School Finance: Fifty Years of Expansion

James W. Guthrie

James W. Guthrie, Ph.D., is professor of public policy and education human resources, and director of the Peabody Center for Education Policy at Peabody College, Vanderbilt University.

Abstract

Since 1949–50, per-pupil expenditures in public elementary and secondary schools have more than quadrupled, even after adjusting for inflation. This article discusses some of the reasons. A significant share of the increase is the result of an 86% inflation-adjusted increase in teachers' salaries between 1949–50 and 1971–72, although teachers' salaries have changed little in the following 25 years. The ratio of students to school employees has dropped by half since 1949–50 as a result of declining class sizes and the hiring of more nonteaching school employees, which significantly affects costs. Even maintaining class size at a constant level will cause school budgets to grow at a rate greater than that of inflation because schools must compete in a labor market against other employers who are able to produce more with fewer employees.

A substantial part of the increase in per-pupil spending is a result of expansions in services provided by the schools. More expensive, specialized classes for high school students, compensatory education for students from disadvantaged backgrounds, special education and related services for students with disabilities, and desegregation efforts all contribute to higher costs. Efforts to improve funding equity have led to increased expenditures: rather than take funding from wealthier districts, most states prefer to raise the funding available to schools at the bottom and the middle of the scale, increasing total spending. Finally, a share of the total increase must be attributed to the workings of the political system governing schools.

Public elementary and secondary schools account for almost one-third of all state government expenditures, almost half of all local government expenditures, plus 2% of all money spent by the federal government. As a result of projected population growth, these proportions likely will increase. In addition, the per-pupil expenditure rate has risen continuously for most of the past 50 years. These sustained trends and the awesome magnitude of the total education enterprise highlight the need to understand the finances of public schools.

This article begins by discussing the impact of changes in enrollment, both past and projected. Next, the article summarizes current education spending at the state, federal, and local levels. Then, the bulk of the article discusses the steady increase in school spending over the past half century and some identifiable reasons for that increase, including more students

served; more highly trained, experienced, and better-paid school staffs; more services provided; the inability of schools to increase productivity in the manner of industry (by lowering labor costs); and the impact of lawsuits seeking equitable school funding. However, in addition to understandable increases, there is a share of the continually rising education budget which is not easily explained, and this article discusses the debate over the impact of the political process.

The Impact of Enrollment

Figure 1 illustrates school enrollment trends and projections from 1949–50 through 2004–05. Although the remainder of this article will focus exclusively on public schools, Figure 1 includes enrollment in private schools to illustrate an important point: Despite major fluctuations in the number of students nationally, enrollment at private schools has been extremely stable. Clearly, public schools bear the brunt of increasing (or decreasing) enrollment.

The impact of the post–World War II baby boom is well documented, reaching a peak of 46 million students enrolled in public K–12 schools in the fall of 1971. Enrollment then declined for 15 years, to a low of 39.2 million in 1984. Since 1984, public school enrollment has climbed steadily. It is expected to exceed the previous record of 46 million students in the fall of 1997, and to climb for at least 10 more years, to an estimated 48.5 million public school students in 2006.[1]

Enrollment growth will not be evenly distributed. Between 1994 and 2006, California and Washington are expected to experience enrollment increases of more than 20%, and another seven states (Alabama, Alaska, Hawaii, Maryland, Nevada, Oregon, and Virginia) expect increases of 15% to 19%. At the other extreme, the District of Columbia is expected to see an 11% decrease in enrollment, and four states (Iowa, Maine, North Dakota, and West Virginia) expect decreases of 3% to 8%.[2]

Many districts face pressures to build new schools. Among the most extreme are Gwinnett County, Georgia, and Clark County, Nevada, where construction is expected to average two or three new classrooms per week.[3] In addition to new buildings, the General Accounting Office (GAO) estimated in 1995 that $112 billion was needed to repair or upgrade existing schools.[4] See Appendix A in this journal issue for further discussion of the status of the nation's school buildings.

To prepare for future needs, it is important to understand the current education budget and to explore some of the reasons for education's historic cost increases.

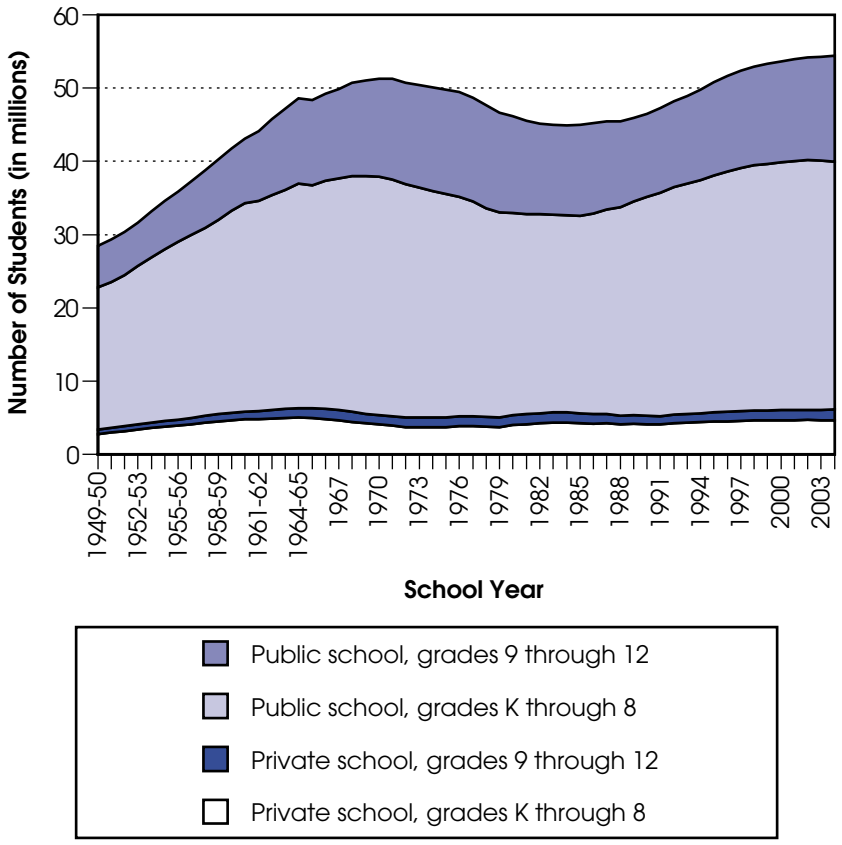
Current Spending Levels

America spent more than $265 billion on public elementary and secondary education in 1993–94, 89% ($236 billion) of which went to current operating expenditures, 9% ($24 billion) for capital outlay (school construction), and 2% ($5 billion) for interest on school debt.[5,6] Current expenditures alone are estimated to exceed $300 billion by school year 2002–03.[7]

Unlike most other nations, in the United States, public school budgets are primarily a responsibility of local and state government. On average, public schools receive 45.2% of their budget from the state, 45.1% from local taxes (mostly from property taxes), 7.0% from the federal government, and 2.7% from private sources such as gifts and

Figure 1

Enrollment in Public and Private Elementary and Secondary Schools, 1949–50 to 2004–05[a]



[a] For the years 1965 through 2004 measures were taken for the fall of each year.

