the United States ranked 25th of 30 nations in math and 24th of 30 in science (Exhibit 1). American 15-year-olds are on par with students in Portugal and the Slovak Republic, rather than with students in countries that are more relevant competitors for service-sector and high-value jobs like Canada, the Netherlands, Korea, and Australia.

This ranking signals the striking erosion of America's onetime leadership in education. Forty years ago the United

Exhibit 1

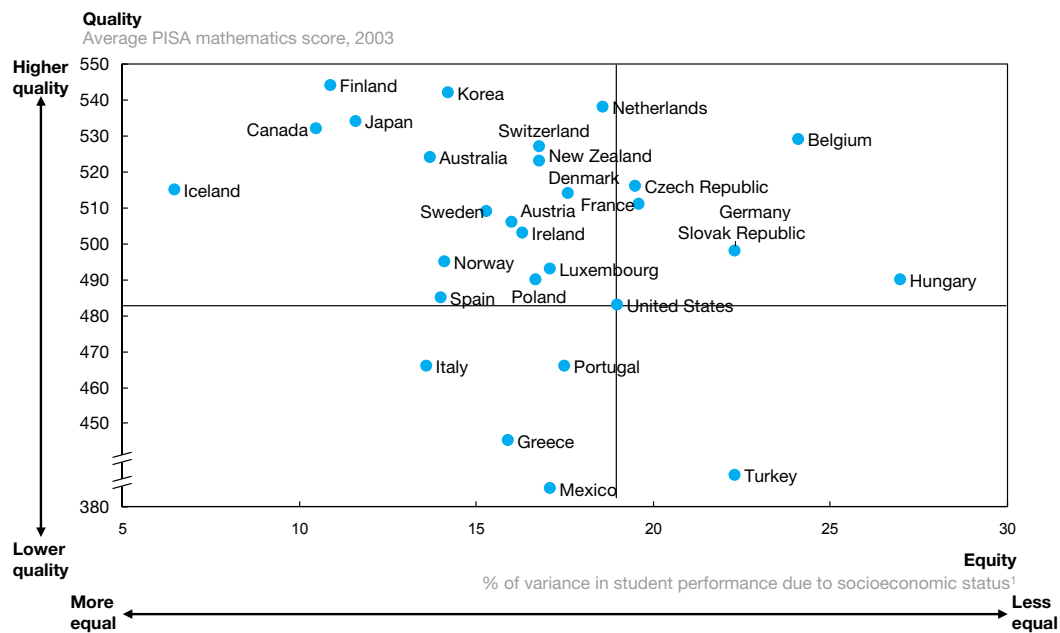
PISA rankings show United States trailing other OECD countries



Note: Results are for OECD countries; OECD partner countries not included. Differences may not be statistically significant.
 SOURCE: OECD

Exhibit 2

17 countries have higher average test scores and lower income-based inequality than the United States



¹ Socioeconomic status as measured by PISA's index of economic, social, and cultural status.

SOURCE: Learning for Tomorrow's World – First Results from PISA 2003; McKinsey analysis

States was a leader in high school graduation rates; today it ranks 18th out of 24 industrialized nations. As recently as 1995 America was tied for first in college graduation rates; by 2006 this ranking had dropped to 14th.⁶ In part the trend can be explained by what author Fareed Zakaria has called “the rise of the rest.” Economist Eric Hanushek and others recently studied all international tests in reading, math, and science administered between 1964 and 2003 and placed them on a common scale.⁷ They found that students in the United States did not register gains over the past four decades, while students in currently top-performing systems like the Netherlands and Finland improved.

Several other facts paint a worrisome picture. First, the longer American children are in school, the worse they perform compared to their international peers. In recent

cross-country comparisons of fourth grade reading, math, and science, US students scored in the top quarter or top half of advanced nations. By age 15 these rankings drop to the bottom half. In other words, American students are farthest behind just as they are about to enter higher education or the workforce.

Next, there is a striking gap between the performance of America's top students and that of top students elsewhere. The United States has among the smallest proportion of 15-year-olds performing at the highest levels of proficiency in math. Korea, Switzerland, Belgium, Finland, and the Czech Republic have at least *five times* the proportion of top performers as the United States.

Furthermore, the gap between students from rich and poor

6. National Governors Association, *Benchmarking for Success: Ensuring US Students Receive a World-Class Education*, (2008).

7. E. Hanushek, et al., “Education and economic growth,” *Education Next* (Spring 2008), 65.

families is much more pronounced in the United States than in other OECD nations (Exhibit 2). In a world-class system like Finland's, socioeconomic standing is far less predictive of student achievement. All things being equal, a low-income student in the United States is far less likely to do well in school than a low-income student in Finland. Given the enormous economic impact of educational achievement, this is one of the best indicators of equal opportunity in a society, and one on which the United States fares poorly.

In one sense this poor performance is surprising, considering the high per capita income in the United States, which is generally correlated with higher levels of educational achievement. And despite large educational

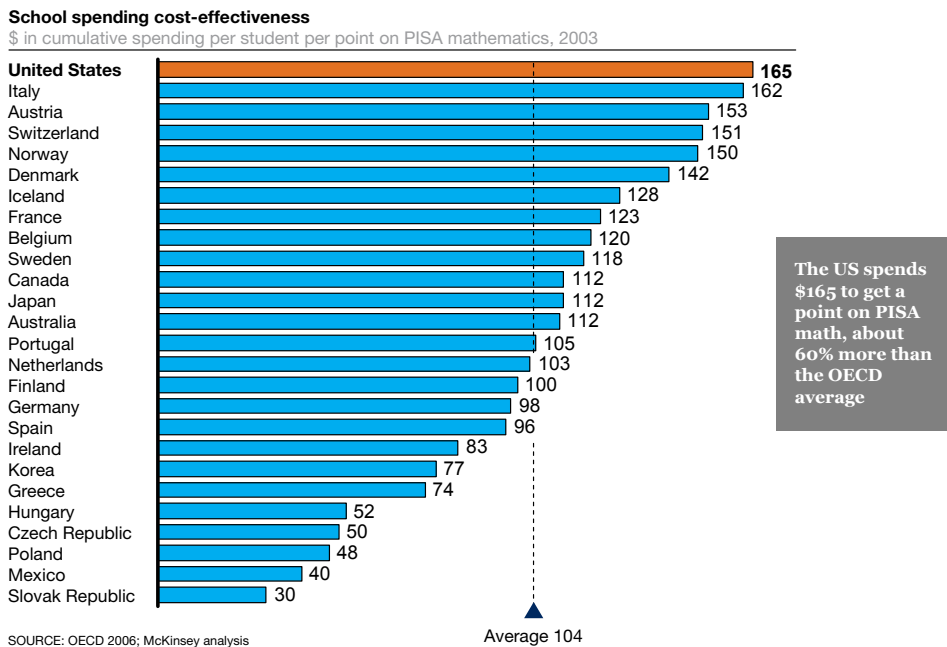
expenditures, school spending in the United States is among the least cost-effective in the world. By one measure we get 60 percent less for our education dollars in terms of average test-score results than do other wealthy nations (Exhibit 3).

