Introducing the Issue

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Approximately 16 million students attend more than 40,000 high schools in the United States. The vast majority of these students (more than 90 percent) attend public schools. And yet by most accounts, the typical American high school is failing its students in terms both of excellence and of equity. Although the math and reading achievement scores of both fourth- and eighth-grade American youngsters have improved over the past seventeen years according to the nation’s “report card,” the National Assessment of Educational Progress (NAEP), the math and reading scores of twelfth graders have been stagnant or even falling over roughly the same period. As another way to think about it, the overall U.S. achievement goal is for all students to score at or above the proficient level—the level at which they demonstrate solid academic performance exhibiting competency over challenging subject matter. And yet in 2005 only 35 percent of the nation’s high school students met or exceeded this level in reading and less than 25 percent did so in math. The results from 2005 further suggest that although students attending suburban schools (“urban fringe” in NAEP parlance) score significantly higher than those in urban and rural districts in mathematics, the scores of students in U.S. central cities, suburbs, and rural areas are, statistically speaking, not distinguishable in reading. Lackluster performance is thus widespread, but poor urban (and to some extent rural) high schools represent especially troubling pockets of students placed at risk of school failure.

Questions abound about how accurately the NAEP reflects the true skills of seventeen-year-olds, primarily because the stakes of the assessment are low and students may not be highly motivated to do their best. But few observers quibble about the news from the labor market, which is no different. Twenty-five years ago a high school dropout earned 12 percent less, and a high school graduate (with no further schooling) earned 10 percent less, than an individual with some college education (but without a bachelor’s degree), reflecting the relative value that employers put on the skills of workers with different levels of education. Today, however, high school dropouts are earning 46 percent less, and high school graduates 15 percent less, than adults with some college education. These growing earnings disparities mean that a high
school diploma, while increasingly necessary as a ticket to the middle class, is no longer sufficient as a terminal education credential.

What went wrong? Clearly there are many reasons why students are graduating with insufficient skills for today’s society. First and foremost, today’s economy is quite different from that of twenty-five years ago. Since the advent of the technological revolution—which some describe as being as profound as the industrial revolution—employers have been demanding ever more skilled workers. Similarly, globalization is forcing less-skilled U.S. workers to compete increasingly with less-skilled workers all around the world. Thus, just to distinguish themselves from the billions of other workers worldwide with less than a college education, young people today must have some postsecondary schooling. High schools, however, must shoulder some of the blame for failing to prepare young people adequately for today’s workforce. Understandably, the task is difficult. A century ago, when the American high school was assuming its current structure, compulsory schooling laws generally required young people to attend school only until age fifteen (although it was common to grant waivers to much younger children), and only about 10 percent of U.S. youths attended high school. Today, however, all states require attendance until at least age sixteen (or completion of tenth grade), and some extend the requirement to age eighteen. And, for the past forty years, desegregation and immigration have required high schools to serve an increasingly diverse set of students. Indeed, whereas during the early 1960s high school students were roughly 85 percent white and 12 percent non-white, today they are approximately 60 percent white and 40 percent non-white, including 17 percent of Hispanic origin.

At the same time, it can be difficult for schools to find the resources to meet the educational needs of their students. As one example, all schools struggle to find adequately prepared teachers, and nowhere is this problem more acute than at the high school level. Finding teachers for more technical subjects such as math and science is particularly difficult, especially in the schools that need them the most—those educating poor children in urban areas. And so, faced with a changing economy, an ever more diverse student body, escalating staffing difficulties, and, over the past several decades, with increasing calls for more accountability for their efforts, many high school administrators and policy makers are stumped as to what to do next.

This is a particularly auspicious time to take stock of the tasks now facing U.S. high schools and to consider what researchers and policy makers now know about reform—what works and what does not.

