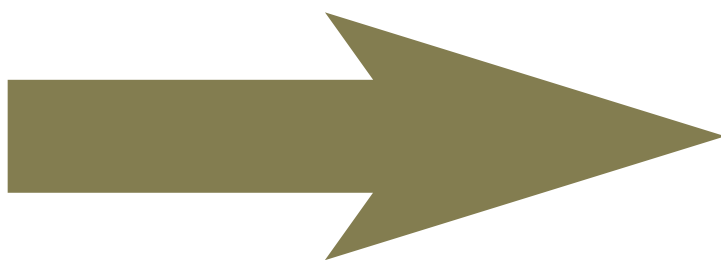


Yolanda K. Kodrzycki  
Assistant Vice President and Economist  
Cathy E. Minehan  
President and Chief Executive Officer  
Federal Reserve Bank of Boston

The authors gratefully acknowledge the contributions of  
Krista J. Becker, Mary C. Fitzgerald, and Kristin E. Lovejoy  
Research Department  
Federal Reserve Bank of Boston

small  
**steps**  
in the  
right  
direction?



## restructuring public education

When the term “knowledge-based economy” first entered popular discussion — sometime around the early 1980s — the focus was exclusively on scientific, technological, and business leadership. Only gradually did our society come to appreciate the pervasiveness of the knowledge-based economy. It affects not just the demand for high-level technical and entrepreneurial talent but, indeed, the job requirements for virtually all types of work. This growing realization has laid the foundation for broad-scale reforms of education in the United States and many other nations.



The restructuring of public education has been promising and exciting for some participants in this process. For others, it has been extremely frustrating. These varying, strong reactions probably are inevitable when our communities and families, and particularly our children, are directly involved. In this essay, we attempt to take a dispassionate look at education reforms. Why are they occurring? What is involved, and how do the current efforts differ from past attempts at education reform? Are the New England states at the leading edge or resistant to change? How does the focus of reform vary from state to state? What are likely to be the remaining challenges in educational restructuring?

## **A More Demanding Job Market**

Most people would agree that education is a major determinant of a person's economic opportunities. It is worth pausing, however, to consider how much more true this statement is today, compared with just a few decades ago, when the baby boom generation was entering the workforce.

Today, a high school diploma is a virtual requirement for steady, successful participation in the U.S. labor market. Occupational choices, a livable wage, and job stability are contingent on having at least this diploma. Further, as the U.S. economy depends less on manual labor and more on knowledge-based endeavors, high school dropouts have much narrower options than they had before.

The number of factory worker jobs has fallen one-fifth from what it was in the 1970s. Even after taking account of the growth in low-end jobs outside of manufacturing, the types of jobs most accessible to high school dropouts — service work, craft and repair positions, machine operator jobs, and laborer and farming occupations — have declined noticeably as a share of all jobs in the economy.

The declining demand for manual labor has led to significantly lower wages for dropouts. In 1970, the average weekly wages of a high school dropout working full time were 79 percent of a high school graduate's wages. By 2000, an employed dropout could expect to earn only 68 percent of the earnings of someone with a high school diploma (but without a four-year college degree) and considerably less in constant dollars than what a dropout was earning three decades earlier.

The growing gap cited above refers to high school graduates and dropouts who are working. More significantly, whether students graduate from high school increasingly determines whether they have jobs at all. In 1970, dropouts were 92 percent as likely to be participating in the labor force as high school diploma holders. By 2000, this figure had slipped to 77 percent. Likewise, unemployment is an increasingly greater reality for those without a high school degree. In 1970, 4.6 percent of high school dropouts in the labor force were unemployed, but by 2000, the number had risen to 7.6 percent. By contrast, the unemployment rate for high school graduates changed very little.

Increasingly, greater financial comfort and broader career options hinge on continuing education beyond high school. In the knowledge-based economy, those with a four-year college degree are dominating the most dynamic parts of the job market. Well over 80 percent of college graduates are employed in one of the three fastest-growing occupational groups: professional, managerial, and sales. College graduates represent the bulk of the workforce in the two highest-paying occupational groups, holding nearly three-quarters of professional and technical jobs and half of executive and managerial jobs. Having held sizable shares of these jobs three decades ago, high school graduates are finding themselves increasingly crowded out of career opportunities by college graduates.

The earnings for those without a college degree have declined in relation to the earnings of college graduates. In 1970, the average high school graduate working full-time earned 69 percent of a college

## Baby Boomers' Job Market in 1970

	High School Dropouts	High School Graduates <sup>a</sup>	College Graduates
Percent of the working-age population	39.1%	48.9%	12.0%
Average weekly wage in constant 2000 dollars	\$521	\$663	\$963
Unemployment rate	4.6%	2.9%	1.3%
Labor force participation rate	64.6%	70.0%	80.1%

## Today's Job Market 2000

	High School Dropouts	High School Graduates <sup>a</sup>	College Graduates
Percent of the working-age population	14.1%	59.3%	26.6%
Average weekly wage in constant 2000 dollars	\$452	\$661	\$1125
Unemployment rate	7.6%	3.4%	1.6%
Labor force participation rate	60.5%	78.9%	86.7%

<sup>a</sup> Includes persons with less than four years of college.

Source: Current Population Survey, U.S. Census Bureau.

graduate's average weekly pay; by 2000, this ratio had fallen to 59 percent, illustrating the growing premium associated with a college degree.