Source: **For 1949–1950 to 1990:** U.S. Department of Education, National Center for Education Statistics. *120 years of American education: A statistical portrait*. Washington, DC: U.S. Government Printing Office, 1993, p. 37. **For 1991 and later years:** U.S. Department of Education, National Center for Education Statistics. *Projections of education statistics to 2006*. Washington, DC: U.S. Government Printing Office, 1996, p. 8.

fees.[8] There is, however, wide variation in funding source from state to state. (See the article by Howell and Miller in this journal issue.) Most federal funds and a healthy portion of state funding is "categorical aid," that is, must be spent for specific purposes. (See the article by Monk and colleagues in this journal issue.)

The states devoted an average 31.5% of their budgets to public schools in 1994.[9] States vary widely in how they divide responsibility between local and state government, and they vary just as widely in their capacity and their willingness to raise taxes to support the schools.[10] (See the article by Augenblick, Myers, and Anderson in this journal issue.) Although elementary and secondary education is the largest single item in most state budgets, it is not the fastest growing. The GAO recently concluded that "education is losing its dominance of state budgets as it competes with other public services, such as Medicaid, courts and prisons, for public funds."[11]

Among local governments, an even larger share of total tax revenue goes to public schools. Although no one has calculated the precise percentage of locally generated tax revenue going to public schools, it is possible to estimate this figure by comparing the $239 billion in tax revenue generated by

local governments (including school districts) in 1992–93[12] with the $117 billion in locally generated tax revenue received by the schools in the same year.[13] It is reasonable to conclude that almost half of all local tax revenues make their way to public schools.

Of every dollar spent by the federal government,[14] one cent directly benefits K–12 schools (a contribution amounting to $18.3 billion in 1993–94),[13] and another penny indirectly benefits the schools (with total direct and indirect contributions of $32.3 billion in 1993–94).[15] Federal contributions to the schools are a smaller portion of the school budget today than in the 1960s and 1970s. In 1993–94, schools reported that 7% of all revenues they received came from the federal government, whereas from 1967–68 to 1980–81, that figure ranged from 8% to 9.8%.[13]

Fifty Years of Spending Increases

The National Center for Education Statistics (NCES) calculates that the average per-pupil expenditure (excluding capital expenditures), in constant 1993–94 dollars, has risen from $1,299 in 1949–50 to $5,734 in 1993–94.[16] Figure 2 illustrates the changes in enrollment, number of teachers employed, average teacher salary, and cost per pupil from 1949–50 to 1993–94, with projections of enrollment to fall 2003. Here, three time periods are discussed separately: the baby boom (years of increasing enrollment) from 1949–50 to 1971–72, the baby bust (years of declining enrollment) from 1971–72 to 1984–85, and the baby boom echo (increasing enrollment) from 1985–86 onward.

While the baby boom is a well-known phenomenon, its magnitude is still impressive: in just 22 years, the nation's school population almost doubled (from 25.1 million to 46 million students, an increase of 83%), and the number of teachers more than doubled (from 913,000 to 2,016,000 teachers, an increase of 121%). Because teachers were hired at an even more rapid rate than the growth in enrollment, the student-teacher ratio dropped from 27.5:1 to 22.3:1, contributing to the increasing per-pupil cost.

Another major factor in the increasing per-pupil cost was the 86% real increase in teachers' salaries (from the equivalent of $18,580 in 1949–50 to $34,490 in fall 1971, both figures expressed in 1993–94 dollars). Taken together, the increase in salary levels and the dropping student-teacher ratio account for a major share of the 171% increase in per-pupil costs (from $1,299 to $3,517 in 1993–94 dollars) during the baby boom years.

During the baby bust years, student enrollment fell by 15%, but the number of teachers employed actually rose by 3%. Again, this meant that the student-teacher ratio fell further, to 18.3:1, contributing to rising per-pupil cost. However, offsetting the change in student-teacher ratio was a decline in teachers' salaries. During the high inflation, declining enrollment years of the 1970s, teachers' salaries failed to keep pace with inflation, and teachers saw their real (after-inflation) wages erode by 8.6% (from $34,490 in 1971–72 to $31,530 in 1983–84, expressed in 1993–94 dollars). Despite the wages lost by teachers during the baby bust years, the per-pupil cost rose by 30% (from $3,517 in 1971–72 to $4,561 in 1983–84, expressed in 1993–94 dollars).

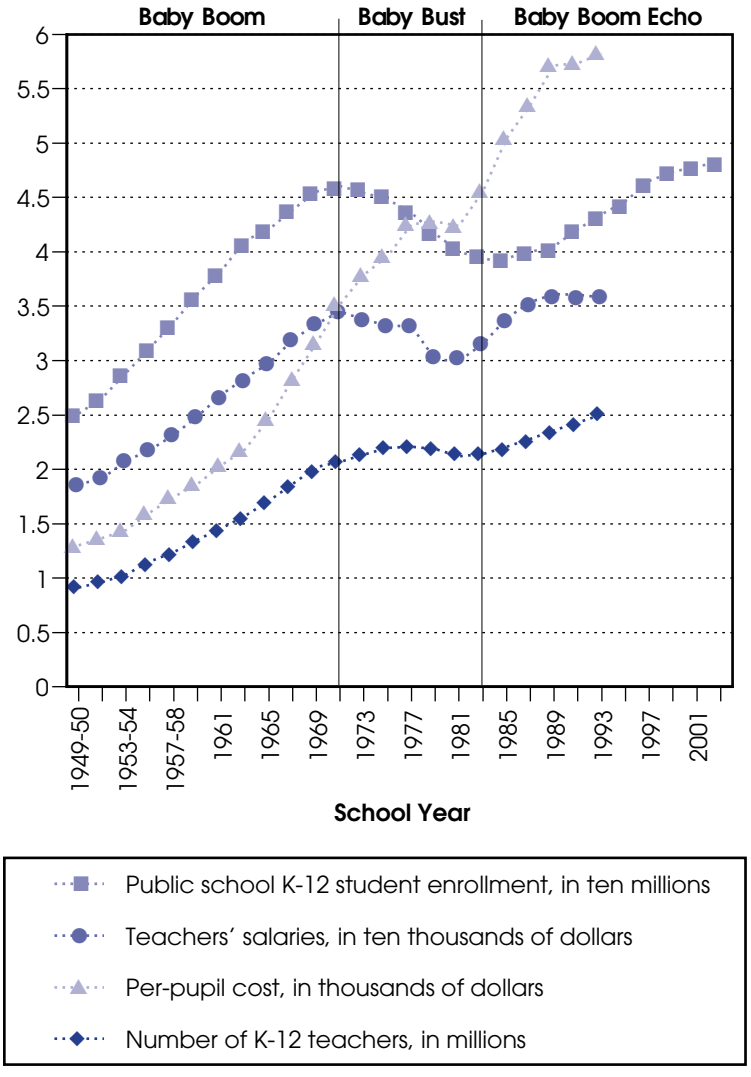
Between 1989–90 and 1993–94, per-pupil costs rose a barely perceptible one-half of 1%.