The racial achievement gap

On average, black and Latino students are roughly two to three years of learning behind white students of the same age. This racial gap exists regardless of how it is measured, including both achievement (e.g., test score) and attainment (e.g., graduation rate) measures. Taking the average National Assessment of Educational Progress

Exhibit 3

The United States spends more than any other country per point on PISA mathematics test



8. The National Assessment of Educational Progress (NAEP) is the largest and most consistently administered nationally representative assessment of US students. Headed by the National Center for Education Statistics in the US Department of Education, these assessments are conducted periodically in a number of subjects for students in grades 4, 8, and 12. NAEP uses criterion-based achievement levels, which are performance standards set based on recommendations from educators and members of the public. Achievement levels include Basic (denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade), Proficient (represents solid academic performance for each grade assessed, with students demonstrating competency over challenging subject matter), and Advanced (signifies superior performance). Interpretation of raw scores is based on the understanding that ten points is roughly equivalent to one year's worth of learning. For example, using NAEP's criteria for achievement levels by grade, the difference between "basic" and "proficient" as a fourth and eighth grader is 48 and 50 points, respectively, in math, and 35 and 43 points, respectively, in reading—meaning that in order to remain at the same achievement level over four years they must gain an average of about 10 points per grade.

(NAEP) scores for math and reading across the fourth and eighth grades, for example, 48 percent of blacks and 43 percent of Latinos are “below basic,” while only 17 percent of whites are, and this gap exists in every state.⁸ A more pronounced racial achievement gap exists in most large urban school districts.

Comparing US black and Latino student performance to the performance of students in other countries adds further perspective.⁹ In eighth grade math, US Latino students perform below students in Malta and Serbia and about as well as students in Malaysia; US black students lag behind Romania and Bulgaria and roughly match students in Bosnia and Herzegovina. Similar results are seen for 15-year-olds in science, with US Latinos scoring at the level of students in Chile and Serbia, and US blacks on par with students in Mexico and Indonesia. Just as with the international achievement gap described above, America’s racial achievement gap worsens the longer children are in school. Between the fourth and twelfth grades, for

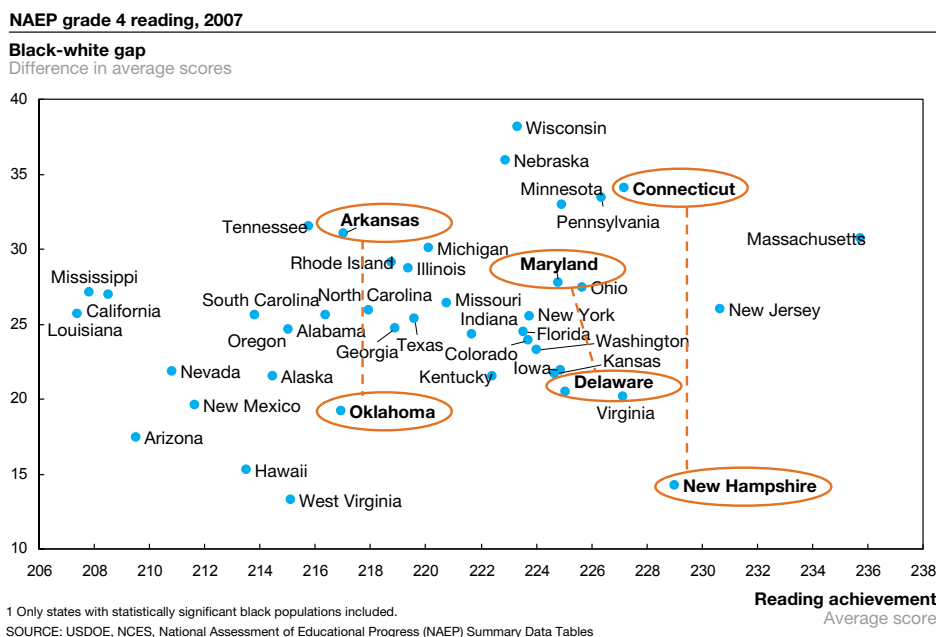
example, the gap versus white student math scores grows 41 percent for Latinos and 22 percent for blacks.

Notably, in some areas, the racial gap has been overcome. For example, Latino students in Ohio outperform white students in 13 other states on the eighth grade NAEP reading test and are seven points ahead of the national average. In Texas, low-income black students have the same average score on the fourth grade NAEP as low-income white students in Alabama.¹⁰

Interestingly, the size of the racial achievement gap is not correlated with overall state performance. Massachusetts, for example, has among the highest overall scores on NAEP, but blacks and Latinos there are eight times more likely to underperform in fourth grade math than are whites. By comparing several neighboring-state pairs with similar demographics, we can see how dramatic this disconnect can be between overall achievement and the racial gap. New Hampshire and Connecticut, for example, have similar

Exhibit 4

Neighboring states with similar overall scores can have large achievement gap differences



9. Insufficient data exists today to document gaps related to other underserved communities, such as Native Americans.

10. While this research focuses on the achievement gap measured starting in fourth grade there is extensive evidence of the importance of early childhood education in building the necessary cognitive abilities before kindergarten and how many young children are entering kindergarten unprepared.

overall fourth grade reading scores; yet the gap between white and black scores in Connecticut is more than twice what it is in New Hampshire. A similar disconnect can be found between Arkansas and Oklahoma, or Maryland and Delaware (Exhibit 4). State variations in the racial achievement gap cannot be explained by the proportion of blacks and Latinos in a state's educational system, furthermore, although school-level segregation may play a role in influencing outcomes.

involved black and Latino students. Moreover, very few blacks have access to challenging programs like Advanced Placement, and those who do have not fared well. Less than 4 percent of black students score a 3 or higher on an AP test at some point in high school, compared to 15 percent nationwide. This lagging representation among top performers matters to economic outcomes, because high achievers tend to be those who attend the top colleges and reap the highest earnings over their lives.