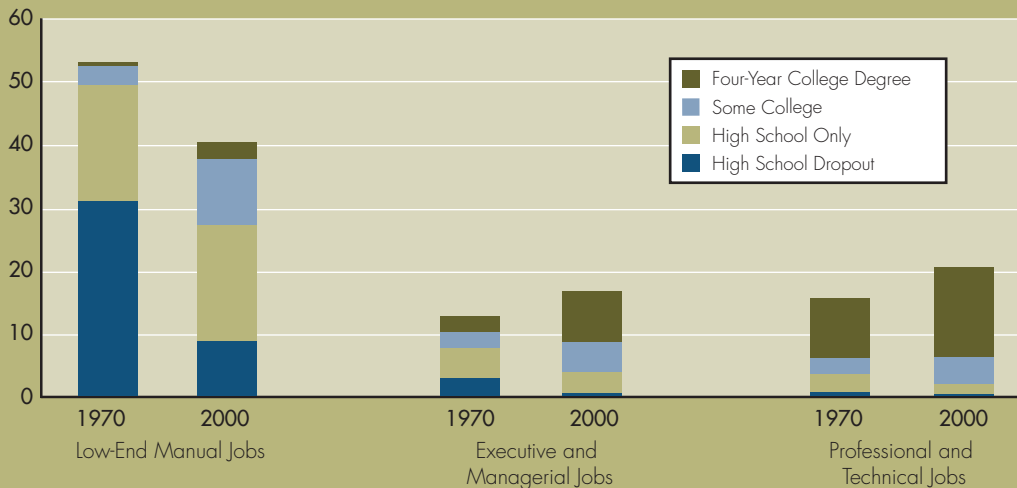
In an important 1996 book on educational requirements in the changing economy, Professors Richard Murnane and Frank Levy studied entry-level hiring practices at manufacturing and financial services companies.<sup>1</sup> They concluded that certain "new basic skills" are necessary to obtain a middle-class job. For example, employees must be able to read and perform mathematics at a ninth-grade level. However, according to the National Assessment of Educational Progress (NAEP) standardized tests — often called "the nation's report card" — close to one-half of U.S. high school students do not meet these criteria.<sup>2</sup>

Murnane and Levy also found that new hires need skills beyond basic reading and math. Employers expect them to be able to solve semi-structured problems by forming and testing hypotheses, to work in groups with persons of various backgrounds, to demonstrate effective verbal and written communication, and to use personal computers for tasks such as word processing. These requirements were not considered "basic" in a past when many jobs were highly routinized or made use of older technologies. But even though today's jobs depend on these new skills, many U.S. high schools have not developed techniques for ensuring that their graduates meet these job market requirements.

In summary, the restructuring of the U.S. economy and the shifting nature of job requirements have led to greater rewards for academic skills — and more severe penalties for a lack of these skills. In this sense, schools are being held to a different standard than they were a generation ago.

## Percent of Workers in Selected Job Groups and Education of Workers in Each Group

1970 versus 2000



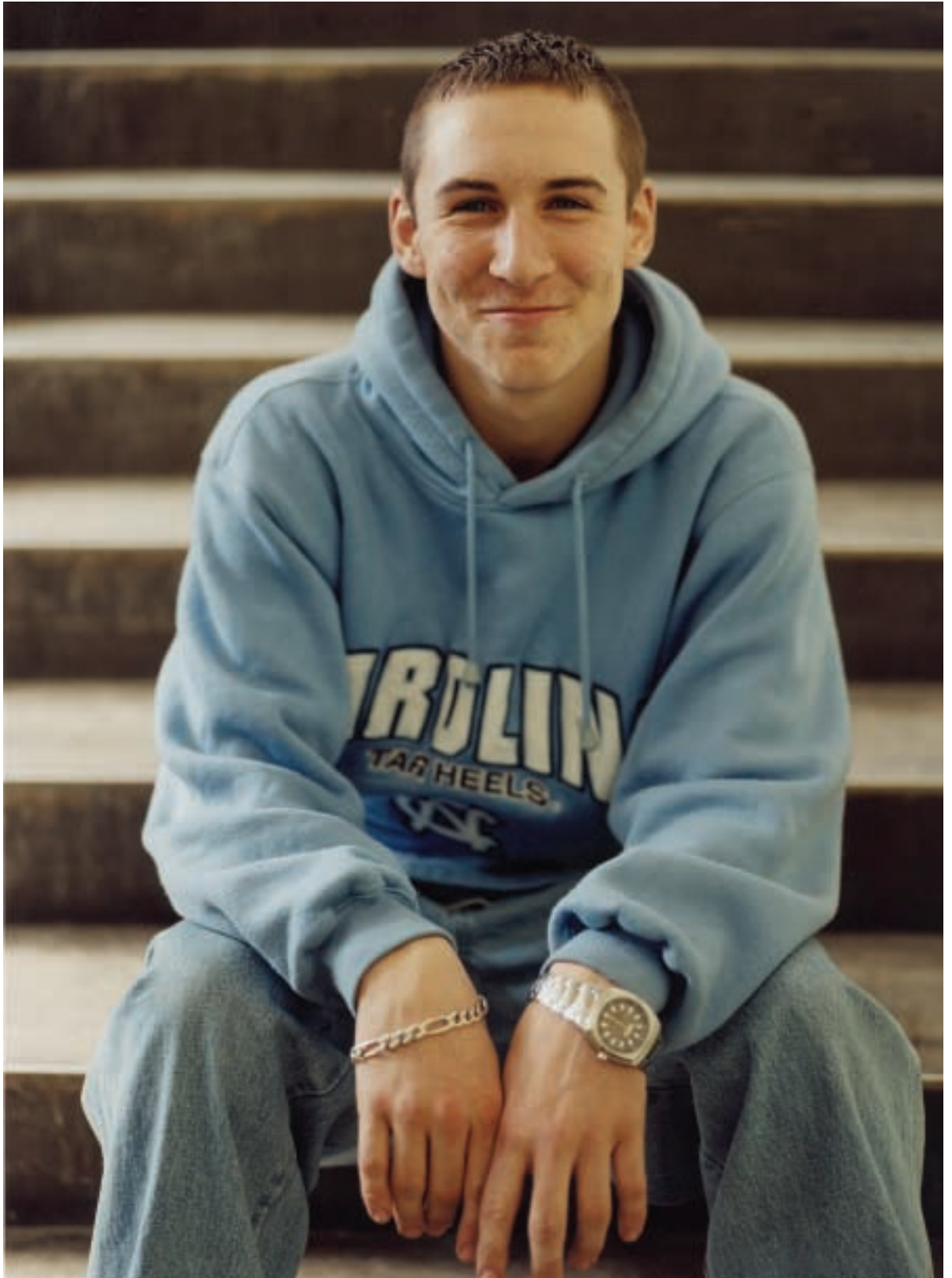
Source: Current Population Survey, U.S. Census Bureau.

