PREFACE

It has been said that the only thing that doesn’t change is change itself. Since the publication of the 11th edition of this book, major changes and key events have occurred, and they have influenced the financing of public education. The Great Recession that encompassed the country finally turned around, and revenues for the schools slowly edged upward, if not to prerecession levels. The aftershocks, however, continue to be felt in school budgets, staffing, programs, and class sizes while reverberating across the nation and the globe. Passage of the Affordable Care Act (ACA) brings promises of health insurance coverage to more individuals and their school-age children, while continued expansion of charter schools across the nation offers more choices within the public school system for everyone. Demographics and costs continue to change, as do goals and standards for the nation’s schools.

Financing Education in a Climate of Change, 12th edition, reflects these and other changes while retaining its practical tone and superior presentation of finance concepts. It includes the most up-to-date information and material regarding funding education in a postrecession era. Providing readers with firm knowledge of all facets of financing education—along with a number of helpful pedagogical tools such as clear tables and figures, end-of-chapter assignment projects, and key concepts by chapter—this new edition adds information on classic and current topics such as the economics of education, recent court decisions, 50-state tables for key funding provisions, and the ongoing debate about vouchers, tax credits, and charter schools.

This classic school finance book contains three major sections. Chapters 1, 2, and 16 provide the overall context for public education finance, and Chapters 3 through 9 focus on finance provisions and topics such as court cases that affect school funding as well as funding formulas and programs. Attention is given to the financial issues technology brings to the classroom, and the melding of instruction at home, teacher oversight, and accountability in a blended learning format. Topics in school business management are taken up in Chapters 10 through 15, including facilities, transportation, capital outlay, accounting, and auditing. Cross-cutting themes of equity, adequacy, and efficiency are woven throughout the text.

NEW TO THIS EDITION

Financing Education in a Climate of Change teaches future education leaders, policymakers, concerned citizens, and others the basic concepts of school finance. Indeed, the dynamic nature of school finance brings about many changes in a brief period of time. This new edition reflects those great changes and other significant information, including the following:

• Updated tables, figures, and references throughout the book reflect new issues and information surrounding school finance as it is influenced by public demand, legislative action, and the courts. These highlight concepts and comparisons in a clear and understandable manner for the reader while using up-to-date research and information.

• Current 50-state comparison tables provide readers with contrast, similarities, and other information among all the states along key dimensions in school finance, including the major state finance system, funding for high-cost students (i.e., special education, English language learners, low-income students), funding for transportation, capital outlay, and small/sparse school districts.
• The evolution of state school finance has created a “seventh period” in the evolution of public education finance, which is examined, including its antecedents and key features (Chapter 7). This development extends the broader view of funding across time for readers and augments sections of the book related to the “how” and “what” of funding public education.

• A focus on adequacy and equity throughout the text includes new sections on adequacy and its influence on the courts and state funding schemes (Chapters 2 and 7).

• Expanded material and new information on the following school finance issues is provided:
  • The economic benefits of education, especially as related to a changing economy (Chapter 1)
  • Shifting demographics, including the rise of children in poverty, a new majority-minority in the schools, and changing balances among different groups involved in the education sector (Chapter 2)
  • Updated information on the tax structure for state governments, including taxes for education, in all 50 states, that highlights the public finance side of education support (Chapter 8)
  • The influence of the courts and legislatures on states and local districts, including a comprehensive overview of recent cases restructured into three major “waves” (Chapter 9)
  • The most current information on the volatile church–state issue as well as the continuing evolution of public charter schools, education savings accounts, and vouchers (Chapter 10)
  • Restructuring of Chapters 13 and 14, along with examples of budgetary, accounting, and purchasing procedures for school leaders (Chapters 10, 13, 14)
  • The new salary schedules for teachers, as well as the actual cost of school personnel when benefits are added to salaries (Chapter 15)
  • Issues related to the Common Core State Standards and future funding for elementary and secondary public schools (Chapter 16)

• New developments in state finance systems are presented, including the new local funding model implemented to fund education in California (Chapter 7).

• A focus on students with special needs provides new information on gifted and talented education, as well as technical and career education, across all 50 states.

• The federal role in education is discussed and current information is given on the “Race to the Top” program (Chapter 8).

• Advances in technology draw attention to the aspect of educational finance that states and districts need to consider when moving further into the cyber age of technology—such as the costs associated with providing students with their own computers. Emphasis is also placed in some areas to expand the blended learning concept.