Fortunately high school reform has finally arrived near the top of the education policy agenda. States are beginning to take seriously the need to reform their high schools. Indeed, in 2004–05 the Chair’s Initiative of the National Governors’ Association (NGA) was “Redesigning the American High School.” The NGA’s fifth national summit on education, held in 2004, was the first devoted to high schools. Since 2000, the Bill
& Melinda Gates Foundation has invested $2 billion into efforts to reform high schools, largely into “smaller” schools that aim to promote personalized relationships and more rigorous and relevant coursework. The federal government has invested millions of dollars in enhancing and scaling up the use of comprehensive school reform models for high schools and in supporting the creation of small learning communities in low-performing high schools. The National Conference of State Legislatures, along with several states including California, North Carolina, and Virginia, have tasked their legislators and staff, together with their departments of education, family services, and justice, to focus on their dropout and truancy problems.

This is thus a particularly auspicious time to take stock of the tasks now facing U.S. high schools and to consider what researchers and policy makers now know about reform—what works and what does not. To this end, we have assembled a group of experts and asked them to focus on the overarching challenges that all high schools face but that are especially problematic for low-performing schools whose limited capacity to meet these challenges often places large numbers of their students at high risk of failure. Many of these tasks fall under the following six headings: helping students make the transition to high school in the ninth grade, keeping students from dropping out, reforming the structure of high schools, upgrading the rigor and relevance of the curriculum, promoting high-quality and engaging instructional strategies, and preparing students for postsecondary education and the world of work.

In addressing these issues, we asked the contributors to this volume to synthesize and critically review the highest-quality evidence available for their topic. Finding such high-quality evidence proved to be the most daunting aspect of their endeavors. By far, the authors found the evidence base to be strongest for describing the nature of the problems facing high schools and for identifying individual and institutional correlates of these problems. Rigorous evidence on effective strategies for transforming low-performing schools into high-performing schools, while emerging, remains very limited.

The central methodological challenge in addressing questions about the effects of high school improvement strategies lies in differentiating between “outcomes” and “impacts.” Simply put, outcomes are measures of the level of performance, experiences, attitudes, or other behaviors of the individuals or groups that are the subjects of a given study. These outcomes are the result of many factors such as the individual’s motivation, ability, interest, family support, health, prior academic experiences, the quality of the current school, and, in the case of a study of a reform strategy, the reform itself. Impacts, in contrast, represent the causal effect of any one of these factors, including the reform, on the outcomes of interest. Thus, for example, the impact of an intervention on student educational success measures only the additional contribution of the intervention as distinct from all other factors. To assess impacts rigorously (that is to control for all of the other factors), it is critical to determine a benchmark that will answer questions about “outcome levels compared with what.” Recent research in education and in other social science domains shows again and again that the method for identifying a truly valid benchmark is probably the most important factor affecting the validity of the answers to impact questions. Getting the benchmark wrong often means getting the wrong answer to the right question.
Using outcomes to judge program effectiveness without an adequate method to identify a valid benchmark promotes two related risks in efforts to identify and support initiatives that make a difference. First, if interventions are assessed only on the basis of outcomes, researchers and policy makers are likely to recognize and reward interventions and reforms on the basis of whom they serve rather than on the basis of what they do differently to educate young people. Second, in relying on outcomes rather than impacts, researchers and policy makers are likely to recognize and reward seemingly high-performing programs because they operate under promising conditions rather than because they use promising practices that add value to what is already available. Much of the research cited in the articles in this volume was not able to disentangle these factors, but we note that more rigorous evidence is available now than ten years ago and the research community has increasingly turned to designs that allow for strong causal inferences between intervention strategies and improvements in outcomes of interest.

Before reviewing the articles in this issue, we emphasize that space constraints made it impossible to cover many important topics. One such topic is the role of resources, their impact on student success, and what resource changes might be necessary when attempting to implement reform. Another topic that is not discussed in depth in this volume—teachers and other staffing needs—was the focus of a recent volume of The Future of Children. It should also be noted that most of the contributors to this volume focus on evidence regarding challenges for the least-prepared students rather than for those at grade level or better. This emphasis is attributable mostly to the charge to review the most rigorous evidence: many of the most rigorous studies have been conducted in low-performing schools or have focused on low-performing students. In addition, although we explicitly asked contributors to discuss evidence regarding rural high schools when possible, such evidence turned out to be almost nonexistent. Finally the volume does not address violence in high schools, a real and pressing problem, particularly in some areas. The impossibility of addressing all relevant topics here leads us to hope that this volume will be part of a much longer, and continuing, discussion about the issues confronting U.S. high schools.