### A Different Set of Students

At the same time that American employers are expecting more of their new hires, a convincing argument can be made that schools are being required to educate a more challenging student body. Nationwide, the school-age population is much less homogeneous than it was in the 1960s and 1970s, as students represent a more diverse mix of ethnic and racial backgrounds. Family structure also has changed, with more students now living in single-parent households. While these national trends have challenged all U.S. schools, urban schools stand out. Large cities have disproportionate shares of school-age children living below the poverty line, lacking English language skills, or residing in unstable households. Furthermore, cities have seen more dramatic increases in these types of students than is the case in rural or suburban communities.

Consider the basic statistics on poverty. One-fifth of American families with children living in urban areas have incomes below the poverty line, while the fraction outside urban areas is less than 12 percent, a gap that is more than twice as large as it was in 1970. Some of the extra needs of poor students are met by federal and state governments. For example, the National School Lunch Program and Medicaid cover far greater percentages of school children in the cities than in the suburbs. However, broad-based, means-tested programs do not directly address all of these children's needs. For example, one of the reasons for the high incidence of poverty in cities is that almost 40 percent of urban children live in single-parent households. This means that urban school systems are expected to provide more extensive after-school and summer programs to help fill the gap in student support systems, compared to other communities.

Cities have also seen dramatic growth in minority students. Nationwide, non-whites and Hispanics accounted for 23 percent of school-age children in 1976 and 36 percent in 2000. In urban areas, minority students make up the majority of the population, accounting for 64 percent of school-age children — up from 44 percent in the 1970s. As a consequence, city schools increasingly are serving students whose parents have had less access to high-quality education than is the case nationwide. Moreover, urban minority





students are less likely to have the community role models and peer influences that are conducive to academic and economic achievement.

Central cities also contain a disproportionate number of students who speak a language other than English at home. In 1995, 14 percent of all 5- to 14-year-old children spoke another language in the home, but in urban areas one-quarter of children in this cohort did. Of these children, only 56 percent were identified as being very fluent in English, while 17 percent could not speak English well. These language deficits make teaching more challenging, and they impose on urban schools the added costs of providing programs to serve large numbers of English language learners, from a wide variety of linguistic backgrounds. The concentration in urban schools of students with limited English proficiency also indicates a greater presence of families who have trouble “navigating” the U.S. educational system.

## New Responses

It would be unfair to accuse the nation’s policymakers of being asleep at the wheel when it comes to education. After all, as the U.S. economy has grown over the past three decades, the share of national income devoted to elementary and secondary education has grown proportionately. As a result, inflation-adjusted per-pupil expenditures have almost doubled, from about \$3,700 in the 1970–71 school year to \$7,100 in the 2000–01 school year. Today’s teachers have about twice the median years of teaching experience and are about twice as likely to have a master’s degree as teachers one generation earlier.

Yet standardized high school test scores in mathematics, reading, and science on average are only marginally higher than before. Moreover, whatever small progress has been made, it has not been sufficient to accommodate the demands of the knowledge-based economy. Nor has sufficient progress been made in closing gaps between the white population and minority groups, or between students from high- and low-income families.<sup>3</sup>

Faced with these realities, state governments throughout the nation have been restructuring their public education systems in recent years. Their initiatives focus on developing explicit expectations for educational achievement and on redistributing education funding and opportunities in ways they hope will prove to be both more equitable and more effective.

To date, the emphasis has been on K–12 education. Primary and secondary education affect the entire population, and it is at these levels — not higher education — that the United States seems to compare unfavorably with other nations. Improving K–12 education for disadvantaged students should help to ensure that more of them have the skills required to find steady, gainful employment. Improving K–12 education in general should also raise the proportion of the population that is prepared to handle college-level studies. In 1970, about one-half of 23-year-olds had enrolled in college for some period after high school graduation, and close to one-quarter had completed a bachelor’s degree. Currently, a much higher fraction of young adults (about two-thirds) attempt higher education, but for a variety of reasons, including inadequate pre-college preparation, the college graduation rate is barely higher than it was when the baby boom generation was coming of age.<sup>4</sup>

## The Standards and Accountability Movement

Education standards and accountability strike a chord with employers encountering recent high school graduates — notably those coming out of city schools — who do not satisfy today’s job requirements. These same students and their families are frustrated when the attainment of a high school diploma does not provide sufficient guarantee that graduates are equipped to handle the next step in their educational or work lives.

Moreover, given the costs that dropouts impose on other members of society when they are unable to find steady work, the public has an interest in creating incentives for more students to complete high school.

Standards-based reforms involve creating statewide benchmarks for what students should know at each grade level and holding schools and students accountable for meeting these standards. Despite the similarity in language used to describe these reforms across states, the nature of student assessments varies considerably. States differ widely in the difficulty and comprehensiveness of the material tested, the depth of the responses required from students, and the implications of the assessments for advancement and graduation.

Massachusetts and Vermont, for example, have taken two different approaches, but both of these New England states have been commended nationally for the quality of their assessments. The Massachusetts Comprehensive Assessment System (MCAS) consists of a variety of multiple-choice, short-answer, and open-ended questions designed to measure students' mastery of the Massachusetts curriculum frameworks developed in the mid 1990s. It requires students to read and write thoughtfully and to understand and apply basic and more advanced math.

Recent studies comparing state exams have found the MCAS to be one of the best assessments in the nation. Achieve, Inc., an organization founded by governors and business leaders at the 1996 National Education Summit to help raise standards and performance in America's schools, uses the MCAS English language arts frameworks as the benchmark by which it measures English standards in all other states. The Education Trust, a Washington-based organization that works for the high academic achievement of students, reports, "The Massachusetts state test, MCAS, shares the high end with the New York State Regents' examination." One of the standout features of MCAS is that questions from past tests are shared publicly, which results in a useful — albeit often contentious — statewide discourse about which skills are important to test.