This rise in per-pupil costs continues through the baby boom echo, with an additional 28% increase in per-pupil costs in the 10 years from 1983–84 to 1993–94. During the echo years, teachers' salaries made up for the ground they had lost to inflation, but not much more. Teachers' salaries rose by 14% during the 10 years from 1983–84 to 1993–94, but they still averaged only 4% higher in 1993–94 ($35,820) than in 1971–72 ($34,490). Student-teacher ratios continued to drop, to 17.4:1, as the number of teachers employed rose even faster in the echo years (rising by 17%) than the increase in student enrollment (which rose by 11%).

While this picture reflects long-term trends, it should be noted that schools have made progress in controlling cost increases in recent years. Between 1989–90 and

Figure 2

Enrollment, Number of Teachers, Teachers' Salaries, and Per-Pupil Costs 1949–50 to 1993–94, with Enrollment Projections to Fall 2003[a]

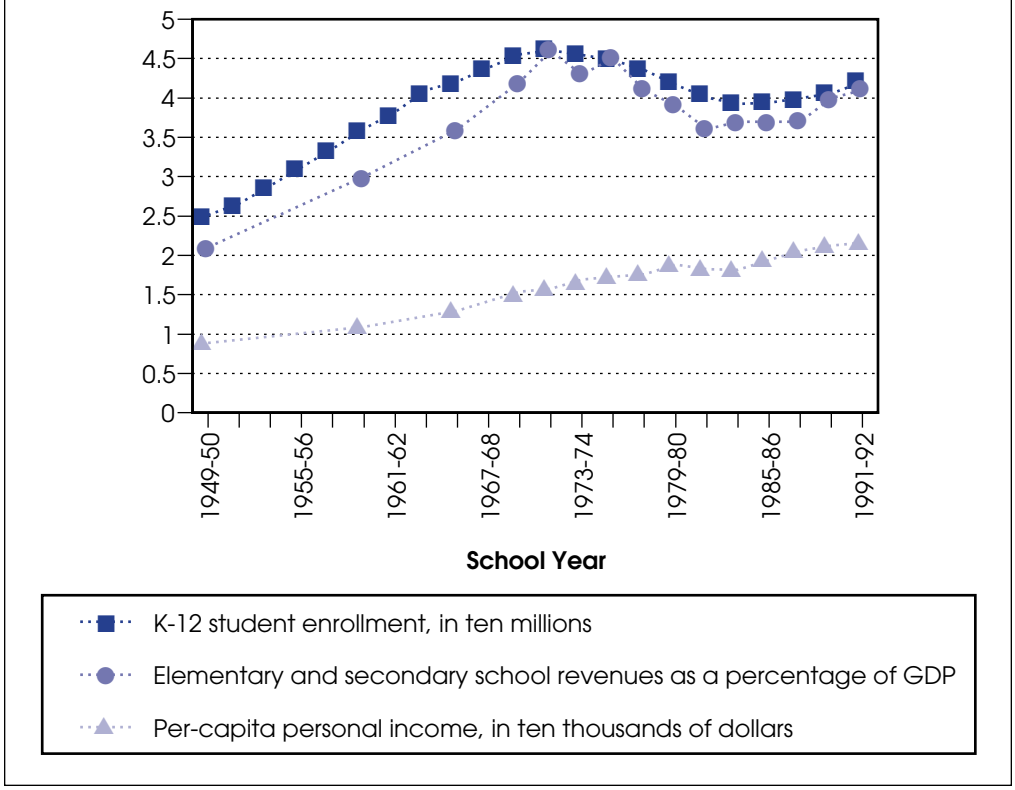


[a] For the years 1965 through 2003 measures were taken for the fall of each year.

Source: **For enrollment data:** For 1949–50 to 1990–91: U.S. Department of Education, National Center for Education Statistics. *120 years of American education: A statistical portrait.* Washington, DC: U.S. Government Printing Office, 1993, p. 37; for 1991–92 and following years: U.S. Department of Education, National Center for Education Statistics. *Digest of education statistics 1996.* Washington, DC: U.S. Government Printing Office, 1996, p. 12, col. 4. **For number of teachers:** For 1949–50 to 1990–91: U.S. Department of Education, National Center for Education Statistics. *120 years of American education: A statistical portrait.* Washington, DC: U.S. Government Printing Office, 1993, pp. 47–48, col. 8; for 1991–92 and following years: U.S. Department of Education, National Center for Education Statistics. *Projections of education statistics to 2006.* Washington, DC: U.S. Government Printing Office, 1996, p. 72. **For per-pupil cost:** For 1949–50 to 1979–80: U.S. Department of Education, National Center for Education Statistics. *Digest of education statistics 1994.* Washington, DC: U.S. Government Printing Office, 1994, p. 163; for 1980–81 to 1992–93: U.S. Department of Education, National Center for Education Statistics. *Projections of education statistics to 2006.* Washington, DC: U.S. Government Printing Office, 1996, p. 83. **For teachers' salaries:** For 1955–56 to 1980–81: U.S. Department of Education, National Center for Education Statistics. *120 years of American education: A statistical portrait.* Washington, DC: U.S. Government Printing Office, 1993, pp. 47–48, converted by author to 1993–94 dollars using the Consumer Price Index data from U.S. Department of Education, National Center for Education Statistics. *Digest of education statistics 1996.* Washington, DC: U.S. Government Printing Office, 1996, p. 41; for 1981–82 to 1994–95: U.S. Department of Education, National Center for Education Statistics. *Projections of education statistics to 2006.* Washington, DC: U.S. Government Printing Office, 1996, p. 85.