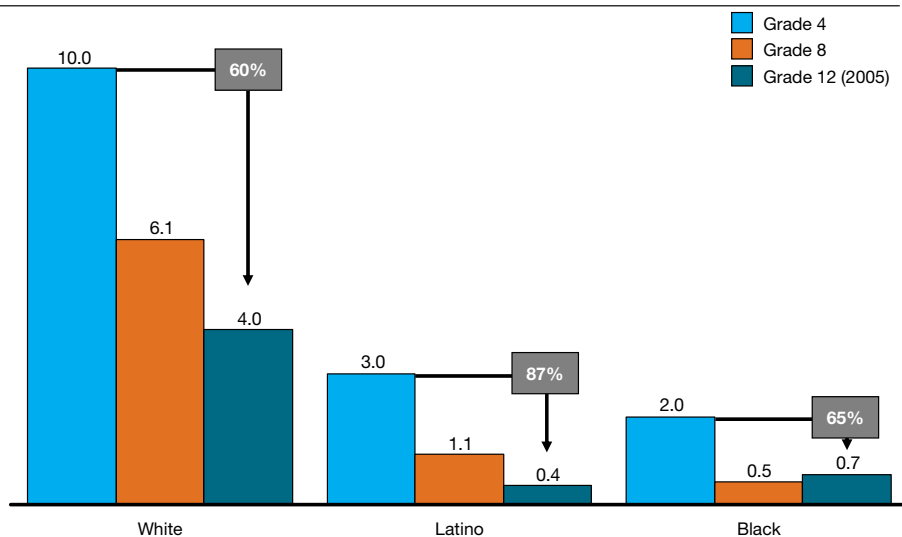
Just as with the international context, there is a notable gap within the overall racial achievement gap having to do with top performers. We term this gap the "top gap." Blacks and Latinos are overrepresented among low-scoring students and underrepresented at the top. Across reading and math, less than 3 percent of black and Latino children are at the advanced level; by twelfth grade it is less than 1 percent (Exhibit 5). And despite a modest increase in the proportion of American students at the top level as defined by NAEP over the past 15 years, less than 10 percent of this increase

As a greater proportion of blacks and Latinos enter the student population in the United States, the racial achievement gap, if not addressed, will almost certainly act as a drag on overall US educational and economic performance in the years ahead. The two most populous states, California and Texas, are already "minority-majority" states: along with New Mexico and Hawaii, the population in these states is less than 50 percent European ancestry. The student population of the United States as a whole will reach this status by 2023.¹¹

Exhibit 5

Few black and Latino students score at the "advanced" level, and the percentage declines over time

NAEP test scores, average for reading and math, 2007
 % of students at the "advanced" level



Note: In some cases the number of black and Latino students at the "advanced" level was statistically insignificant.
 SOURCE: USDOE, NCES, National Assessment of Educational Progress (NAEP) Summary Data Tables

11. US Census Bureau, "An Older and More Diverse Nation by Midcentury," press release (August 14, 2008)

The income achievement gap

The achievement gap among students of different income levels is equally severe. Impoverished students (a group here defined as those eligible for federally subsidized free lunches) are roughly two years of learning behind the average better-off student of the same age. The poverty gap appears early and persists over the lifetime of a student; only 9 percent of freshmen in the nation's 120 "Tier 1" colleges (whose total freshman enrollment is 170,000) are from the bottom half of the income distribution (Exhibit 6). At the school-wide level, moreover, schools comprised mostly of low-income students perform much worse than schools with fewer low-income students. As with the racial achievement gap, these income gaps remain large even in otherwise high-performing states. Massachusetts has among the highest overall NAEP scores, for example, but

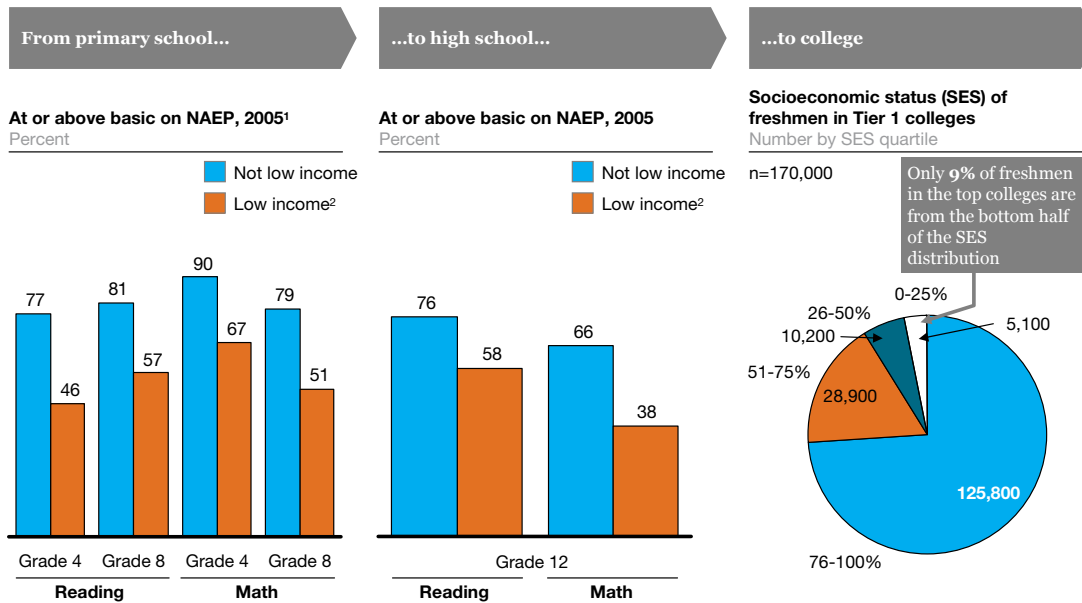
students eligible for free lunch are six times more likely to be below "basic" in fourth grade math than ineligible students.