We and the authors recognize that many of the problems facing U.S. high schools have their roots in the often poor preparation of students in elementary and middle schools—preparation whose inadequacy becomes most visible in high school when academic and social demands increase dramatically. Thus policy makers face the following conundrum: should they invest more money to provide failing high school students with a chance to “catch up” and get back on track to a healthy transition to adulthood? Or should they invest that same money to improve services for younger children and prevent these problems for the next generation? Although many advocates—most recently the Nobel Laureate economist James Heckman—argue strongly and eloquently that the marginal dollar should be spent on (very) young children, it is hard to give up on a generation—or more—of students. Doing so may be particularly risky because rigorous evidence is not yet available about how best to improve elementary and middle schools (or even preschools) in ways that prevent problems in high school. Secondary school is also one of the last institutions through which society can try to influence positively the lives of nearly all children.
What Have We Learned?
Although each article in the volume opens with a full summary, in this section we briefly highlight some of the findings we think are the most important.

Overview
In his overview, Robert Balfanz, of Johns Hopkins University, traces the evolution of the American high school as well as its transformation over the past twenty-five years. He begins by painting a statistical portrait. He notes that most secondary school students attend public schools that span grades nine through twelve and that they are roughly evenly spread across urban, suburban, and rural areas. At the same time, U.S. secondary schools are quite racially segregated as 40 percent of white students attend high schools that are 90 percent or more non-minority and nearly 30 percent of minority students attend high schools that are 90 percent or more minority. This racial segregation is closely mirrored in segregation by social class as well.

Balfanz then traces the history of a fundamental question that is at the heart of nearly all of the articles in this volume: what is the purpose of a high school education? Although the mission has shifted over the years, today high schools generally have two identified goals: developing economically self-sufficient adults and cultivating an educated citizenry. Traditionally, in pursuing the former goal, high schools have prepared students for immediate entrance into the labor market (through vocational education) and for enrollment at a postsecondary institution. The increasing demand for skilled workers in today’s economy, however, is leading many educators to place greater emphasis on what students are learning and their preparation for college. As evidence Balfanz notes that less than 3 percent of high school students attend vocational or technical high schools and that the number of vocational credits earned by students has steadily declined over the past twenty years. Instead, high schools have made efforts to increase the number of students taking more rigorous—usually college-preparatory—courses and to impose stricter graduation requirements to increase accountability. It is not at all clear, however, that these reforms have brought with them a concomitant improvement in academic achievement. As a result, Balfanz argues that policy makers and educators must find a way to improve the quality of high school coursework, paying close attention to how it aligns with the requirements of college coursework and the workplace. High schools must also find ways to address the educational needs of students who arrive not yet ready for high school coursework, as well as to engage students for whom material is uninteresting and irrelevant.

How Do U.S. Students Compare with Their International Counterparts?
Many observers eagerly await the results of international assessments of students in the United States and other countries as a means of understanding the health of the U.S. educational system. Although such comparisons are intuitively quite appealing, Daniel Koretz, of Harvard University, explains that differences in educational systems and in the test instruments used to make the international assessments make it necessary to use such evidence cautiously. Most important, he argues persuasively that—to date—such data cannot be used to compare high school students across countries.

Koretz notes important differences between the two main international assessments: the Trends in International Mathematics and Science Study (TIMSS) and the Program for
International Student Assessment (PISA). The TIMSS tests fourth and eighth graders and attempts to follow the school curriculum closely, whereas the PISA tests fifteen-year-olds and measures their ability to apply their knowledge to “real-world” problems. Koretz also cautions that because the participating countries vary from one assessment to the next (both in terms of the data source and the year), the results also vary. One should thus consider the results from both sources and avoid comparing U.S. students with an “international average” (which will vary depending on the participating countries). Critically, neither assessment includes students at the end of secondary school. The TIMSS attempted to do so in 1995, but differences across the countries in terms of the structure of secondary schooling proved so daunting that the effort has not been repeated. As a result, one of Koretz’s main lessons to those eager to assess U.S. high schools using international data is that the data to back up such an analysis do not currently exist.