Figure 3

Enrollment in Public Schools, Per-Capita Personal Income, and Education Spending as a Percentage of Gross Domestic Product (GDP), from 1949–50 to 1991–92



Sources: U.S. Department of Education, National Center for Education Statistics. *The condition of education 1996.* Washington, DC: U.S. Government Printing Office, 1996, p. 160; U.S. Department of Education, National Center for Education Statistics. *120 years of American education: A statistical portrait.* Washington, DC: U.S. Government Printing Office, 1993, p. 37.

1993–94, per-pupil costs rose a barely perceptible one-half of 1% (from $5,715 to $5,741).

It is also important to keep in mind that, while the cost of education per pupil has risen, the American economy has also expanded significantly. Total spending, expressed as a percentage of gross domestic product (GDP), has followed enrollment closely. The peaks of spending—4.6% of GDP in 1971–72 and 4.1% in 1991–92—represent high periods of K–12 enrollments (46 million and 42 million students, respectively). Again, the pattern during the baby boom period differs from that in subsequent years, as illustrated in Figure 3.

During the baby boom years from 1949–50 to 1971–72, while the number of students increased by a phenomenal 83%, per-capita personal income also grew by 77% (from $8,873 to $15,739 in 1995 dollars),[17] and spending per pupil, as noted earlier, increased by 171%. Although the increase in personal income shows very strong economic growth in this period, spending per pupil increased even faster, as illustrated by the increasing percentage of the GDP devoted to education (rising from 2.1% to 4.6% of GDP).

During the baby bust and baby boom echo, the story changes. In the 21 years from 1971–72 to 1991–92, per-capita income increased by 37% (from $15,739 to $21,620 in 1995 dollars), enrollment dipped and climbed again, for a total drop of 8.7%, but per-pupil expenditures (as shown in Figure 2) rose by 63%. In other words, a rising standard of living coupled with a temporary decrease in school population has afforded an opportunity to educate more children for more years and to spend increasing amounts of money on each child's education.

What Did the Added Money Buy?

In brief, increases in school spending have enabled schools to employ more people with more advanced academic credentials providing a wider range of services. Also, compared with 50 years ago, teachers are much better paid, though most of the real increase in pay came before 1971–72. In addition, schools are serving more students with disabilities, awarding more high school diplomas, and providing more services to children ages three to six. Supplementary services are provided for students with lower incomes and with limited English proficiency. And court cases requiring more equitable school funding have led to greater total funding for schools.

Where feasible, the following discussion estimates costs of changes in schooling. However, it would be misleading simply to add these amounts together. Many categories of students are overlapping. For example, individual students may receive supplementary school services for their low-income status and also because they have a disability or have limited proficiency in English. These same students may receive free or reduced-price meals and fall into a category of schooling—such as preschool, kindergarten, or secondary—which was either unavailable or underutilized a half century ago. These overlapping conditions suggest that estimating a total amount of incremental school spending is risky.

In 1949–50 there was one school employee for every 19.3 pupils; that figure has now changed to one for every 9.1 students.

More and Better-Paid Employees

■ *More School Employees.* Principally, education's added resources purchase more people and pay them more money. An explanation for the largest part of the added spending comes from the sustained nationwide enhancement of pupil-employee ratios which has taken place over the past 50 years. For example, whereas, in 1949–50 there was one school employee for every 19.3 pupils, that figure has now changed to one for every 9.1 students.[18]

However, a reader should not confuse such changing employee ratios as necessarily reducing average class size. There has been a class size reduction, or at least a favorable pupil-teacher ratio change, for the time period involved, from 27.5 to 17.4. This is a 37% reduction. In addition, schools increasingly employ large numbers of nonteaching personnel. These are primarily teacher aides and support staff (which include school secretaries, bus drivers, cooks, janitors, health and recreation staff, and "psychological personnel").[18] Vedder's analyses suggest that 25% of U.S. education budgets are allocated for nonteaching personnel. Other industrial nations expend only 15% to 20% in a comparable manner.[19]

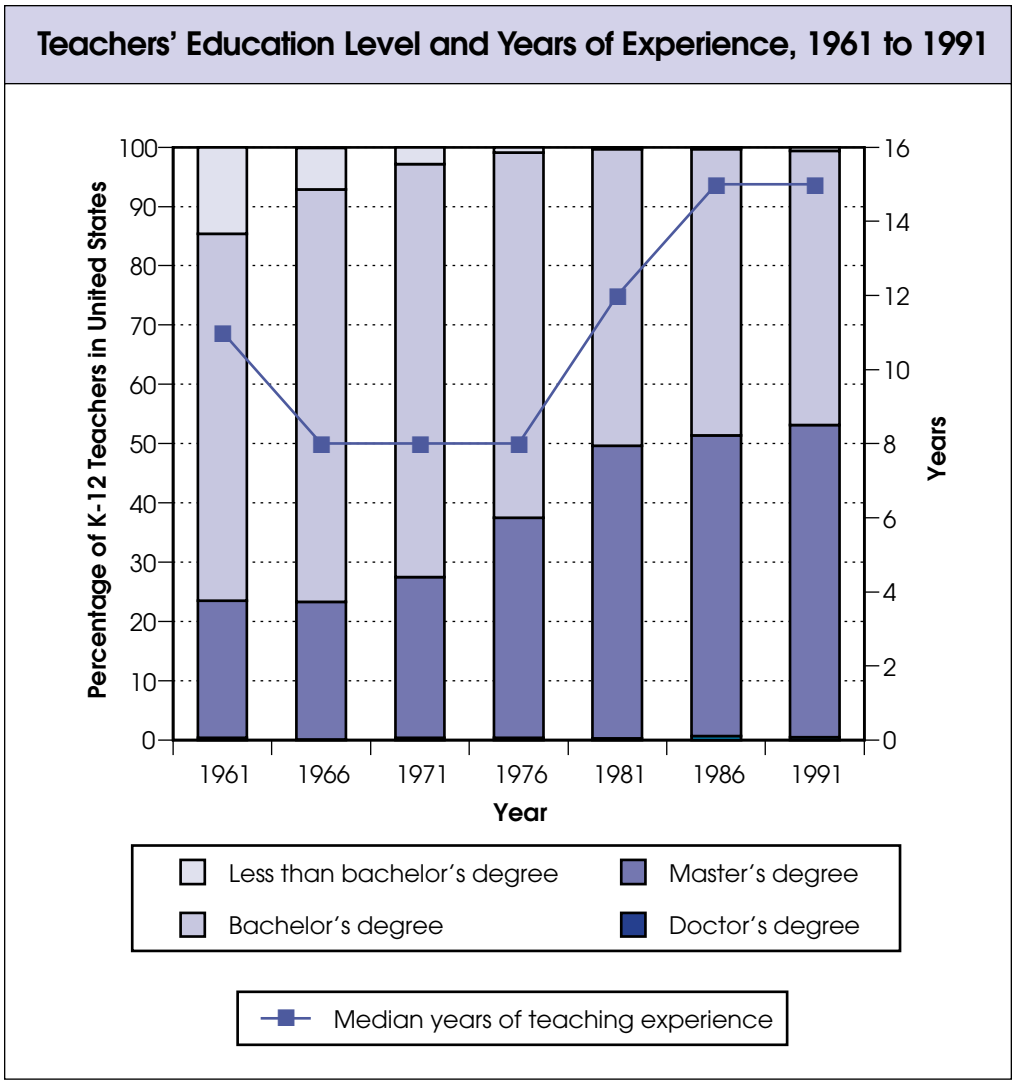
Interestingly, school-district administrative staffs, taken as a national average, have not grown and, in fact, appear to have shrunk relative to the number of other school employees. Between 1949–50 and 1980, district administrative staffs shrunk from 2.6% to 1.9% of all school personnel. In 1993, the figure was 1.7%.[18]