Starting with this year's seniors, Massachusetts is requiring students to pass the 10th-grade-level English language arts and math MCAS exams to graduate from high school. About half the states around the country have plans to implement such high-stakes exams. Elsewhere in New England, Connecticut and Maine are phasing in exit exams that reflect a blend of state and local requirements for graduation.

Despite the growing adoption of high-stakes tests, they continue to be opposed by many teachers' unions and communities. Rather than use a high-stakes testing approach, Vermont administers several standardized tests to monitor student achievement but simultaneously strongly encourages all schools to require students to build and discuss portfolios consisting of their best pieces of work. The state's Portfolio Assessment measures how well students structure a problem and communicate the solution. It has been praised not only for its innovative way of assessing student skills, but also for encouraging better teaching. Vermont's state education department created committees of teachers to design the assessment system, and professional development continues to play a key role in changing teaching practices to best meet state standards.

Although the emphasis of education reforms to date has been on establishing educational requirements for students, more and more the focus is expected to shift toward a system of accountability for public school systems. Under the landmark federal No Child Left Behind Act, signed into law in January 2002, each individual school is expected to make gains in educational achievement according to state-specified criteria, with the ultimate goal of having all students meet or exceed proficiency standards by 2013–14. Among its many provisions, No Child Left Behind also requires states to ensure that both new and veteran instructors are qualified to teach the grade level and subject matter they are assigned. Beginning in the 2002–03 school year, if schools fail to make adequate yearly progress, parents will have the right to transfer their children to better-



performing schools or to receive federal education funds for supplemental education services, such as tutoring and summer programs.

No Child Left Behind mandates that the general proficiency standards must also apply to subsets of the school population that traditionally have underperformed. It explicitly mentions several subgroups — students who are economically disadvantaged, students from certain racial and ethnic groups, students with disabilities, and students with limited English proficiency — thereby raising the attention devoted to these categories of students and creating the very real possibility that otherwise highly rated schools might be considered deficient if all subgroups do not perform adequately.

As standardized testing becomes the primary vehicle for assessing schools around the nation and, perhaps more importantly, for determining the allocation of resources and pupils among schools, it becomes crucial to have accurate measures of how well schools are performing. For example, low test scores could indicate that a school is doing a poor job in teaching children the skills that are being examined. Alternatively, they could indicate that the school is serving a challenging set of students.

To date, our capability of distinguishing between these explanations is limited because relatively few states have developed procedures to track the “value added” by schools. According to a survey conducted in 2001 by the CREDO institute at Stanford University, only Massachusetts, New Mexico, North Carolina, and Tennessee were examining progress made by individual students or cohorts of students, thereby mitigating the problem of interpreting scores without adjusting for the mix of students. However, even in such cases where movements in scores from year to year theoretically measure the contribution of schools, they inevitably show considerably more variability than can be explained by changes in teachers, teaching methods, or curriculum, making them somewhat imprecise indicators of actual accomplishment.<sup>5</sup> The issues surrounding measurement of school performance are likely to come to the forefront as federal accountability policies are phased in.

## Thinking Outside the Local School Box

Public school choice is a surprisingly old concept in the United States. At times, it has been viewed as a progressive aspect of our educational system, but at other times just the opposite.<sup>6</sup> Starting around the 1980s, education administrators renewed their interest in school choice as a means of counteracting the existing patterns of residential segregation by economic status and race. They also began to view school choice as a means of attracting motivated families to schools that the families supported, thereby improving educational outcomes for their children. In recent years, choice among public schools has expanded, and new alternatives to conventional public schools have begun to emerge.

As of 1999–2000, 25 percent of school districts nationwide allowed students to choose from among schools within their district, and 42 percent allowed them to enroll in a school in another district. These provisions do not necessarily guarantee that other schools will provide slots for students wishing to change schools, or that students will receive adequate information or transportation to enable them to take advantage of existing options. Despite these limitations, of all public school students in 1999, 6.8 million (15 percent) were attending a school they chose as opposed to being assigned on the basis of residential location. Close to 500,000 were traveling to a school outside their home district. By observing how families “vote with their feet,” school system administrators obtain useful information about families’ perceptions of school quality. These insights potentially can form the impetus for introducing changes in unpopular schools.

Beyond allowing school assignments to reflect family preferences, public funding has started to support





## **Business Involvement in the Schools**

Businesses can thrive or suffer based on the health of the communities they operate in and, most especially, the quality of their communities' K–12 educational systems. Nowhere was this more evident than in the wake of the racially charged school busing crisis in Boston during the early to mid 1970s. The chaos in the streets, as well as the very divisive political discourse, prompted business leaders to form an agreement known as the Boston Compact. Signers of the Compact included the mayor, the school superintendent, private sector leaders, higher education providers, and the teachers' union. The underlying premise was that if students receive a better education, they will have access to jobs and to education beyond high school.

For over 20 years, through its administrative arm, the Boston Private Industry Council, the Compact has implemented private/public partnerships to improve educational opportunities for Boston schools and to connect students with job opportunities. The Council has been active in school-to-career efforts and directs a summer jobs program that has contributed to the virtual end of summer street violence in the city.

During this time, it also became clear that fundamental educational reform was needed to meet the challenges of changing job requirements. A group of involved business activists called the Massachusetts Business Alliance for Education (MBAE) issued a 1991 report entitled "Every Child A Winner!" Concluding that "[t]he public education system is failing to provide its students with the knowledge and skills necessary for them to be productive, informed citizens in coming decades," the study contained legislative proposals for overhauling public primary and secondary education in Massachusetts. Many of the proposals were incorporated into the state Education Reform Act of 1993.

The MBAE report also contained recommendations for added private sector involvement in the schools. It urged businesses to make philanthropic grants to government-administered educational programs, to provide funding for communications instruments aimed at improving parental knowledge of and support for school activities, and to sponsor demonstration projects that could test experimental approaches to applied learning.