System-based achievement gaps

The most striking, poorly understood, and ultimately hopeful fact about the educational achievement gaps in the United States involves the huge differences in performance found between school systems, especially between systems serving similar students. This situation is analogous to that found across American health care, where, as researchers like John Wennberg have shown, wide regional variations in costs and utilization of procedures and services exist that bear no relation to quality or health outcomes. In each case, these differences prove there are substantial opportunities to improve

Exhibit 6

Income-based gap persists from primary school through college



¹ Based on average scores for groups, where ten points is roughly equivalent to one year of education, students eligible for free lunch are around two years behind ineligible students (e.g., in grade 4 math in 2007, students eligible for free lunch scored 226, while ineligible students scored 249, a difference of 23).
² Low income is defined as eligible for free or reduced lunch.

SOURCE: National Center for Education Statistics; Center for Education Policy, NAEP data for public schools, College Board

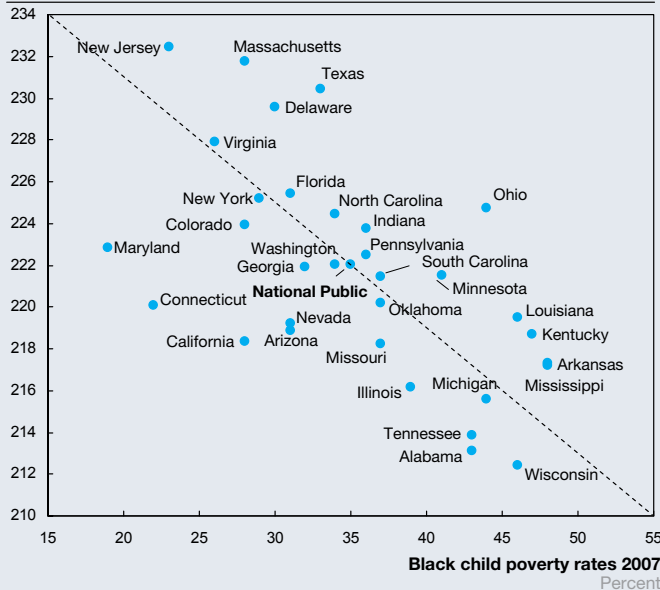
The interaction of income and racial achievement gaps

While blacks and Latinos are generally much poorer than whites in America, it is possible to parse available data to demonstrate the existence of distinct income achievement gaps within racial groups. Poor white students tend toward lower achievement than rich white students. Whites, meanwhile, significantly outperform blacks and Latinos at each income level. In fact, white students from the second-income quartile perform about the same as rich black students (Exhibit A). In addition, the strong link revealed in Exhibit B between black child poverty rates and black achievement levels underscores the income achievement gap among black students as a phenomenon separate from the racial gap between all black students and all white students. As a result, low-income black students suffer from the largest achievement gap of any cohort. NAEP data suggests that the average non-poor white student is about three and a half years ahead in learning compared to the average poor black student; this gap increases to roughly five years when comparing top-performing New Jersey with low-performing Washington, DC. (Exhibit C).

Exhibit B

Test scores for black students strongly correlate to black poverty rates

NAEP grade 4 math scores — black students
Average score

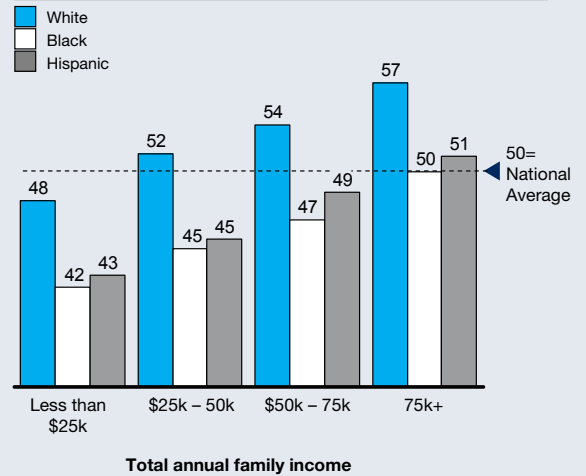


Note: Some states disclosed because not enough black students in population (e.g., Idaho).
SOURCE: USDOE, NCES, NAEP Summary Data Tables; Annie Casey Foundation 2008; McKinsey analysis on subset of states

Exhibit A

While independent racial and income gaps exist, black and Latino students underperform white students at each income level

ELS cognitive tests for 10th graders, 2002
Average score — math and reading composite



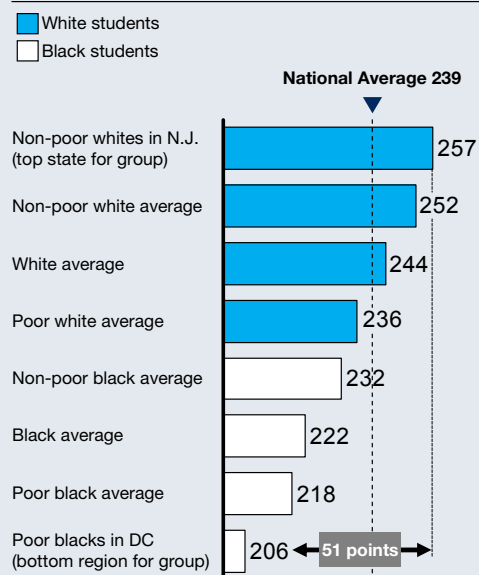
Note: The ELS test is standardized with a national mean of 50 and standard deviation of 10.

SOURCE: ELS: 2002, National Center for Education Statistics, sample includes both public and private schools

Exhibit C

By fourth grade, non-poor whites in the highest performing states are roughly five years ahead of poor blacks in DC

NAEP Grade 4 math scores in public schools, 2007
Average score for group by income¹



¹ Poor defined as eligible for free or reduced price lunch.

SOURCE: USDOE, NCES, National Assessment of Educational Progress (NAEP) Summary Data Tables

productivity and performance via the adoption of best practices. While it is less clear how to address the racial and income-based achievement gaps directly, understanding and acting on the lessons found in these system-based achievement gaps will be among the most powerful tools available to those who aim to achieve higher and more equitable educational outcomes.