Transitioning to High School
The difficulty of high school for many students in the United States begins the day they first set foot through its doors in ninth grade. Ruth Curran Neild, of Johns Hopkins University, reports that nearly all incoming high school students experience some anxiety, though for some the transition is positive as it represents a time when they attain greater independence and can associate with a new set of peers. Such students adjust quickly and make steady progress toward high school graduation. For others, however, the transition is more perilous. These students receive failing grades in some or all of their classes, which means that before they finish their freshman year, they have fallen “off track” from graduating in four years. And these same “off track” freshmen ultimately account for a disproportionate share of high school dropouts. Indeed, nationally one-third of recent high school dropouts were never promoted beyond the ninth grade.

Neild considers four potential hypotheses to explain why the transition to high school is so difficult for so many students. The first, a developmental argument, is that this transition coincides with other life changes, such as declining parental supervision and support and increasing peer influence, both of which may lead to a drop in academic performance. The second hypothesis is that for 80 percent of students attending a public high school in the United States, ninth grade also represents a disrupting change to a new school (and often new peers). The third hypothesis is that students are inadequately prepared for a high school curriculum. And the final explanation is that the way the traditional high school is organized—with students attending multiple classes in a day and teachers identifying more with their subject-matter department than with a set of students—means that struggling students fall through the cracks because no one takes a personal interest in their academic difficulties. After reviewing the evidence, Neild concludes that inadequate preparation for high school and the organization of high schools are the main culprits for the difficult transition.

Finishing High School
One of the most obvious metrics by which to assess the health of America’s educational system as a whole—and high schools in particular—is the rate at which students graduate from secondary school. And yet, state-by-state differences in the definition of a high school graduate, along with other data issues, complicate efforts to estimate a single national high school graduation rate. Estimates from the Current Population Survey suggest...
that approximately 88 percent of adults aged eighteen to twenty-four hold a high school credential. By contrast, the estimate of the share of ninth graders that has graduated four years later, using administrative data from the Common Core of Data (CCD), is only about 75 percent. John Tyler, of Brown University, and Magnus Lofstrom, of the Public Policy Institute of California, examine the different estimates and various explanations as to why they differ. They find that whether or not people who complete a General Educational Development (GED) credential are counted as high school graduates goes a long way in reconciling the estimates. The primary reason not to count GED holders as high school graduates is that they have lower employment and earnings, and less subsequent educational attainment, than do those who earn a regular high school diploma. To the extent that these outcomes differ by type of credential, the authors argue that calculations of education attainment statistics should not consider the GED as equivalent to a regular high school diploma.

Overall, Tyler and Lofstrom conclude that a reasonable estimate of the national high school graduation rate (not including GED receipt) lies between 75 and 78 percent, although the rate is lower among black and Hispanic students. They also find that the high school graduation rate has not changed much in the past forty years. As such, U.S. high schools appear to be doing about as well as they were during the late 1960s in terms of graduating students, although the changing economy and the increased demand for skilled workers have dramatically increased both the personal and the social costs of not earning a high school diploma. The primary costs to individuals include lower earnings and poorer health, but society also pays a price in terms of lower tax revenue, higher spending on public assistance, and higher crime rates. The authors review research on programs to prevent students from dropping out and to increase the likelihood of graduation and conclude that the most successful are close mentoring and monitoring of students, case management of individual students, family outreach, and curricular reforms with a career orientation.

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**High School Structural Reform Models**

Concerns about the relatively high dropout rates and other indicators that America’s high schools are not living up to their potential have caused more and more decision makers to look closely at structural reform models. Such models include comprehensive school reform programs, dual enrollment and early college high school, small learning communities, specialty (such as “career”) academies, charter schools, and education management organizations. Steve Fleischman and Jessica Heppen, both of the American Institutes for Research, consider the theory of action behind each of these reform models and assess how well each achieves five separate goals: creating a personalized and orderly learning environment; assisting students who enter high school with poor academic skills;
improving instructional content and practice; preparing students for the world beyond high school; and stimulating change in overstressed high schools.