Business partnerships with schools and educational administrative bodies have mushroomed since the early 1990s, and not only in Massachusetts. A 1990 nationwide survey found that parent organizations provided the most common form of partnership with schools. A similar survey conducted in 2000 found that partnerships with small corporations had become as prevalent as partnerships with parent organizations, and that the involvement of medium and large corporations had grown considerably.

Businesses have become much more active in core education functions rather than simply engaging in peripheral activities such as providing students with equipment or mentors. In one well-known example, former IBM chairman and CEO Louis Gerstner Jr. launched a multi-million-dollar grant initiative in the early 1990s to fund innovation in the public schools. Together with other leaders from business, education, and government, Gerstner recently has initiated a national project to explore ways to improve teacher quality.





quasi-public and private schools. The most common form is charter schools, which are governed by a group or organization under a contract (a “charter”) with either a state agency or a local school board. The charter provides public funding for the school for a specified period of time, typically three to five years, and exempts the school from selected state or local rules and regulations that other public schools must follow. In exchange for this flexibility, the school is held accountable to its achievement goals, and is subject to the revocation of the charter upon review.

The first charter school opened in Minnesota one decade ago, and in 1995, almost three-quarters of the nation’s 250 charter schools were located in just three states — Arizona, California, and Michigan. Today, the National Charter School Directory lists 2,695 schools, enrolling a total of about 684,000 students. These charter schools operate in 37 states and are quite geographically dispersed.

Somewhat akin to charter schools, pilot schools have more flexibility than conventional public schools but are staffed from the same pool of teachers. For example, teachers at Boston pilot schools are members of the local teachers’ union, but such schools are not obligated to follow union seniority rules in making assignments.

While charter and pilot schools remain under public control (and therefore their students are subject to meeting whatever educational standards the state imposes), public funds also are supporting private sector alternatives, albeit on a much smaller scale. The best-known mechanism is vouchers, by which the government provides tuition money for students to spend at the school of their choice. Only three publicly funded voucher programs currently operate in the United States — serving approximately 25,000 students from Milwaukee, Cleveland, and Florida.<sup>7</sup> Initiated in 1990–91, the Milwaukee program is the oldest and is limited to students from families with incomes no greater than 175 percent of the federal poverty level. The newest program, in Florida, targets students who are disabled or who attend schools that are rated as failing twice in four years. In a pivotal decision issued in June 2002, the U.S. Supreme Court confirmed the constitutionality of Cleveland’s decision to allow vouchers to be applied to private schools with a religious affiliation.

In addition to these voucher programs, six states (Minnesota, Illinois, Iowa, Arizona, Florida, and Pennsylvania) offer tax credits for private K–12 school tuition or for contributions to scholarship funds. Florida’s corporate income tax credit program alone supports 15,000 scholarship students, with a priority given to children from low-income families.

Choice is less popular in New England than elsewhere in the country. Among the New England states, only Massachusetts is above the national average in the percentage of school districts that allow students to enroll in a public school in another district at no cost. Only Connecticut, Massachusetts, and Rhode Island currently have any publicly funded charter schools in operation. None of the New England states provide for vouchers, although sparsely populated Maine and Vermont offer public money to students who have no school in their districts to enable attendance at an alternate public or non-religious private school.

Choice programs involving charter and private schools are controversial because they divert students and funding away from conventional public schools. Critics are concerned that the most promising students may decide to take advantage of alternatives, leaving the pre-existing public schools with a core of underperforming and unmotivated students. If funding formulas do not adjust properly for student composition, public school systems and the most needy students can be left at a disadvantage. On the other hand, proponents of charters contend that they offer innovative programs. They cite the difficulties of establishing alternative schools: Public funding formulas typically provide operating monies, but no upfront support for capital costs.

## Channeling Funding to Poorer Areas

States are continuing to grapple with how to redistribute funds to school districts, such as those serving poor cities, that have a low ability to finance schools on their own. These efforts date back to the 1970s U.S. Supreme Court case of *Rodriguez v. San Antonio Independent School District*. The plaintiffs documented that poor school districts could fall far short of matching the school funding provided by nearby wealthy school districts, even if they were willing to levy relatively high property tax rates. However, in its 1973 ruling, the Court held that education is not a fundamental right guaranteed by the U.S. Constitution. This had the effect of leaving school funding decisions to individual states.

Indeed, every state constitution mentions education as a state responsibility, some mandating the provision of “a basic education,” “a thorough education,” or “an adequate education” for their residents, or, in the case of Massachusetts, requiring the state to “cherish the public schools.” Debate over the distribution of school funding has heightened in recent years, as residential segregation between rich and poor has grown and as numerous legal challenges to existing formulas have been mounted.<sup>8</sup>

Nationally, about one-half of K–12 education funding comes from state rather than local governments, although ratios differ considerably from state to state. All states in the nation provide general funding of local education according to a pre-specified formula.<sup>9</sup> One common approach is for the state to specify a “foundation” amount, equal to the minimum required level of spending per student. State aid is set equal to the difference between the foundation amount and the property taxes the jurisdiction could raise were it to apply a state-specified benchmark property tax rate to its actual tax base. In another approach, the state specifies a “guaranteed tax base,” which is a hypothetical property value for each community. Localities receive state aid to the extent their actual property tax revenues fall short of what they would collect assuming they had the state-specified hypothetical property tax base. In some cases, state formulas take into account not only differences in property wealth across communities, but also differences in the costs of providing education, which to a large degree reflect differences in the relative difficulty of educating the student populations in different communities.

Whichever approach is taken to setting state aid, the overall extent of redistribution toward property-poor districts depends on the specifics of the program. For example, if the foundation amount or guaranteed tax base is high — or if these parameters are adjusted for individual communities to reflect the extra costs associated with educating students with special learning or transportation needs or a poor home environment — state aid plays a large role in supplementing local resources in property-poor localities. In Massachusetts, state Chapter 70 aid covers more than 90 percent of the local education budgets in cities such as Springfield, New Bedford, and Lawrence.