• Budget procedures focus on the interrelationship between the district and the local school in managing the budget emphasizing the great responsibility associated with controlling large amounts of revenue in various program categories. New procedures are outlined and actual examples of budgetary and purchasing procedures are included in this edition.

• New ancillary material is provided for each chapter, including PowerPoint slide presentations and a test bank. This material is available from Pearson’s instructor resource center, at pearsonhighered.com. The Assignment Projects at the end of the chapters are continued
in this edition and can serve as topics for projects, papers, and discussion, and key concepts are highlighted in each chapter.

*Financing Education in a Climate of Change* is a user-friendly education finance text for graduate students in education administration, public finance, and business administration. The text is also of interest to policymakers and citizens who are concerned with funding schools. It discusses foundational concepts and current issues related to the debate over funding schools, including: Does money matter in producing student outcomes? Where does the money come from and where does the money go? How are high-cost students and districts supported? What are the strengths and weaknesses of the property tax for funding schools? How are charter schools funded and operated? What are the developments of the church–state issue? How have the courts influenced education support?

**ACKNOWLEDGMENTS**

Many people were involved in the development and production of this text, and we thank them wholeheartedly. First, we would like to acknowledge the finance scholars, leaders, and experts who provided epigrams that open each chapter. Next, as with previous editions, we are grateful to the reviewers for their excellent suggestions and thought-provoking comments. Importantly, gratitude is expressed to Professor Robert Knoepel, Clemson University, who carefully, and with attention to the recent research, revised Chapters 11 and 13. We appreciate his diligence and attention to both current practice and the scholarship in the field. Thanks, too, to Pearson editors, Julie Peters, and others: Mary Beth Finch, John Shannon, Lynda Griffiths, and Janet Domingo. Their expertise and assistance are valued.

We deeply regret the passing of Rulon Garfield and thank him for his contributions to the 4th through 10th editions of the text. Continued gratitude is extended to Percy Burrup, who made the foundation of this work possible. His influence still remains.

*Deborah A. Verstegen*

*Vern Brimley, Jr.*
Education then, beyond all other devices of human origin, is a great equalizer of the conditions of [all]—the balance wheel of the social machinery . . . and, if this education should be universal and complete, it would do more than all things else to obliterate factitious distinctions in society.

—Horace Mann, 1848

Key Concepts

Human capital, virtuous circle, taxation, equity, opportunity costs, diminishing marginal utility, value added, negative externality, positive externality, free rider, benefit principle, ability-to-pay principle, cost–quality relationship

Education is an investment in human capital—the habits, knowledge, and skills that make individuals more productive. It occurs in various settings—in formal and informal education, on-the-job training, professional seminars, and personally directed study. Through education, we develop literacy, the ability to numerate, and the skills to solve problems. We achieve self-realization, economic sufficiency, civic responsibility, and satisfactory human relationships. These elements are the result of an educated populace and magnify the strength of a nation. The increase in human capital is, in large part, responsible for the remarkable social and economic development of the United States over the more than two centuries of its existence.

As with all investments, it takes resources to create human capital and provide schooling for children, youths, and adults. The most important producer of human capital in the United States is the public education system. Public education is the conduit that transfers resources from the private sector to individuals. The human capital generated in public schools and elsewhere is needed to ensure a dynamic economy, provide an adequate standard of living, reinforce domestic security, and sustain the role of the United States in the world. To achieve these goals, it is imperative that equitable and adequate finances are made available and spent wisely so that the recipients will be able to maximize their human potential and be prepared to be citizens and competitors in the global economy and knowledge society.

Former Chairman of the Board of Governors, Federal Reserve System, Alan Greenspan, said the nation must invest in human capital and that it is “critical that the quality of education in elementary and secondary schools be improved.” He declared:
Even the most significant advances in information and technology will not produce additional economic value without human creativity and intellect. Certainly, if we are to remain preeminent in transforming knowledge into economic value, the U.S. system of education must remain the world’s leader in generating scientific and technological breakthroughs and in preparing workers to meet the need for skilled labor. . . . Education must realize the potential for bringing lasting benefits to the economy.2

EDUCATION AS HUMAN CAPITAL

Economists now recognize the importance of investment in education for developing the nation’s human capital. Early economists such as David Ricardo and Thomas Malthus emphasized the roles of land, labor, and capital in creating economic growth, but gave only passing attention to the economic importance of education.