A careful review of the evidence leads the authors to see glimmers of hope for structural reform models, although the research base of studies with rigorous designs is unacceptably thin. Fleischman and Heppen emphasize the need for both researchers and educators to pay close attention to how such models are implemented—not least to the context in which they are implemented. They also stress the need for significant and sustained commitment to the reform by school and district staff and leaders.

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**Getting Tough**

A key element in efforts to turn around struggling U.S. high schools is the curriculum, the focus of the article by Valerie Lee, of the University of Michigan, and Douglas Ready, of Columbia University. Curricular controversies over the years have centered on three main questions. What should students learn? Should all students learn the same material? Who should decide what students learn? The answers to these questions, in turn, can be found in the answer to another question: what is the fundamental purpose of secondary education? Using these questions as a focal point, the authors survey the history of the high school curriculum. They emphasize three recent phases of curriculum research and reform.

During the first half of the twentieth century, U.S. secondary schools organized the curriculum into fairly rigid vocational, general, and academic tracks. During the 1960s, however, they began to allow students to choose their courses according to their future plans, interests, and abilities. In 1983, in a sharp critique of the U.S. educational system, *A Nation at Risk* charged that such latitude enabled students to avoid academically rigorous courses, and it urged a return to basics for all students. In response, according to Lee and Ready, policy makers engaged in a series of standards-based reforms. Phase I of recent curriculum reform was characterized by efforts to increase the number of core subject courses that were required for graduation. Students nevertheless continued to choose different kinds of courses to fulfill the graduation requirements—and the differences were highly correlated with students’ socioeconomic background. Lee and Ready summarize research from Phase II that attempted to show the effect of increasing the number of academically demanding courses high schools offered and eliminating remedial and other less-demanding alternatives. Based on (largely correlational) studies suggesting that students who take academic (college-preparatory) courses have better educational outcomes than others as well as on the increasing skill demands of the new economy, the nascent Phase III reforms require all students to follow a college-preparatory curriculum.

The authors conclude their article by examin-
Schools adopted a “College-Prep for All” curriculum that required students to complete a college-prep sequence in addition to taking particular courses in core subjects. The initial evidence on the impact of this reform on student outcomes has been disappointing. Policy makers would therefore do well to support more careful and rigorous research on efforts to require a college-preparatory curriculum for all before embracing it as the solution to poor academic performance among U.S. high school students.

High School Instruction
Tom Corcoran and Megan Silander, both of Columbia University, highlight the need to worry not only about what teachers teach, but also about how they teach. Improving the educational attainment of U.S. students, they say, requires increasing the effectiveness of instruction, which the authors define broadly as “the interactions among teachers, students, and content directed toward supporting students’ achievement of learning goals.”

Corcoran and Silander explore evidence on how high school organizational structure affects instruction as well as the effectiveness of different instructional strategies.

The current U.S. practice of organizing high school instruction by subject or discipline means that most teachers teach between one hundred and two hundred different students each week and interact with each student only during a particular school period. Further, outside of the classroom, teachers are typically organized into subject-matter departments, leaving them relatively isolated, unable to work together across subjects, and having little sustained contact with their students. Some evidence suggests that this compartmentalized structure is detrimental to good instruction and that reform models that reorganize high schools into smaller learning communities, form teacher teams, or promote interdisciplinary approaches may have the best chance of improving teaching and learning.

The authors also examine links between student achievement and different instructional strategies, such as interdisciplinary teaching, teaming or cooperative learning, project-based learning, adaptive instruction, inquiry, and dialogic teaching. Noting that many of these strategies overlap, they conclude that, broadly speaking, how a teacher teaches matters. Although the evidence is limited, they argue that effective approaches include well-designed grouping strategies and a classroom environment that encourages students to voice their ideas and questions and that presents them with challenging tasks.