Important performance gaps exist at every level in American education: among states, among districts within states, among schools within districts, and among classrooms within schools. This confirms what intuition would suggest and research has indicated: differences in public policies, systemwide strategies, school site leadership, teaching practice, and perhaps other systemic investments can fundamentally influence student achievement. California and Texas, for example, are two large states with similar demographics. Yet as shown in Exhibit 7, Texas students are, on average, one to two years of learning ahead of California students of the same age, even though Texas has less income per capita and spends less per pupil than California.¹² Likewise, when comparing states like New Jersey and Connecticut, New Jersey has higher NAEP scores and a smaller racial achievement gap despite having a lower income per capita level and a higher proportion of racial minorities than Connecticut. These differences between states can be dramatic. Poor black students in Washington, DC, are roughly *4 years of learning behind* poor white students in Massachusetts (Exhibit 8). A poor white student in the worst-performing state for low-income whites (Alabama) scores as well as a poor black student in the best-performing state for low-income blacks (Texas).

Within a state, districts with similar demographics can also have very different levels of achievement. Exhibit 9 compares four urban districts in Texas with similar poverty levels and ethnic and racial compositions. As can be seen, one of them (District 1) has consistently higher levels of achievement and lower dropout rates than the others. The same patterns hold true within districts. For example, we analyzed two mostly black public schools in poor neighborhoods within the same district (Exhibit 10). One dramatically outperforms the other in reading and math despite having higher poverty rates. Finally, within the

Exhibit 7

California and Texas are two large states with similar demographics but different achievement outcomes

Demo- graphics and Resources		California	Texas
	Population	36.8 million	23.5 million
	Racial/ethnic composition	White: 44%	White: 48%
		Black: 6%	Black: 11%
		Asian: 12%	Asian: 3%
		Latino: 34%	Latino: 37%
		Other: 3%	Other: 2%
GDP per capita	\$42,102	\$37,073	
Per pupil spending	\$8,486	\$7,561	
Outcomes	NAEP grade 4 math	California	Texas
	All	230	242
	White	247	253
	Black	218	230
	Latino	218	236
	NAEP grade 8 math	California	Texas
	All	270	286
	White	287	300
	Black	253	271
	Latino	256	277

same school, student achievement can vary dramatically by classroom. Indeed, there is actually more variation in student achievement *within* schools than *between* schools in the United States. The 2006 PISA Science report by the OECD found variation within schools in the United States to be 2.6 times greater than the variation across schools. This finding confirms others' research in the United States, as well as that of McKinsey's Global Education Practice both across and within countries, which holds that access to consistent quality of teaching is a key determinant of student achievement.

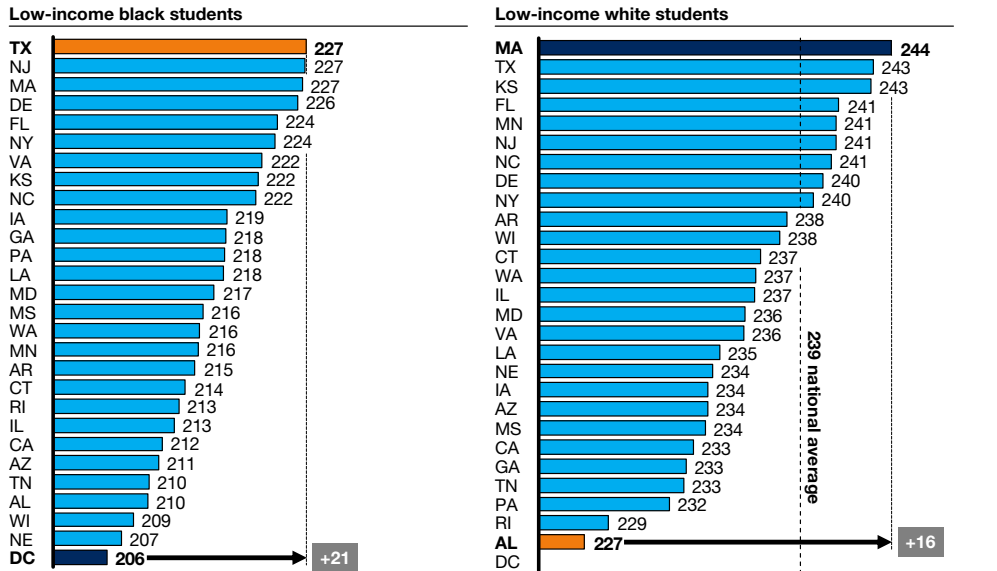
12. Data for California and Texas exclusions for NAEP sampling purposes do not differ significantly and are not believed to be a meaningful explanatory factor in the test-score differences between California and Texas students.

Exhibit 8

Differences in achievement between states can be as high as two years of learning even after controlling for race and income

NAEP grade 4 math by state, 2007

Average score

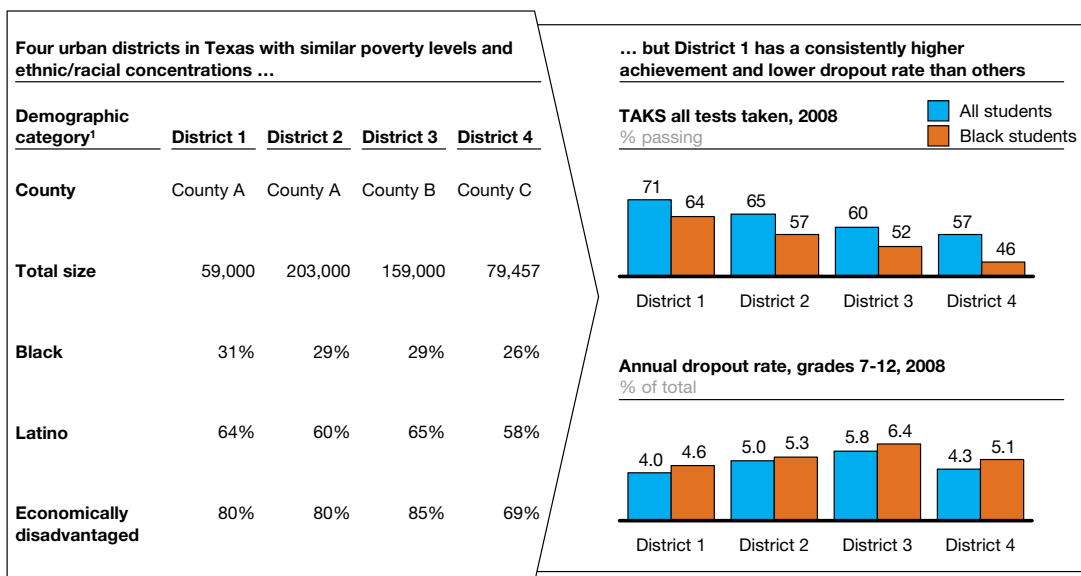


Note: Low income is defined as eligible for federally subsidized lunch; DC does not have a statistically significant population of low-income white students. Full analysis may be found in companion report.