The treatment of property-rich localities also matters in determining the extent of redistribution and has been a bone of contention in Vermont and New Hampshire. In Vermont, all spending in excess of the foundation level is drawn from a statewide pool funded by property tax revenues generated by localities that impose a property tax rate in excess of the statewide benchmark rate. Thus, a locality that prefers to spend heavily on education — and has the means to do so — keeps only a fraction of the extra revenues it raises from its residents. As a result of the 1997 *Claremont* decision, New Hampshire levies a uniform statewide property tax to fund its obligation to provide an “adequate education.” Some of the revenues collected from the wealthiest, “donor” towns go toward supplementing the school budgets of the remaining communities, in effect resulting in negative state aid for property-rich localities. Vermont and New Hampshire policymakers are continuing to consider ways to change these state school funding mechanisms.



## Synergistic Approaches to Education Reform

Redistribution of educational funding has been motivated by the compelling logic that schools cannot be effective without adequate funding, and that poor school districts cannot provide adequate funding on their own. Yet, studies of court-mandated state finance reforms are not encouraging on the degree of success achieved to date. For example, a review presented at the Federal Reserve Bank of Boston 2002 annual economic conference indicated that “the types of finance reforms that have been implemented in response to court orders appear to have little, if any, impact on the distribution of student test performance.”<sup>10</sup>

The growing realization that “money isn’t everything” has provided the impetus for deeper restructuring of public schools. It explains why standards-based reforms and new forms of choice have entered the picture. Under standards-based reforms, states highlight learning objectives, with the intent of inducing schools and school districts to redistribute their available resources in favor of meeting certain performance goals. By fostering school choice, states implicitly provide examples of teaching techniques and resource allocation that are effective, thereby creating pressures for changes in underperforming public schools. While each type of reform is controversial individually, a consensus appears to be developing that effective education reform must be premised on a combination of approaches.

Take school choice, for example. Critics argue that as students opt out of poor-quality schools, such schools are left with an ever more challenging population. The ensuing deterioration in the pupil peer group may induce even more families to leave, resulting in some schools serving “the bottom of the barrel.” However, standards-based reforms create a uniform baseline of requirements for all schools, helping to offset the student-sorting implications and the variations in school curriculum caused by choice. Moreover, properly constructed state funding formulas can ensure that the students who remain in such schools have the resources they need.

Conversely, the standards-based approach has weaknesses that choice can help to offset. Critics of standards charge that classroom efforts will be concentrated on the subjects being tested, to the detriment of other important aspects of education. Moreover, some innovative forms of instruction could be stifled, as teachers concentrate on preparing students for the types of questions covered by standardized tests. School choice allows parents to cast a vote in favor of schools that reflect broader educational goals, thereby mitigating some of the incentives schools have to bend their practices toward simply maximizing test scores.

## Ongoing Obstacles and Strategies that Work

Will the current wave of education reforms improve learning and result in a higher number of graduates with the basic skills needed for today’s knowledge-based economy? Reform advocates throughout the country are pointing to initial signs of success, and statistical studies tying higher standards to rising test scores are beginning to emerge. But a newsletter issued by the Fordham Foundation cautions that even the “poster states” for education have yet to turn any big corners. And only after more years have passed can we expect to see tangible evidence of improvements in workforce quality. We can at least be hopeful that, with so many states hard at work on reforms, successful models will emerge.

Major challenges lie ahead. Complying with the No Child Left Behind Act is arguably the biggest hurdle. All states have filed implementation plans with the U.S. Department of Education, but many details remain to be determined. Even if contentious questions concerning the mix of state and federal funding can be resolved, coordinating state and federal requirements inevitably will lead to tensions. On the one hand, the purpose of introducing standards-based reforms is to assure that all high school graduates have the skills necessary to



## The Role of Geography and Demographics

Because states differ in the size, composition, and geographic dispersion of their populations, the kinds of educational challenges that emerge take on different shapes in each state. For example, within the six-state New England region, Connecticut has a large population that is economically and racially diverse and is located in relatively dense tracts of development. In contrast, Vermont's population is comparatively small, homogeneous, and sparsely dispersed across the state.

Education reform in Vermont has involved an aggressively progressive redistribution of school funding. In *Brigham v. State of Vermont* (1997) the state Supreme Court found it unfair that communities suffered substantially higher tax burdens for lower-quality schools — in some years the state's contribution to education funding was as low as 20 percent, and amounts raised through local property taxes ranged from zero to 8.2 percent of residents' income. The ensuing legislation, Act 60, focused on alleviating the tax burden of property-poor communities, enabling higher levels of funding with lower tax rates for many districts. In FY1999, the state provided 84 percent of education funding in Vermont. With redistributive funding, new accountability efforts, and no school choice or charter school legislation, education reform in Vermont is focused on equalizing the system's disparate parts.