More recently, economists have emphasized the value of education as a factor in stimulating economic growth. Today, education is popularly referred to as “investment in human capital.” Such leaders in the field as John Kenneth Galbraith, Harold Groves, Milton Friedman, Theodore Schultz, Gary Becker, George Psacharopoulos, and Charles Benson have documented the relationship between education and economic growth. They have deplored the waste of the labor force and human resources that automatically accompany inadequate education, regardless of its causes. Schultz has given an excellent definition of human capital:

Human capital has the fundamental attributes of the basic economic concept of capital; namely, it is a source of future satisfactions, or of future earnings, or both of them. What makes it human capital is the fact that it becomes an integral part of a person. But we were taught that land, capital, and labor are the basic factors of production. Thus we find it hard to think of the useful skills and knowledge that each of us has acquired as forms of capital.3

Because human capital has the fundamental characteristics of any form of economic capital and becomes a part of the person who possesses it, such capital deteriorates with inactivity. It does not disappear completely until the death or complete incapacity of the person possessing it. Human capital often needs to be reactivated and updated to lessen its degree of obsolescence or the extent of its inadequacy.

CREATION OF WEALTH AND EDUCATION

Human capital is essential to the creation of wealth. Economists use models to analyze growth that focus on increases in labor, physical capital, and technological progress. Technological progress explains nearly all economic growth and wealth creation, and it relies heavily on increases in human capital. Increasing human capital through quality education is, therefore, vitally important.

Increases in human capital mean that the population includes more educated workers. Educated workers take more pride in their work, are faster and more creative, have more basic job skills, and acquire new skills more rapidly than less educated workers. Put simply, educated workers are more productive. They have less absenteeism, are less likely to shirk their duties, and can adapt to and understand the goals of their employer.
Human capital begets more human and physical capital. People with more education are more likely to continue training, to engage in personally directed studies, and to participate in professional seminars. They are more likely to have children who consume high levels of education. Those who have a college education generally earn nearly four times as much as high school dropouts and consequently have more to invest in physical capital. Investment benefits society through the greater production of goods and services. Thus education creates a virtuous circle—the condition in which a favorable circumstance or result gives rise to another that subsequently supports the first. The more education provided, the more wealth developed; the more wealth created, the more funds available for investment; the more investment undertaken, the more wealth available for investment in physical and human capital.

The wonders of modern technology have been made possible largely because of education. The position the United States holds in technical improvements is the result of an educational system and a society that encourage research, creativity, and practical application. Much of today’s wealth is tied to technology, and technology is advanced through education.

Every area of resource—human, physical, and financial—has been improved and refined through education. Even the environment is better appreciated and preserved through education. Methods of mining, lumbering, and other forms of natural resource production and use have been improved through the development of skills and training, and more wealth is produced through better use of resources. Improvements in productivity mean that more wealth is created with a smaller impact on the natural world.

Human capital supports greater productivity in management. As managers and leaders learn about leadership skills, they are able to make better decisions leading to more production, less dissatisfaction among workers, and more efficient accomplishment of the organization’s goals. Effective management of labor, capital, technology, and natural resources promotes wealth.

**EDUCATION: AN IMPORTANT INDUSTRY**

A common and certainly defensible description of education is that it is an industry in the sense that it utilizes money and other valuable resources to develop its product. Although it is the largest industry in the United States, education produces only intangibles in the form of nonmaterial services that are valuable but difficult to measure. It is an industry where extensive data are...
readily available to determine the inputs to education, but where no research or empirical study has yet found a satisfactory way to measure—or even to approximate—its total output. In public education, there is no profit motive. Education is usually provided in government schools, which are dependent on the private economy for financial support. The United States is a world leader in education, with approximately 25 percent of its population involved in one way or another. “Citizens of the United States have the highest number of years in formal education of any wealthy country.”\(^5\) With regard to expenditures, statistics from the U.S. Department of Education show that 7.8 percent of the country’s gross domestic product (GDP) goes toward all educational institutions—an all-time high (see Table 1.1). The United States spends more per pupil on education than any other wealthy country; as a percentage of GDP, however, Denmark, Iceland, Korea, Norway, and Israel spend more.\(^6\)

Historically, education has been the largest public function in the United States—and the country’s biggest business—when viewed in terms of the number of people and dollars of income involved in its operation. The expansion of educational services and the greatly increasing costs of education year after year have had an effect on the nation’s economy. It is not likely that this condition will change.