SOURCE: USDOE, NCES, National Assessment of Educational Progress (NAEP) Summary Data Tables; subset of states

Exhibit 9

Within a state, districts with similar demographics can have different levels of achievement

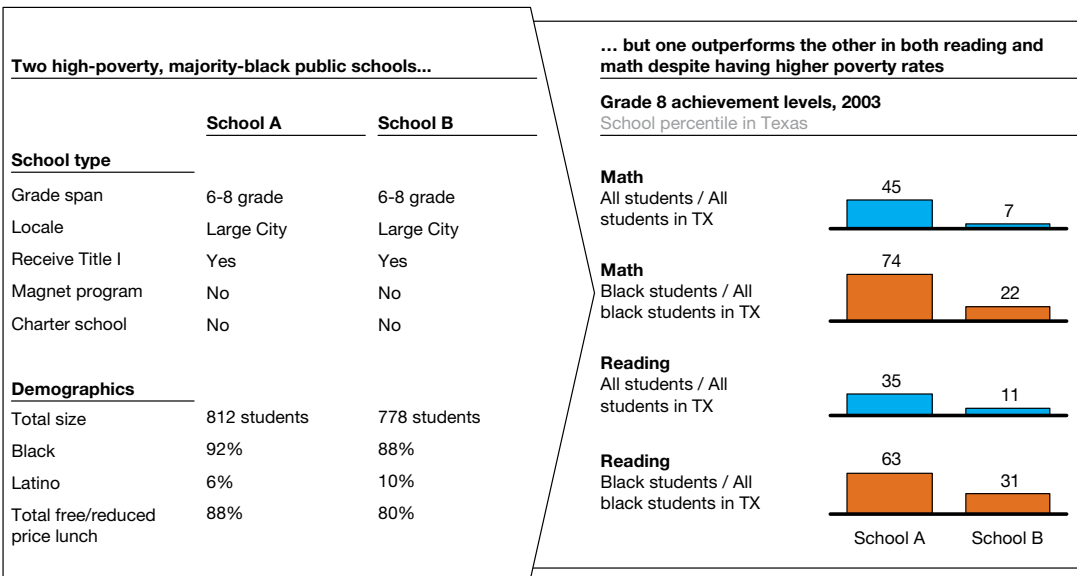


¹ All demographic data for 2008 except total size, which is from 2006-07.

SOURCE: Texas Education Agency; National Center for Education Statistics

Exhibit 10

Within the same district, schools with similar demographics can have very different achievement outcomes



Note: All data from 2003. (AU: Seems like we should be more specific about what data are and aren't from 2003.)
 SOURCE: Texas Education Agency, EdTrust; 2003

Economic impact of the achievement gap

Impact on the national economy

The achievement gaps described above raise moral questions for a society committed to the ideal of equal opportunity. But they also impose concrete economic costs. Estimating the economic impact of underutilized human potential is necessarily an imperfect process, requiring assumptions about the pace of educational improvement, the relationship of student achievement to economic growth, and the nature of labor markets as workforce skills are enhanced. But even with these challenges, McKinsey believes that scoping the rough magnitudes of the economic cost of America's educational achievement gaps is important; without such estimates it is difficult to judge how efforts to lift student achievement should rank among national economic priorities.

To make these estimates, McKinsey built on an approach pioneered by economist Eric Hanushek of Stanford University for linking trends in student achievement to growth in GDP.^{13,14} The scenario we chose to model runs as follows. Suppose that in the 15 years after the 1983 report "A Nation at Risk" sounded the alarm about the "rising tide of mediocrity" in American education, the United States had lifted lagging student achievement to higher (but in our view achievable) benchmarks of performance? What would have been the effect in 2008 of having reduced America's achievement gaps in this way? And what was the difference between actual economic performance in 2008 and what it would have been had these improvements been made? This becomes our measure of the underutilization of human potential in the economy. In a desire to avoid false precision we used a range of growth factors to compute a range of GDP impacts in the year 2008. The results square with our common intuition that there is a high price for failing to make full use of the nation's human potential:

- If the United States had closed the **international achievement gap** between 1983 and 1998 and raised its performance to the level of such nations as Finland and Korea, **US GDP in 2008** would have been between **\$1.3 trillion and \$2.3 trillion higher**, representing 9 to 16 percent of GDP.
- If the United States had closed the **racial achievement gap** and black and Latino student performance had caught up with that of white students by 1998, **GDP in 2008** would have been between **\$310 billion and \$525 billion higher**, or roughly 2 to 4 percent of GDP. (The magnitude of this effect will rise in the years ahead as blacks and Latinos become a larger proportion of the population.)
- If the United States had closed the **income achievement gap** so that between 1983 and 1998 the performance of students from families with income below \$25,000 a year had been raised to the performance of students from homes with incomes above \$25,000 a year, then **GDP in 2008** would have been **\$400 billion to \$670 billion higher**, or 3 to 5 percent of GDP.
- If the United States had closed the **systems achievement gap** so that between 1983 and 1998 states performing below the national average on NAEP were brought up to the national average, **GDP in 2008** would have been **\$425 billion to \$700 billion higher**, or about 3 to 5 percent of GDP.¹⁵

By underutilizing such a large proportion of the country's human potential, the US economy is less rich in skills than it could be. The result is that American workers are, on average, less able to develop, master, and adapt to new productivity-enhancing technologies and methods than they could otherwise have been. Also, these achievement gaps have a clustering effect akin to economic dead zones,

13. More on this methodology can be found in the companion document, "Detailed Findings on The Economic Impact of the Achievement Gap in America's Schools," available for download on the Web at http://www.mckinsey.com/clientservice/socialsector/achievement_gap.

14. E. Hanushek, and L. Woessman, *The Role of Cognitive Skills in Economic Development* (2008).

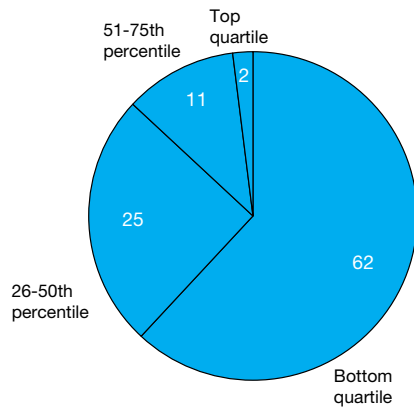
15. Separately, McKinsey looked at the link between lower performance of black and Latino students (and the implications for educational attainment) to estimate that US earnings alone would be \$120 billion to \$160 billion higher in 2008 than if there were no racial achievement gap. The companion document offers more details on this methodology.