Compared with other large enterprises, a relatively small number of school administrators supervise a large number of staff members. An association of school administrators analyzed data from the U.S. Bureau of Labor Statistics and concluded that elementary and secondary schools employ 14.5 persons per executive, administrator, or manager, compared with 9.3 in the transportation industry, 8.4 in food products, 7.1 in manufacturing, 6.3 in construction, 5.4 in mining, and 3.6 in public administration.[20]

■ *More Experienced and Better-Educated Teachers.* As discussed above, educators' salaries rose dramatically (86% after adjusting for inflation) from 1949–50 to 1971–72.[21] Presumably, a major factor was the enormous demand for new teachers to serve the rapidly rising school population.

During the years of declining enrollments in the 1970s and early 1980s, it appears that few teachers lost their jobs (at least, the total number of teachers employed stayed constant), but their salaries lost ground to inflation as real salaries dropped 13.8% between their 1972–73 peak and their low point in 1980–81. Thereafter, annual

Figure 4



Source: U.S. Department of Education, National Center for Education Statistics. *Digest of education statistics 1996.* Washington, DC: U.S. Government Printing Office, 1996, p. 79.

increases exceeding the rate of inflation brought teachers by 1986–87 to parity with their salaries in 1972–73. Since 1986–87, teachers' salaries after inflation have risen a total of 2.3%.

How do the salaries paid to teachers compare with those paid to other employed persons? In 1949–50, professional educators' compensation was 3% higher than that of the average of all full-time employees in all industries. (Figures are adjusted to account for educators' typically shorter work year.) In other words, teachers were paid more, by a small amount, than the average of the entire U.S. salaried workforce. By 1992–93, they were paid 26% more than their fellow workers.[22] In slightly more than 40 years, the comparative pay of professional educators had improved substantially.

When compared with other professionals who have comparable levels of schooling, educators are paid close to the average for women. In 1994, the mean salary for employed women with bachelor's degrees was $31,741 and for women with master's degrees it was $39,457,[23] while the average teacher was paid $37, 868.[21] Currently, 42% of teachers nationally have obtained a master's degree.[24] Men with similar levels of education earn significantly more ($43,663 with bachelor's degrees and $53,500 with master's degrees).

Today's teacher is not completely comparable to a counterpart from an earlier era

because she has more years of teaching experience and is more likely to have a master's degree, as illustrated in Figure 4.

■ *Productivity Increases and Class Size.* Many industries have become more productive. Why has education not made similar leaps in productivity? Because productivity almost always means that fewer employees are needed to produce the same amount and quality of goods. In education, this would mean that a single teacher should be able to teach an increasing number of students each year, that is, that average class sizes would grow every year. Looking at "productivity" another way, a single teacher, if not teaching more students, should be able to induce higher achievement, on average, from her students.

Schooling is more labor intensive than most enterprises. Education has not proven amenable to the substitution of capital for labor which has taken place in agriculture, manufacturing, and communication. Indeed, over the 50 years examined here, schooling has become more, not less, labor intensive. However, even if school employee-pupil ratios had remained constant over the past five decades, it is likely that school costs would have increased because schools must compete in a labor pool with other employers for the talents of professionals. If these other employers offer higher remuneration, affordable through productivity gains, education must elevate pay to attract comparable talent.

Per-pupil expenditures in secondary school are typically 1.2 to 1.5 times the amount spent per elementary pupil.

Expansions in Schools' Functions

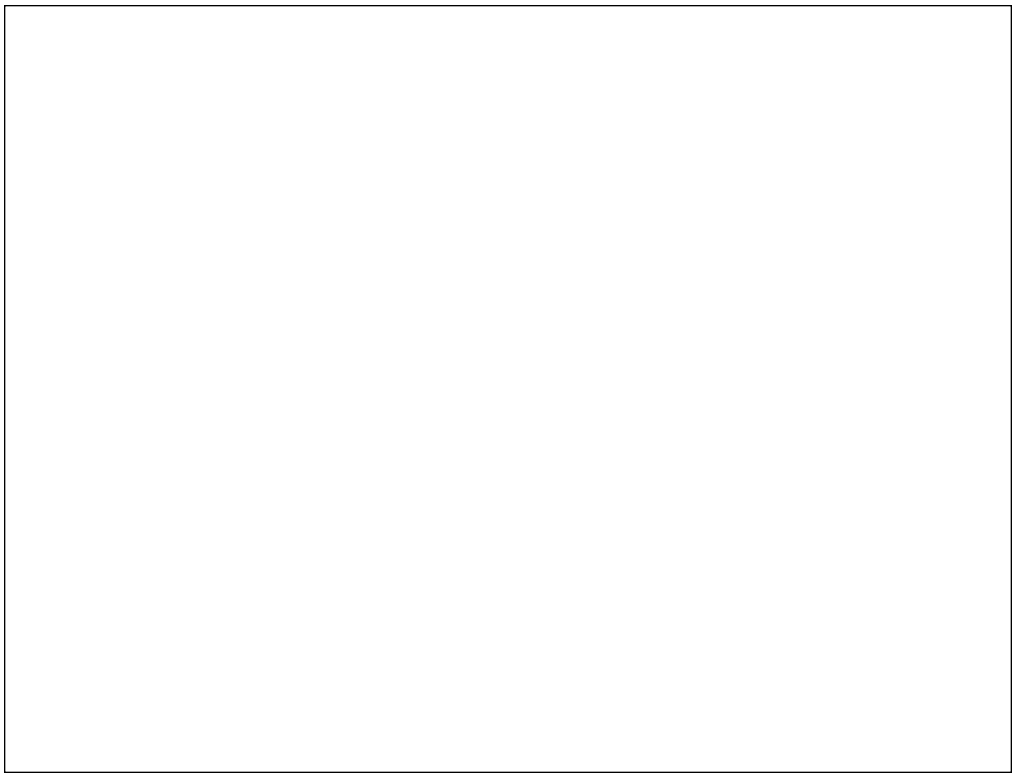
Why do schools today employ more personnel? Simply ascribing added costs to added personnel and their higher salaries may contribute to a misperception. These higher-paid professionals have often been posted to the payroll because of public demands for added services, even if they are not always classroom services. In a nutshell, today's schools are not the same institution known to our parents and grandparents.