Education requires resources to provide for the needs of students, teachers, administrators, facilities, equipment, supplies, and property. These resources depend on the private economy. The interconnection between education (providing the human capital to engender economic strength) and the economy (providing funds for education) is a reality. All over the world, educational achievement and economic success are clearly linked. The struggle to raise a nation’s living standard is fought first and foremost in the classroom. Certainly, no one needs to be convinced that education matters. The jobs in industry, in manufacturing, in services, and in the provision of homeland security for a nation require citizens who are well educated.

Interest in the economics of education is said to date back to the time of Plato; numerous economists and educators have given in-depth consideration to this relationship. They have established and documented the fact that increases in education result in increases in productivity and gains in social, political, and economic life. They also support the idea that education costs are necessary and real investments in human capital.

Because educational institutions collectively are the biggest disbursers of public money in the United States, and because education is the greatest contributor to economic productivity, the positive relationship between education and economic growth is real and obvious. Educators and economists have understood this close and interdependent relationship for some time.

For example, Charles S. Benson, a noted education economist, wrote on this topic of the relationship between education and economics. His point of view is summarized here:

Throughout the world, both philosophers and men of affairs appear to have reached consensus on this point: education is a major force for human betterment. Quality of education is intimately related to its financing. How much resources are made available, and how effectively these resources are used stand as crucial questions in determining the degree to which education meets the aspirations that people hold for it.\(^7\)

Today it is a seldom disputed fact that expending adequate funds for education will provide economic dividends to society. Quality education is expensive but it brings commensurate benefits to individuals, families, business and professional people, and social agencies and institutions.
A cursory look at the political and economic philosophies in relation to education adopted by Karl Marx, John Maynard Keynes, John Kenneth Galbraith, Milton Friedman, and Adam Smith illustrates that they all saw the need for and the power of education, even though they recommended different roles for government (and education). Marx said that the central government should have absolute control. Regarding the others, perspectives differed from government assisting in cases of economic depression (Keynes), to more support of the public sector and more government resources being derived from the affluent private sector (Galbraith), to government intervention generally hampering progress (Friedman), to limiting government (Smith). (See Table 1.2.)

Each of these philosophers believed that education was important; their differences involve the how and the what of education. According to Marx, education should be free to the student,
<table>
<thead>
<tr>
<th>Role of Government</th>
<th>Marx</th>
<th>Keynes</th>
<th>Galbraith</th>
<th>Friedman</th>
<th>Smith</th>
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<tbody>
<tr>
<td>Government or Economy</td>
<td>Communist</td>
<td>Government Intervention</td>
<td>Liberal</td>
<td>Conservative</td>
<td>Capitalist</td>
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<tr>
<td>Central government has total control; sets policy and goals in all aspects of society; strong bureaucracy.</td>
<td>Government will help the economy in depression or recession by public works projects, stimulus packages, bailouts, etc. Deficits accumulated will be repaid during good economic times.</td>
<td>Government is a dominant factor in society. Limit overproduction by private sector. Provide affluence for all citizens.</td>
<td>Government interventions have hampered programs. Should reduce bureaucracy because people who are free to choose without bureaucratic influence create a better quality of life.</td>
<td>The invisible hand of competition will run the economy in a natural way. Government should govern only—no government interference in business or trade, just preserve law and order, defend the nation, enforce justice. Least government is best.</td>
<td></td>
</tr>
<tr>
<td>Educational Perspective</td>
<td>Free public education, controlled and financed by centralized government. Trains in value system of the government.</td>
<td>“Education is the inculcation of the incomprehensible into the indifferent by the incompetent” and provided by government.</td>
<td>Education is vital for technical advances and growth. Education must be encouraged for future research and development.</td>
<td>Government overgoverns education. Voucher system for education. Education is essential in maintaining free enterprise, political freedom, and open economy.</td>
<td>Education is one of the essential government services to make capitalism work; competition between schools. Local education control, compulsory education at elementary level.</td>
</tr>
<tr>
<td>Taxes</td>
<td>Highly graduated progressive tax on income.</td>
<td>Progressive tax to redistribute wealth so the poor can spend more and the wealthy save less.</td>
<td>Public economy is starved; private economy is bloated. Tax the affluent society (private sector) more to provide needed public services, education, etc.</td>
<td>Private economy is starved; public economy is bloated. Tax reform encourages investment in private sector.</td>
<td>Taxes should reflect ability to pay, not be arbitrary; should be convenient and efficient. Needed to provide for essential government services.</td>
</tr>
</tbody>
</table>
Marx  Keynes  Galbraith  Friedman  Smith