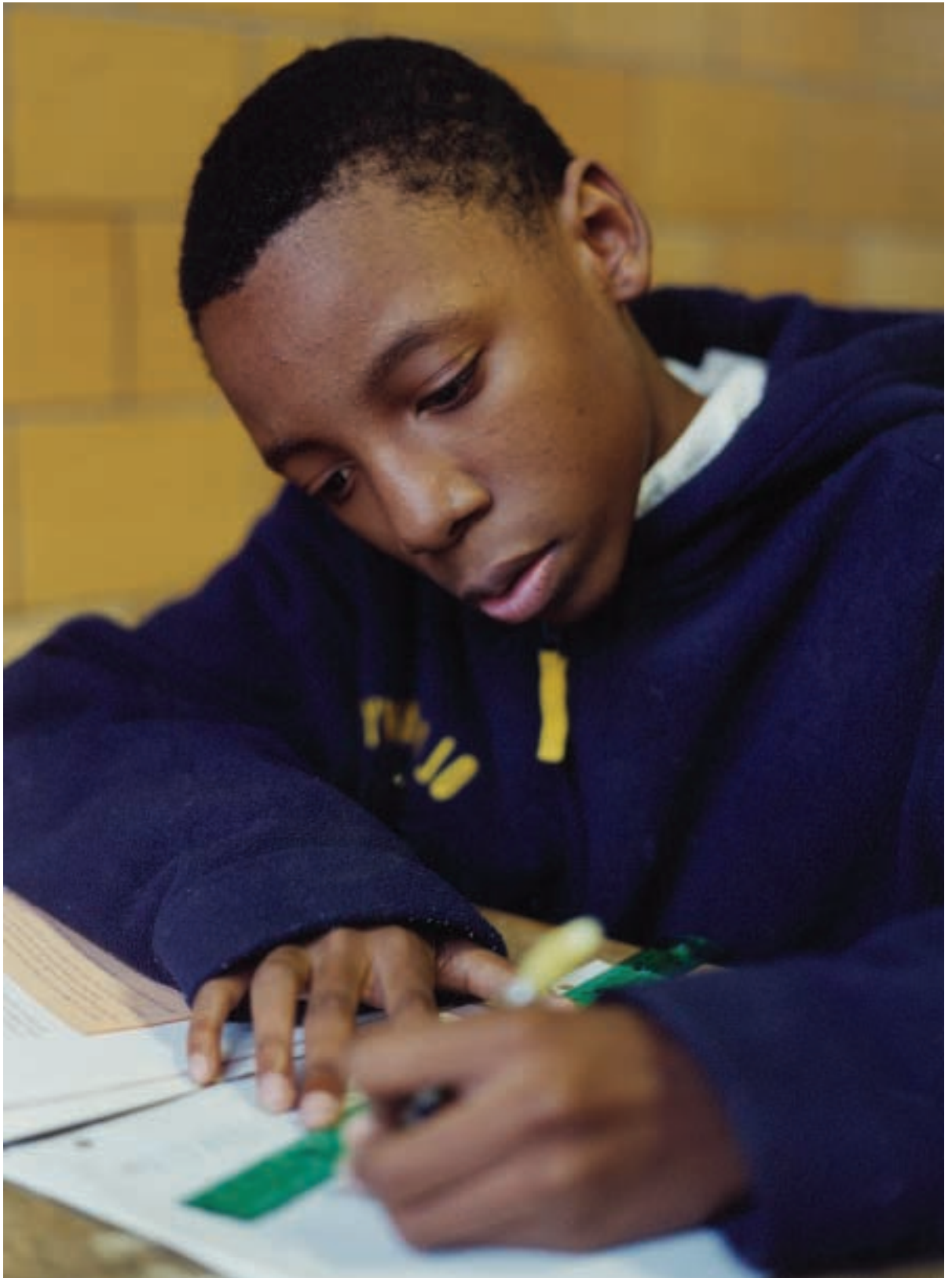
	Connecticut		Vermont	
	Value	Rank	Value	Rank
Total population	3,405,565	29	608,827	49
White share of population	81.6%	26	96.8%	2
Per capita income	\$28,766	1	\$20,625	26
Per capita income in largest city	\$16,306	—	\$19,011	—
Population per acre	1,066	4 <sup>a</sup>	99	30 <sup>a</sup>
Developed acres per total acres	27.4%	3 <sup>a</sup>	5.2%	27 <sup>a</sup>

<sup>a</sup>Alaska and District of Columbia excluded.

Source: U.S.Census Bureau, USDA Natural Resources Conservation Service.

In contrast, in Connecticut, a more densely and contiguously populated state, decision-makers have viewed the problem more as one of where to draw the district lines. Since poorly funded urban schools existed quite near better-funded, higher-quality suburban schools, Connecticut's landmark *Sheff v. O'Neill* case (1996) focused on the problem of racial and economic segregation in Hartford schools that was the result of arbitrary district lines. Students in Hartford, which is 79 percent black or Hispanic and has a per capita income of just \$13,428, were isolated from students in neighboring West Hartford, which is 11 percent black or Hispanic and has a per capita income of \$33,468. While increased state aid to less-wealthy districts has been an element of Connecticut's reforms since 1996, more emphasis has been placed on desegregation and increased variety in the types of public schools available, rather than on inequitable tax burdens. Today, about 10 percent of Hartford students take advantage of special programs designed to facilitate student mixing — interdistrict magnet schools, the Open Choice option that allows cross-district matriculation, and cooperative extracurricular programming. A January 2003 *Sheff* settlement aims to push this percentage up to 30 percent, with the creation of eight new interdistrict magnet schools and increased funding for choice programs. In a marked contrast to Vermont's equalizing reform paradigm, Connecticut has chosen an increased-choices reform paradigm.







participate in the twenty-first century workforce or to advance beyond high school. This motivation argues for setting high standards. On the other hand, states inevitably will feel pressure to have their public schools perform well according to the federal government criteria — a pressure that may tempt some to lower the bar.

Providing extra help for students who have difficulty meeting the new educational requirements will be a challenge. Without the benefit of effective support networks in schools, higher standards could actually serve to increase high school dropout rates, resulting in less-well-educated students — the exact opposite of the intended effect. In Massachusetts, the threat of high rates of failure on the MCAS — and the potential for large numbers of students to be denied diplomas — has mobilized entire communities. The state has provided retest opportunities and funding for enhanced after-school and summer remedial programs.

In Boston, under the leadership of the Private Industry Council (PIC), the private sector has begun providing students in its summer-jobs program with 90 minutes of language-arts and mathematics instruction daily. In the past several summers, this intervention has raised the English language proficiency of participating students by about two grades over the course of the summer. For the class of 2003 — the first high-stakes graduating class — PIC operated summer and fall programs focused on getting students who had failed the MCAS repeatedly up and over the MCAS bar. About 70 percent of the students participating in these programs passed one or both parts of the MCAS for the first time.