Exhibit 11

Achievement as early as fourth grade can be linked to life outcomes

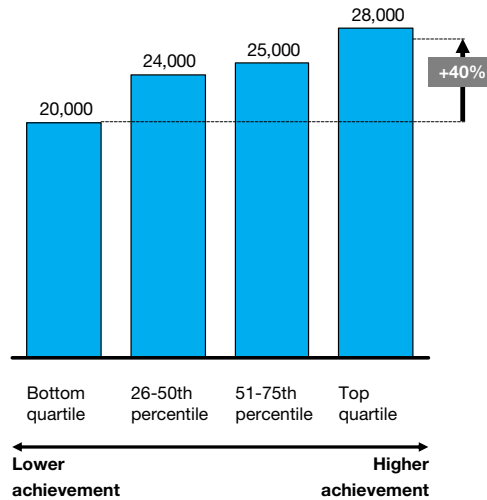
Fourth grade achievement is linked to eighth grade achievement...

Grade 8 achievement among students in bottom quartile in grade 4 math



... and eighth grade achievement correlates to higher income

Median income by grade 8 math achievement quartile USD (1999)



Note: NELS 1988 income data is limited to students already in the workforce at the time of the last wave of the survey in 2000, limiting the accuracy of the data for students pursuing a postsecondary degree.
SOURCE: NELS 1988; NYC Department of Education

where communities with low-achieving local schools produce clusters of Americans largely unable to participate in the greater American economy due to a concentration of low skills, high unemployment, or high incarceration rates.

To put these numbers in perspective, it is often noted that in the current recession the US economy will fall roughly \$1 trillion short of its output potential. By that measure, the international achievement gap is imposing on the US economy an invisible yet recurring economic loss that is greater than the output shortfall in what has been called the worst economic crisis since the Great Depression. In addition, the racial, income, and system achievement gaps all impose annual output shortfalls that are greater than what the nation experienced in the recession of 1981–82, the deepest downturn in the postwar period until now. In other words, the educational achievement gaps in the United States have created the equivalent of a permanent,

deep recession in terms of the gap between actual and potential output in the economy.

Impact on individuals

The achievement gap also influences individual outcomes. There is a demonstrable link between early performance in school and subsequent rates of high school graduation, college attendance and completion, and ultimately earnings. While this does not mean that individual students who perform poorly early on cannot improve their performance and subsequent outcomes, the pattern of success leading to success is strong.

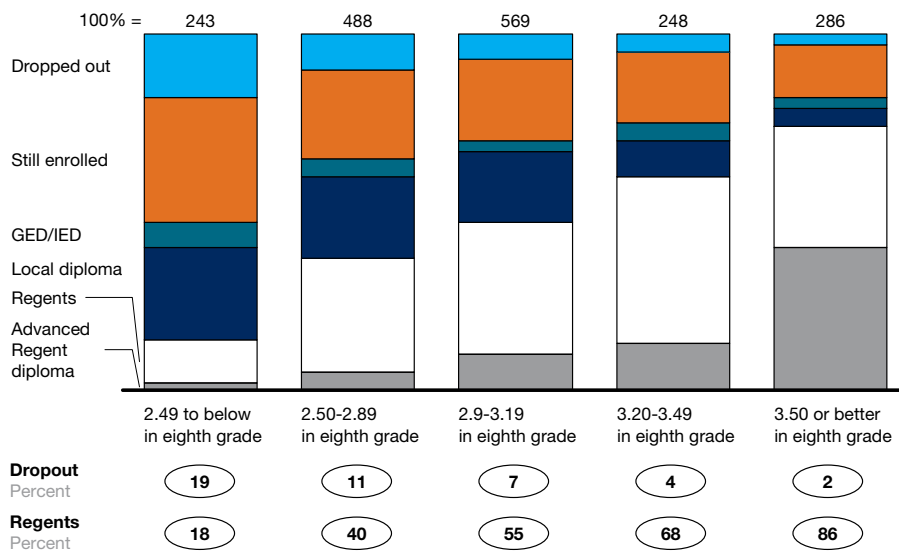
Tests as early as fourth grade are powerful predictors of future achievement and life outcomes. For example, 87 percent of fourth grade students scoring in the bottom

Exhibit 12

Among students with similar third-grade test scores, graduation outcomes varied greatly on progress by eighth grade

2008 graduation outcome of students who scored a 3.0 on the third-grade ELA test in 1999

Graduation outcome by 2004 eighth grade ELA score



Note: Includes only students who scored a 3.0 on the third-grade ELA test in 1999, had an eighth grade test score in 2004, and were part of the 2004 graduation cohort (class of 2008).

Source: NYC DOE analysis

quartile on New York City math achievement tests remained in the bottom half in eighth grade. Students who scored in the top quartile in math in eighth grade had a 40 percent higher median income 12 years later than students who scored in the bottom quartile (Exhibit 11). In New York City, higher-achieving eighth grade students also have a much higher likelihood of graduating from high school with a Regents diploma.¹⁶

Yet while early test scores are important indicators of a student's life chances, they do not set the future in stone. New York City's experience suggests that the period between third grade and eighth grade can be critical (Exhibit 12). When starting from a similar point, students who are able to improve their performance between third and eighth grade are much more likely to graduate with honors and thus benefit from higher earnings over time.

This means that while some students may have different starting points than others, reaching low-achieving students in the early years of their education can have a tremendous impact on their life outcomes.

These economic stakes come atop other consequences for good or poor educational performance—consequences that have been documented previously but that are often ignored or underestimated. The less educated a person is, the likelier that person is to end up behind bars. A high school dropout is five to eight times more likely to be incarcerated than a college graduate.¹⁷

There are also health-related costs associated with the educational achievement gap. Lower education is highly correlated with unhealthy lifestyles, including higher incidences of smoking and obesity. Less educated people

16. For students entering the ninth grade after 2007, the Regents diploma is the standard high school diploma in the state of New York.