■ *Expansions in the Number of Students Served.* In the half century since the conclusion of World War II, America's schools have come to serve a far larger population. This is true principally because there has been a far larger population to serve. The nation's overall population has increased 80% during this period of time.[5] However, population growth alone is not the explanation. Several categories of students now attend America's schools who were seldom a presence a half century ago. This impacts per-pupil costs because, for the most part, these students require additional, or more expensive, services than the population served in 1950.

Expanded Secondary School Attendance. High school graduation has come to be the norm for America. In the past half century, median years of schooling for the U.S. population have increased three and a half years, from 9.3 in 1950 to 12.9 in 1993.[25] Slightly over six million more students are to be found in America's secondary schools (grades 9–12) today than a half century ago. Assuming the mean per-pupil secondary spending level to be $7,000, these added six million students result in approximately $42 billion in added expenses in today's dollars.

Part of this added cost is due to the fact that high school students are more expensive to educate than are elementary students. Their specialized classes have lower student-teacher ratios, and some of their courses (biology, vocational education) require specialized classrooms and equipment. Per-pupil expenditures in secondary school are typically 1.2 to 1.5 times the amount spent per elementary pupil. Using this rule of thumb, one can estimate that between one-sixth and one-third of the $42 billion increase is attributable to the fact that these are secondary rather than elementary students.

Students with Disabilities. Before World War II, schools in most states had little or no legal obligation to serve students with disabilities. By 1973, 45 states had passed some form of legislation encouraging, funding, or mandating the education of students with disabilities.[26] Between 1971 and 1973, more than 30 federal court decisions made it clear that the equal rights clause guaranteed a free, appropriate public education without discrimination on the basis of disability. Congress, in response, enacted the Education



for All Handicapped Children Act in 1976.[27] This legislation has subsequently undergone revision, but it continues as a civil rights landmark. It has also resulted in significant increases in school costs.

About 12% of the pupil population takes part in special education.[28] The most widely cited study concluded that students in special education cost, on average, 2.3 times as much to educate as other students.[29] A slightly more conservative estimate comes from Ladd, who speculates that the amount spent to educate students in special education is closer to twice what is spent for students without disabilities.[30]

Extrapolating from these numbers, costs of special services to students with disabilities might be taken to add approximately $30 to $35 billion to the overall costs of today's schooling. However, this figure is too high. Some youngsters with disabilities were schooled before the 1976 legislation. Also, not all students classified as disabled today are receiving high-cost treatment. Because of the difficulty in disentangling such factors, it is impossible to determine the precise amount that instructing students with disabilities has added to the total education bill. However, the cost assuredly is large, and the federal government's fiscal appropriations just as assuredly do not cover such costs.[31]

Kindergarten Students. At the end of World War II, half-day kindergarten was an available option in only a few wealthy school districts. By 1965, almost half of America's five-year-olds were enrolled. Kindergarten, presently, is well on its way to being offered universally in America's public schools and extended to a full day, usually defined as about five hours of daily time in school. Kindergarten class sizes are typically smaller than other classes, leading to a higher per-pupil cost, although neither the federal government nor the states collect data on kindergarten per-pupil cost, separate from the cost of other classes. There is also no accounting convention for assigning non-classroom costs to kindergarten services. Moreover, even though full-time kindergarten is becoming the national norm, many school systems offer only half-time (three- to four-hour) kindergarten. These complexities render it impossible to estimate the added cost of this service accurately.

Preschool Students. Service for children three to four years of age, while by no means universal, has rapidly expanded. In 1965, some 10.6% of three- and four-year-olds were registered in

preschool (including private, public, and religious preschools). By 1995, this number had grown to 48.7%.[32] As with kindergarten, however, estimating the share of this cost in the public school budget is not possible.

■ *Expansions in Services Provided by Schools.* There have been many systematic efforts to improve the quality of students' lives through schooling. The efforts discussed here include compensatory education for low-income students, nutrition, the impact of lengthening the school year, and racial desegregation of schools.

Compensatory Education: Title I. President Lyndon B. Johnson's mid-1960s war on poverty featured education as a central campaign theme. Foremost among the education bills enacted during this period was the 1965 Elementary and Secondary Education Act (ESEA) authorizing federal funds for supplementary education for students from low-income households. Today, ESEA costs approximately $6.8 billion per year. More than 20 states have followed suit with additional state appropriations.

The U.S. Department of Agriculture in 1995 spent $8.4 billion providing subsidies and surplus foodstuffs to public schools.

Since enactment of the ESEA more than three decades ago, the number and percentage of children living in poverty have increased. School districts and child advocates claim that available federal funding is, therefore, insufficient to cover the growing need. However, regulations surrounding use of federal compensatory education funding now permit more efficient deployment of these resources. For example, local districts are encouraged to concentrate compensatory funds in schools with the highest concentrations of disadvantaged students so as to derive maximum impact. Also, schools are allowed to combine this federal funding with local resources, leading to the opportunity to use the money more effectively.

Nutrition. Since World War II, the United States has vastly increased government subsidies for the feeding of schoolchildren. Free and reduced-price lunches and breakfasts, which were virtually nonexistent 50 years ago, are now commonplace in America's public schools. The U.S. Department of Agriculture in 1995 spent $8.4 billion providing subsidies and surplus foodstuffs to public schools.[33] (This figure is a component of the total federal expenditure for K–12 education.) Many local school districts supplement this amount.

Longer School Year. The NCES reports approximately a three-day extension of the mean U.S. public school year since 1949–50. Through an extrapolation of current daily costs, it is possible to calculate that this extension adds approximately $4.2 billion to the nation's annual school expenditures.