Going forward, the authors argue that policy makers must pay as much attention to the instructional approaches adopted by teachers and schools as they traditionally do to the tasks of preparing, selecting, and retaining those teachers. They urge policy makers to consult the growing evidence on effective instructional practice that would likely raise not only student achievement but also teacher morale (which, in turn, may reduce teacher turnover). In addition, teachers and administrators will need to use more “adaptive” instructional approaches that respond continually to student progress and needs. In today’s standards-based policy environment, the authors argue, improving instruction is critical to achieving the dual goals of increasing academic rigor while also raising the achievement standards for all students.

Getting Ready for College
Content knowledge, basic skills, and core academic skills are not the only essential components of being “college ready.” Melissa Roderick, Jenny Nagaoka, and Vanessa Coca,
all of the University of Chicago, argue that non-cognitive skills and norms of performance and “college knowledge” also belong on that list. The essential non-cognitive skills include behaviors such as self-awareness, self-monitoring, and self-control, all of which in turn translate into good study skills and work habits that are critical to meeting the academic and social demands of college. Students must also have the college knowledge necessary to be able to effectively search for and apply to college as well as to understand the norms and culture of college.

Roderick, Nagaoka, and Coca consider several standards for college readiness, ranging from being able to secure enrollment at a minimally selective four-year institution to being able to enroll at a selective institution to being able to complete some or all of a four-year degree. Depending on which definition one chooses, one can then assess indicators of college readiness using different metrics. One indicator, for example, would be meeting the minimum coursework requirement for college admission. Another would be a specific level of performance on achievement exams (such as high school exit exams or college entrance exams) or a specific high school grade point average (GPA). The authors find that whatever the metric used to assess college readiness, wide racial and ethnic disparities exist. They also note that even among students who aspire to attend college, many do not know how to take the necessary steps to do so.

Noting the disappointing evidence regarding efforts to raise standards through curricular reform, Roderick, Nagaoka, and Coca argue for a different tack: creating data systems to track all students’ progress through school, including college. Holding high schools accountable for the outcomes of their graduates, they say, will generate the incentive needed for improvement. In addition to accountability, they support efforts to develop data systems to provide schools and districts with clear indicators for college readiness, clear standards for these indicators, and clear guidance about what students need to do to improve.

Expanding High School Options
In the final article in the volume, David Stern, of the University of California–Berkeley, focuses on two widely accepted goals of public education: producing an educated citizenry and helping students become economically self-sufficient. He concludes that the evidence suggests that high schools are failing at the first task. Students who complete high school but do not attend college are less likely to vote or volunteer, and results from the NAEP suggest that high school seniors have a poor understanding of democratic institutions, on average. The evidence is more promising, although far from conclusive, when it comes to the effectiveness of career-technical education (CTE, formerly known as “vocational education”) for generating economic independence. Overall, Stern concludes that high schools, as now structured, fall short of fulfilling their ideals. He argues therefore for continuing the trend of combining academic rigor with work-related relevance. He also advocates incorporating performance measures into funding formulas, encouraging more adults to serve as mentors to young people, and expanding educational options that take place outside of geographically fixed schools as promising reforms worth trying to address the underperformance of today’s high school model.

Where to Go from Here
The renewed focus on the challenges facing low-performing high schools presents policy
makers, practitioners, and researchers with two unique opportunities. First, recognizing the importance of innovative and systematic interventions to help high schools better prepare their students for college and work, districts, states, the federal government, and the private sector seem ready to increase investments in such interventions. Building on a platform of small schools and accountability, the contributors to this volume suggest that these investments must tackle the instructional core of high school as well as supplemental academic and social support services, guidance and postsecondary transition counseling, and teacher quality.

Second, contributors stress the need for the nation to develop a common understanding of what the minimum requirements should be for high school graduation. Although it is not necessary for every state to adopt exactly the same standards, it is essential to recognize the vast differences in existing standards. For example, while the Regent’s diploma is required for high school graduation in New York City, an acceptable performance on the GED can lead to a high school diploma in New Jersey. Is a high school diploma from New Jersey, therefore, equivalent to one from New York City? Developing nationally recognized minimum requirements that focus on the skills students need to succeed in today’s workforce would make it possible to answer this question confidently. Such a system of minimum requirements could also enable students who meet those requirements early in their high school careers to move on and develop higher-level skills that qualify them for more rigorous and relevant opportunities in postsecondary education and the workforce.