The successful partnership between PIC and the Boston public schools will continue, but other strategies also need to be explored, and efforts to improve student performance need to be expanded to reach more locations. An independent nonprofit organization called Mass Insight Education — supported by outside education specialists, academics, and representatives of the Federal Reserve Bank of Boston — has launched a research project at the state's three largest school systems evaluating remediation strategies for high school students who are at risk of not passing the MCAS. By investigating the experiences of successive high school classes in Boston, Springfield, and Worcester, the study seeks to uncover which school, community, and peer efforts form the most valuable interventions and deserve more attention in the future.<sup>11</sup>

Unfortunately, these education challenges are taking place against a backdrop of fiscal stresses at the state and local levels. Many states face serious budget deficits in the current and following fiscal years. How to provide adequate funding for reforms during the ongoing budget crisis and how to ensure an enduring structure for the long term are likely to be major concerns for the foreseeable future.

Some budgetary cutbacks that seem peripheral at first glance may actually interfere with core education reform strategies. For example, some school districts are reducing offerings of special subjects such as music, art, and physical education. In addition to the broad education these classes provide to students, they allow time for teachers of subjects such as math and English to meet regularly during the school day to plan instruction and examine student progress.

Over the longer term, ongoing education reforms may increase funding requirements at the college and university level. If more students are prepared for college as a result of restructuring in elementary and secondary schools, how will the states assure an expanded and steady stream of support for higher education? In the throes of the current fiscal crisis, states generally have targeted public higher education for less funding, not more.

Even as education reforms solidify in many K–12 school systems, there is growing recognition that policy changes need to be more fully reflected in classroom practices. A recent book by University of Michigan researchers David K. Cohen and Heather C. Hill is illustrative.<sup>12</sup> Cohen and Hill studied California's decade-long effort to improve mathematics learning. They concluded that students achieved higher scores on state math tests

only when teachers had substantial opportunities to learn the practices proposed by the revised curriculum guidelines. In addition to improving their understanding of new standards and how to implement them, teachers need to receive meaningful feedback from testing programs. They must be able to obtain student test scores in a timely manner and have access to professional development opportunities and resources to help students improve.

Producing well-educated adults is a complex undertaking. Schools matter, but so do families and neighborhoods. Education reforms need to be coordinated with broader economic development programs. Particularly in the case of poor cities, even greater public funding for preschool, after-school, and summer programs may be necessary to supplement efforts being made within the existing K–12 system during the regular school schedule. More generally, many students and residents are doubtful about the value of their local schools. Turning around this mind-set is a huge task that must be addressed. It will require the involvement of people and institutions outside the educational establishment.

\* \* \*

In New England and throughout the nation, states and localities have been implementing education reforms for some time now. They are deep in the throes of seeking to educate a student body that is less uniformly “education-ready” than 30 years ago and to educate these students to a higher standard than before. States and localities face many obstacles that make this a daunting task, but their commitment to success is impressive, and they have made progress. We applaud the education efforts taking place in New England and elsewhere, and we look forward to reaping the economic and social benefits that accrue with a better-educated citizenry.

---

## Endnotes

<sup>1</sup> Murnane, Richard J. and Frank Levy. 1996. *Teaching the New Basic Skills: Principles for Educating Children to Thrive in a Changing Economy*. New York: Martin Kessler Books, The Free Press.

<sup>2</sup> NAEP is a congressionally mandated project of the National Center for Education Statistics, a division of the U.S. Department of Education. The assessments have been conducted regularly since 1969 and represent the only nationally representative, continuing evaluation of U.S. students’ knowledge in various subject areas. Nearly 100,000 students in 2,000 schools are tested in each administration of NAEP. A board appointed by the U.S. Secretary of Education is responsible for selecting the subject areas to be assessed; for setting appropriate student performance levels; for developing assessment objectives and test specifications through a national consensus approach; and for other aspects of designing and evaluating the tests and disseminating the results.

<sup>3</sup> For statistics on the gaps between groups, see the paper by Yolanda K. Kodrzycki in the Federal Reserve Bank of Boston conference volume, *Education in the 21st Century: Meeting the Challenges of a Changing World*, edited by Yolanda K. Kodrzycki (2002).

<sup>4</sup> These statistics on college enrollment and completion rates are drawn from Sarah E. Turner, “Going to College and Finishing College: Explaining Different Educational Outcomes,” in *College Choices: The Economics of Which College, When College, and How to Pay For It*, edited by Caroline M. Hoxby, forthcoming from the University of Chicago Press.

<sup>5</sup> For more discussion, see the paper by Eric A. Hanushek and Margaret E. Raymond, and the commentary by Thomas Kane, in the Federal Reserve Bank of Boston conference volume on education (2002).

<sup>6</sup> Choice became particularly controversial when educators began confronting segregation in the 1950s through the 1970s. The 1954 Supreme Court case of *Brown v. Board of Education* disallowed school assignment by race, but did little to affect voluntary segregation, which was already widespread. The 1968 *Green v. County Board of New Kent County* case went further and required mixing, which in many districts meant decreased choice, forcing students to attend racially mixed schools to which they were assigned.

<sup>7</sup> Some private foundations also have provided vouchers for students of particular schools or school systems.

<sup>8</sup> As a further source of information, see the series of articles concerning state education funding controversies that appeared in the Federal Reserve Bank of Boston publication *New England Fiscal Facts* between 1999 and 2002.

<sup>9</sup> In most states with general school aid, funds are also earmarked for specific purposes mandated by state governments, such as bilingual, vocational, early childhood, and special education programs; food programs; student transportation; capital outlays; technology investments; and teachers’ retirement and other benefits.

<sup>10</sup> See the paper by Thomas A. Downes in the Federal Reserve Bank of Boston conference volume on education (2002).

<sup>11</sup> With about 63,000 students, Boston is by far the largest school district in New England. Springfield, Worcester, and Providence, RI, each have about 26,000 to 27,000 public school students. Three school districts in Connecticut—Bridgeport, Hartford, and New Haven — each have on the order of 20,000 students enrolled.

<sup>12</sup> See *Learning Policy: When State Education Reform Works*, New Haven: Yale University Press, 2002.