Racial Desegregation. America's immediate post–World War II schools were racially segregated. The U.S. Supreme Court's 1954 decision in *Brown v. Board of Education*[34] began to dismantle the legal wall separating black and white students, and on many practical fronts the process continues still. But why does eliminating a dual school system cost added money? Did not the previous condition of "separate but equal" result in the same costs?

There is little systematic evidence regarding pre-*Brown* spending on black students. Court testimony and anecdotal historic references suggest that black schools and teachers were not treated equally. However, the 1966 U.S. federal report on *Equality of Educational Opportunity*,[35] the so-called Coleman report, did not find significant resource differences in 1966 between black and white student populations within regions of the United States. It could be that the more egregious forms of financial discrimination had been alleviated by this time.

Regardless of such complexity, racial desegregation adds to school costs, at least through the added expense of transportation imposed. Also, steps had to be taken to ensure that the salary schedules for black and white teachers were uniform.

In many districts, efforts have been made to intensify instructional opportunity to compensate for past desegregation ills. Kansas City, Missouri, is perhaps the most

dramatic of such compensatory efforts. Approximately $1.2 billion has been spent by this system over the past five years to provide new and better facilities, establish magnet schools, and enhance curricula offerings in an effort to elevate black student achievement and render urban public schools competitive with private and suburban alternatives.[36,37]

California also allocates more than $500 million annually in state aid for court-ordered and voluntary desegregation efforts, not including transportation costs.[38] These funds are used in a wide variety of ways to assist students, for example, employing teacher aides, reducing class size, and purchasing computers.

Other. While this article lists some of the services added in the public schools during the past two generations, other added services are far from inconsequential. A partial list of these services would include special instruction for students with limited English proficiency, services to migrant students, asbestos removal, increased security measures in schools, and subsidies of special education and textbook materials in private schools.

Pursuing Equity Has Raised Total Spending

Since the mid 1960s, lawsuits have been filed in 43 states seeking a reduction in intrastate, district-to-district, per-pupil spending disparities. Such spending differences can be substantial: Texas and California once had conditions under which the highest-spending districts had per-pupil expenditures that were 10 times greater than those in the lowest-spending districts.

Plaintiffs have lost the majority of these finance reform cases. Even so, cases have been decided in favor of plaintiffs in at least 16 states, and legislatures have had to redraw school financing statutes as a consequence. (See the article by Augenblick, Myers, and Anderson in this journal issue.) Additional decisions are pending which could increase this number. These decisions have indirectly affected other states; often, the simple threat of litigation has prompted state legislatures to equalize funding.

Murray, Evans, and Schwab[39] have undertaken a set of sophisticated analyses regarding the results of legislative equal protection remedies. They conclude that state efforts to improve funding equity have resulted in a 19% to 37% reduction of district-to-district funding inequality, few spending reductions for students in high-spending districts, an average 12% increase in per-pupil spending in the low-spending districts, an average 8% increase in per-pupil spending in the school districts spending at the state's median, and few reductions in state spending for other activities. This last feature suggests that elevated school spending comes not from reallocating existing resources but from expanding the pie of total resources through higher taxation. By this reasoning, the efforts of states to assure equitable spending across school districts have contributed approximately $16 billion to the nation's annual school spending total.[40]

Increases Not Accounted For

Although the discussion above covers many important, legitimate reasons for increasing costs, these factors do not fully explain the fourfold increase in per-pupil expenditures since 1950. It appears that unmeasured, possibly political, factors also are at work. What follows is a brief consideration of two opposing theories.

Since the mid 1960s, lawsuits have been filed in 43 states seeking a reduction in intrastate, district-to-district, per-pupil spending disparities.

The first of these theories is that schools have improved in their performance: Increased numbers of school employees and higher pay have resulted in higher student achievement spread over a wider base of students and, thus, the voting public approves and has been willing to pay for it.

Berliner and Biddle[41] and Bracey[42] all contend that current criticisms regarding school performance are politically motivated and incorrect in their assertions that schools are performing poorly.[43] When compared to a half century ago, higher proportions of students are in poverty or have not grown up with English as a native language. Yet more individuals now attend school, stay longer in

school, graduate from school, sit for college entrance examinations, attend college, and graduate from college than ever before.

Rothstein and colleagues[44] also point to the above described costly education system alterations and additions, rely upon a labor-friendly set of inflationary assumptions to adjust spending figures, acknowledge the panoply of expectations imposed on education by the political system, and conclude that increases in spending for the regular education program have been modest.

The second, and opposing, theory is that an underlying political dynamic, favoring the interests of school employees over those of students and taxpayers, facilitates an increase in school costs regardless of pupil achievement and school performance. Proponents of this analysis note first that public school budgets are products of political processes. Clearly, pupils, parents, and the public generally benefit from having public schools. However, the principal or immediate beneficiaries of increased school spending are professional educators. School spending means more and higher-paying jobs.

Teachers and other professional educators have a more intense incentive than taxpayers to engage in collective political activity, spend money on lobbyists, run for office, serve as delegates to nominating conventions, or personally vote for higher financing for schools. Added dollars for schools will cost each individual taxpayer only a marginal amount. Conversely, added spending for schools will likely benefit professional educators a great deal more.[45]

This latter perspective motivates free-market-oriented education reformers to argue that the political playing field can be leveled only through reforms such as vouchers. In this way, contend free-market proponents, a better balance would be struck between producers of education services and their clients (parents, pupils, and the public). See the article by Koppich in this journal issue for further discussion of vouchers.

Those who contend that America's schools display unacceptably low productivity point to Consumer Price Index–adjusted figures, view spending increases through the lens of academic achievement, point to improved demographic characteristics (for example, parents' education levels have increased and family size has declined, which some argue counterbalances the impact of higher poverty rates), and conclude that sweeping reforms are justified. For example, Hanushek[46] concludes that, after controlling for all that is reasonable, per-pupil school spending has increased 3% annually since the beginning of the twentieth century. Odden, noting the rise in per-pupil spending, contends that improved productivity is definitely in order.[47]

These two, and dozens of other analysts, may advocate different reform strategies. What they share, however, is a contention that, if the goal is enhancing student achievement and gaining greater productivity, then the structural arrangements of American education must be altered.

Conclusions

The education enterprise is of such huge proportions that finding additional revenues for schools has been a challenge to policymakers for years. Growing enrollments, new classroom construction, a backlog of deferred maintenance, rising public expectations for higher student achievement, and growing competition for skilled professional teachers all combine to make future school budget increases virtually inevitable.