More broadly, the nation needs to conduct a dialogue on the goals of high school in the twenty-first century. Clearly, preparation for the workforce must continue to be foremost among these goals. The real question is whether a high school education should be considered sufficient for today’s young adults, or whether high school should be viewed as the new “middle school,” with K–14 or even Pre-K–16, rather than K–12, as the standard. While not dispositive, the evidence suggests that preparation for college and preparation for (immediate) work and career need not be mutually exclusive: some of the most exciting and innovative strategies for improving academic achievement—such as middle college high school and career academies—creatively blend academic rigor with “real-world” relevance. This combination of rigor and relevance is the goal of the Carl D. Perkins Career and Technical Education Improvement Act of 2006 (also known as Perkins IV) and is consistent with what many community colleges already attempt to do.

That said, it is essential to recognize that the skill demands of the workforce continue to evolve and that high schools (and postsecondary institutions) must remain nimble in their efforts to prepare students to meet those demands. Globalization, for example, is moving ever more U.S. jobs abroad. Although during the 1980s and early 1990s most of the jobs moved offshore did not require a college education, increasingly today they do. Economist Alan Blinder cautions that U.S. policy makers should try to anticipate which jobs will likely be moved offshore in the future and focus on preparing American young people for jobs that are best done here at home. Such jobs, he argues persuasively, are those that require personal delivery (such as driving a taxi or performing brain surgery) or that are seriously compromised when delivered electronically. The point is that skill and education will not likely continue to be
the distinguishing characteristics of jobs that are difficult to move offshore. This change, largely brought about by advances in technology, undoubtedly has implications for high school curriculum reform over the coming years.

In implementing these, and any other changes, it is essential to ask how to get the incentives right. If postsecondary education and work are key goals for high schools, it will be necessary to develop measurement and data systems to keep track of how well high schools are achieving these goals. Funding formulas can help here. As David Stern argues in his article, school districts now receive funding based on the number of students in attendance at a particular time during the academic year rather than on the performance of such students. Schools and districts thus have a greater incentive to simply “warehouse” students than to ensure that they are gaining valuable skills and knowledge. Of course, many dedicated administrators and teachers in all school districts in the country have devoted their careers to doing the best they can for students. Nonetheless, studies suggest that incentives matter. Reforming funding formulas to account for dropouts, “on-time” progression toward graduation, and the performance level of students would not only likely generate an increase in student achievement but also send the very strong message that we, as a society, value these outcomes.

Finally, although states and districts are to be applauded for embarking on renewed efforts to increase investments in high schools, those efforts will come to naught unless they are accompanied by a commensurate investment in building rigorous evidence about which reforms worked—and for whom and under what circumstances—and which did not work. Over the past century, U.S. education policy making has gone through periods of intense focus on high-profile problems, during which the nation has made large investments in creative approaches to addressing these problems. Too often, however, the investments on promising reforms were not complemented by investments in knowledge-building. As a result, promising initiatives were designed on well-intentioned (and even theory-driven) intuition and then dismissed on an equally well-intentioned (but unsystematic) catalog of anecdotes about successes, failures, and how hard it is to change things for the better. Education policy makers and researchers should seize the opportunity now to leave a legacy of rigorous research so that the nation will not find itself in a similar situation with the next generation of high school students.
Endnotes


3. Calculated from the *Current Population Survey Outgoing Rotation Group* files. The sample is limited to individuals between twenty-five and sixty-five years of age and those with wages greater than half of the minimum wage and less than the 99th percentile of the distribution. We thank Lisa Barrow for these calculations.


9. For example, the U.S. Department of Education Strategic Plan did not explicitly identify high school reform as an objective until the 2002–07 plan (SP02 07) [www.ed.gov/pubs/StratPn/index.html [SP 98-02] www.ed.gov/about/reports/strat/plan2002-07/index.html [SP02-07][October 26, 2008]).


11. See the *Future of Children* volume *Excellence in the Classroom* (spring 2007) for a collection of articles on issues regarding teachers.