17. E. Moretti, "Crime and the costs of criminal justice," *The Price We Pay* (2007).

are more likely to be uninsured and as a result consume more public health resources.

Education levels are also linked to civic engagement. High school graduates are twice as likely to vote than people with an eighth grade education or less. College graduates are 50 percent more likely to vote than high school graduates. Lifting the achievement of lagging socioeconomic and ethnic groups would almost certainly enhance the richness of America's civic life.

Discussion and Implications

There are numerous implications from these findings. Below we highlight five themes that are often overlooked in the debate, in addition to offering several suggestions for further research.

Lagging achievement is a problem for poor and minority children and for the broad middle class

A large part of the economic cost associated with America's educational achievement gap is borne by poor and minority communities whose members are unable to reach their potential. But the magnitude of the international gap suggests that the broad middle class in the United States pays a severe price for failing to match the performance of nations with better educational systems. In our observation, parents in poor neighborhoods are all too aware that their schools are not performing well; but middle-class parents typically do not realize that their schools are failing to adequately prepare their children for an age of global competition. Our findings suggest this middle-class complacency is unjustified and should be challenged.

Inequities in teacher quality and school funding are pervasive

While an assessment of the causes of America's persistent racial and income achievement gaps is beyond the scope of this report, two facts stand out from our research and from related McKinsey work in school systems around the world. First, on average, the United States systematically assigns less experienced, less qualified, and probably less effective teachers to poorer students of color.¹⁸ Second, because of the unique nature of school finance systems in the United States, schools in poor neighborhoods tend to have far less funding per pupil than do schools in wealthier districts, a degree of inequity not seen in other advanced

nations.

To be sure, money is not everything; as our research shows, school spending in the United States is, in aggregate, inefficient compared to other nations. What's more, as education spending in districts like Washington, DC, and Newark, New Jersey, indicates, it is possible to spend very high amounts per pupil and have poor results to show for it. But these districts are unusual. As a rule, schools in poor neighborhoods spend far less per pupil than schools in their nearby affluent suburbs. Since teacher salaries are one of the biggest components of district cost structures, affluent districts routinely outbid poorer ones for the best teaching talent (in addition to offering typically better working conditions and easier-to-teach children). Further research could usefully address two related questions: (1) what changes in the salary and nonsalary components of teaching would be required to attract and retain higher-caliber college graduates as well as experienced teachers with records of success in raising student achievement, to devote their careers to teaching poorer students of color? (2) What is the link between true per pupil funding in a school or district and the quality and effectiveness of its teachers? Our hypothesis is that a thorough examination of these questions would provide a fact base policy makers would find useful.

What happens in schools and school systems matters profoundly

There has long been debate, dating at least to the Coleman Report in 1966, as to whether students' fates are shaped more by socioeconomic factors outside of school or by what happens inside school. Our reading of the evidence suggests that while factors outside of school are certainly very important sources of unequal outcomes, superior educational policies and practices at every level—federal, state, district, school, and classroom—matter profoundly for student achievement, and thus for students' economic prospects and life chances. American education is filled

18. Most systems are not yet capable of accurately measuring teacher effectiveness in raising student achievement, but the evidence, where it exists, is strongly suggestive. See, for example, H. G. Pensek and K. Hancock, "Teaching inequality: How poor and minority students are shortchanged on teacher quality," The Education Trust (2006).

with instances in which students with similar backgrounds and traits achieve very different results. McKinsey believes this can be dramatically affected by what happens (or doesn't happen) in our schools. Research to refine more precisely what drives this system achievement gap among similar students should be a priority.

Better data is essential

While real differences in performance exist across school systems, inconsistencies in how data are gathered and reported make it difficult to understand the factors shaping the achievement gaps at the system level. This hinders policy makers and educators in their pursuit of better outcomes. For example, each state has different standards for what constitutes proficiency levels under No Child Left Behind, as well as different standardized tests to measure student achievement, making state-to-state comparisons difficult. And while NAEP does allow for a common state-level comparison, its limited sample size and reporting restricts the ability to gain more granular insights at a student, classroom, or school level. Moreover, relatively few states and systems currently put useful and timely data on how individual students are progressing in the hands of educators and parents. Given the \$600 billion that the United States spends annually on its public school systems, and the enormous economic stakes riding on improved student achievement, it is remarkably short-sighted to invest so little in insights about educational performance.

There is a case for optimism

Daunting as the school improvement challenge often seems, we see at least three reasons for optimism:

- *First*, long experience around the world serving both private companies and public-sector entities teaches us that when large variations in performance exist among similar operations, relentless efforts to benchmark and implement what works can lift performance substantially.

- *Second*, the United States has a history of making progress in improving student achievement and in closing the achievement gap, even if this progress has often been modest and uneven. Over the past 35 years, for example, national aggregate achievement has generally increased. And while a large racial achievement gap remains, it has narrowed by about one-third over the past 30 or 40 years. In the past 15 years, moreover, many states, such as New Jersey, have managed to shrink their racial achievement gaps to some extent, particularly in earlier grades. The Union City, New Jersey, district, for example, has shown remarkable progress, which may offer lessons for reformers nationally.¹⁹ New York City, the country's largest district, has shown since 2003 that the traditionally lowest-achieving group, poor black students, can improve meaningfully.²⁰

- *Third*, the United States has a broad history of success in eventually equipping underutilized groups with greater skills over time, with important benefits for economic performance. The United States pioneered universal free public education through grammar school in the mid-19th century, for example, creating a vast literate, numerate workforce capable of generating greater productivity through industrialization and enabling exceptional individuals to transform the economy through their innovations. When an influx of immigrants was given increased access to high school between 1910 and 1940, it readied them for more highly skilled technical and managerial jobs in industries that helped boost economic growth. The dramatic increase in female participation in the labor force in recent decades has been widely credited with boosting economic growth. In each of these cases, America's commitment and actions taken to utilize its human potential more fully resulted in economic benefits for the nation as a whole.

* * *

The stakes for the nation of remedying America's educational achievement gaps are high. We hope these findings can serve as a common point of departure from which diverse stakeholders might refine a more urgent agenda for action.

19. G. MacInnes, *In Plain Sight: Simple, Difficult Lessons from New Jersey's Expensive Effort to Close the Achievement Gap* (2009).

20. For example, average math scores of black fourth graders eligible for federally subsidized lunch improved by 8 points from 2003 to 2007. Additional analysis can be found in the companion document.

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