Only in the past few years has the rise in per-student costs slowed, and that budgetary control will likely erode as the facilities problem reaches crisis proportions. Over the long term, unless education is able to continually improve its productivity through class size increases or improved effectiveness, per-pupil costs can be expected to rise faster than the rate of inflation.

An important avenue to increased effectiveness is change in the governance and managerial structure of schools. In this journal issue Koppich analyzes the nation's limited experience with school vouchers, charter schools, and privatization. These and other proposed reforms[48] should be given serious consideration.

1. U.S. Department of Education, National Center for Education Statistics. *The condition of education 1996*. Washington, DC: U.S. Government Printing Office, 1996, p. 12.
2. U.S. Department of Education, National Center for Education Statistics. *Projections of education statistics to 2006*. Washington, DC: U.S. Government Printing Office, 1996, p. 108. See errata insert in source document.
3. U.S. Department of Education. *A back to school special report: The baby boom echo*. Washington, DC: U.S. Government Printing Office, August 21, 1996.
4. U.S. General Accounting Office. *School facilities: Condition of America's schools*. GAO/HEHS-95-61. Washington, DC: U.S. Government Printing Office, February 1995.
5. U.S. Department of Education, National Center for Education Statistics. *Digest of education statistics, 1996*. Washington, DC: U.S. Government Printing Office, 1996, pp. 50–51.
6. The $265 billion figure does not include $22 billion paid, primarily in the form of tuition, to support students enrolled in private K–12 schools. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 35.
7. See note no. 2, U.S. Department of Education, National Center for Education Statistics, p. 83, middle alternative projection.
8. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 152.
9. Nelson A. Rockefeller Institute of Government, Center for the Study of the States. *Education spending faces demographic and other pressures*. State Fiscal Brief No. 38. Albany, NY: Nelson A. Rockefeller Institute of Government, December 1996, p. 8, Table 3.
10. U.S. General Accounting Office. *School finance: Trends in U.S. education spending*. GAO/HEHS-95-235. Washington, DC: U.S. Government Printing Office, 1995, pp. 11–12 and 47–54.
11. See note no. 10, U.S. General Accounting Office, p. 4.
12. U.S. Census Bureau's Governments Division Web site on the World Wide Web: http://www.census.gov/govs/www/index.html. files '92stlus.wk1' and '93stlus.wk1'. April 4, 1997.
13. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 151.
14. Total federal outlays (not including tax expenditures) for Fiscal Year 1993–94 were $1,460,914,000,000. See U.S. Department of Commerce, Bureau of the Census. *Statistical abstract of the United States: 1995*. 115th ed. Washington, DC: U.S. Government Printing Office, 1995, p. 337.
15. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 385.
16. U.S. Department of Education, National Center for Education Statistics. *Digest of education statistics 1994*. Washington, DC: U.S. Government Printing Office, 1994, p. 163.
17. See note no. 1, U.S. Department of Education, National Center for Education Statistics, pp. 160–61.
18. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 89.
19. Vedder, R.K. *The three "P's" of American education: Performance, productivity, privatization*. Policy Study No. 134. St. Louis, MO: Washington University Center for the Study of American Business, October 1996.
20. Educational Research Service. *Concerns in education: Presenting and analyzing issues of importance to school officials*. Arlington, VA: ERS, 1992.
21. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 84.
22. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 88.
23. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 416.
24. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 78.
25. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 17.
26. Martin, E.W., Martin, R., and Terman, D.L. The legislative and litigation history of special education. *The Future of Children* (Spring 1996) 6,1:25–39.
27. Initially enacted as the Education for All Handicapped Children Act, Public Law 94-142, 20 U.S.C. §§ 1400 et seq. (1976).
28. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 65.
29. Chaikind, S., Danielson, L., and Brauen, M. What do we know about the costs of special education? A selected review. *Journal of Special Education* (1993) 26,4:344–70.

30. Ladd, H.F. *Holding schools accountable.* Washington, DC: Brookings Institute, 1995, p. 3.

31. For further discussion of special education finance, see Parrish, T., and Chambers, J. Financing special education. *The Future of Children* (Spring 1996) 6,1:121–38.

32. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 15.

33. See note no. 5, U.S. Department of Education, National Center for Education Statistics, p. 406.

34. *Brown v. Board of Education*, 347 U.S. 483, 74 S.Ct. 686 (1954).

35. Coleman, J.S., Queener, E., Hobson, C.J., et al. *Equality of educational opportunity.* Washington, DC: Office of Education, U.S. Department of Health, Education, and Welfare, 1966.

36. Farney, D. Fading dreams? Integration is faltering in Kansas City schools as priorities change. *Wall Street Journal.* September 26, 1995, at A1.

37. Hendrie, C. Judge decides state funds for desegregation to end in K.C. *Education Week* (April 2, 1997) 16,27:1. Available online at http://www.edweek.org.

38. California State Budget Act, Chapter 162, Statutes of 1996 (SB 1393), and California Governor's Budget, 1997–98, p. E6, Table 2.

39. Murray, S.E., Evans, W.N., and Schwab, R.M. Schoolhouses, courthouses, and statehouses after Serrano. *Journal of Policy Analysis and Management* (1997) 16,1:10–31.

40. Author's calculation, based on the analysis by Murray, Evans, and Schwab (see note no. 39).

41. Berliner, D.C., and Biddle, B.J. *The manufactured crisis: Myths, fraud, and the attack on America's public schools.* Reading, MA: Addison-Wesley, 1995.

42. Bracey, G. The 5th Bracey Report on the condition of public education. *Phi Delta Kappan* (October 1995) 77,2:149–60.

43. Perhaps the best summary of historic trends in pupil achievement is provided by Koretz, D. *Educational achievement: Explanations and implications of recent trends.* Washington, DC: Congressional Budget Office, 1987.

44. Rothstein, R., and Miles, K.H. *Where's the money gone? Changes in the level and composition of education spending.* Washington, DC: Economic Policy Institute, 1995.

45. Wolf, C., Jr. *Markets or governments: Choosing between imperfect alternatives.* 2d ed. Cambridge, MA: MIT Press, 1994, p. 43.

46. Hanushek, E.A., Rivkin, S.G., and Jamison, D.T. Improving education outcomes while controlling costs. *Carnegie-Rochester conference series on public policy, bi-annual conference proceedings.* Vol. 37. New York: Elsevier Science, December 1992, pp. 205–38.

47. Odden, A. Decentralized management and school finance. *Theory into Practice* (Spring 1994) 33,2:104–11.

48. Hill, P., Pierce, L., and Guthrie, J. *Reinventing public education: How contracting can transform America's schools.* Chicago: University of Chicago Press, 1997.