<table>
<thead>
<tr>
<th>Government or Economy</th>
<th>Marx</th>
<th>Keynes</th>
<th>Galbraith</th>
<th>Friedman</th>
<th>Smith</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
<td>Abolition of private ownership of property.</td>
<td>Private property essential; however, government is the most important element of a nation’s economy.</td>
<td>Private ownership has been oversold through advertising; the affluence of private sector has cheated public needs. Fiscal policy is essential.</td>
<td>People must be free to own and exchange goods. Monetary policy, not fiscal policy, is essential in shaping economic events.</td>
<td>Private property is essential to freedom; if state owns, freedom vanishes.</td>
</tr>
<tr>
<td>Vantage Point in History</td>
<td>Reaction to exploitation of workers in the Industrial Revolution. History is determined by economic conditions.</td>
<td>Predicted ruin of Europe’s economy because of harsh economic conditions imposed on Germany by the Treaty of Versailles.</td>
<td>Conventional wisdom always in danger of becoming obsolete. Rejects orthodox views of economics. Quality of life, not gross national product, should be the measure of economic achievement.</td>
<td>Freedom is more important than prosperity. However, freedom is the best environment for economic prosperity; monetary policy leads to stability.</td>
<td>Wrote The Wealth of Nations in 1776, but its major impact came in early 1800s. Reaction to British mercantilism; tariffs and limited “free” trade.</td>
</tr>
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state controlled, financed by taxation, and administered by the central government. It exists to train citizens in the value system of the government. Keynes believed that government had to provide an education, but he was famous for saying that “education is the inculcation of the incomprehensible into the indifferent by the incompetent.” Galbraith maintained that education is vital for technical and human advancement and must be supported to a more significant level by the resources that are abundant in the affluent private economy. Friedman saw education as excessively controlled by government; he believed the solution is the individual’s freedom to choose which education is most suitable, using a voucher to shop for that education. Smith saw education as one of the essential services of government.

When seeking financial support for the schools, educators must understand the diverse philosophies and communicate across the political spectrum by using concepts that resonate within a particular philosophy. More and more educational leaders understand that all major social forces must not only recognize one another’s objectives and circumstances but also work cooperatively to solve one another’s problems. Until recent years, educators, economists, and political leaders have been largely indifferent to each other’s needs and problems.
A PUBLIC-SECTOR RESPONSIBILITY

Education is produced in the private sector of the economy as well as in the public sector. Government, through taxation, produces most educational services consumed in the United States. At the same time, private individuals, companies, and churches sponsor many schools. In certain other countries, education is largely a product of the private sector.

Schools in the private sector operate under a different set of theories and rules than those in the public sector. Some believe they are more responsive to consumer demand because private educational organizations that fail to meet consumer demand see a reduction in pupils, which leads to a reduction in resources available to hire staff, acquire buildings and property, and create endowments. The ability of private schools to meet consumer demand largely determines how much financial support is available for their future operations. The desires, needs, and even whims of potential purchasers are soon met in the private sector, because ignoring them would translate into a loss of revenue and profits. Inefficiency, incompetence, or other internal deficiencies are readily made known and usually lead to changes in schools in the competitive marketplace.

Public Sector → Human Capital → Private Sector

Education

Government institutions, including public schools, do not react as quickly or as obediently to consumer demand, external pressure, and public criticism as their counterparts in the competitive world. Local, state, and federal governments use tax funds to pay for their part of the education pattern. These tax funds are disbursed with little reliance on consumer demand to reject financial decisions. Also, the pluralism built into the U.S. constitutional order may make it more difficult to efficiently allocate resources to education. There is considerable variation from community to community in terms of the quality of the schools, the needs of the students, and the availability of resources. For this reason, states provide guidance and resources to help local districts and schools meet their goals. Allocating economic resources to education is one of the primary responsibilities of local, state, and federal lawmaking bodies. Fortunately, the educational establishment now recognizes that decisions concerning resource allocation are made in the political arena.

In this interacting, cooperating, and sometimes confusing education enterprise, some recipients may receive advantages over others; others may suffer disadvantages. This is inevitable in a process characterized by innate and fundamental differences in student ability, interest, hard work, and desire to learn—as well as differences in the many other factors that make up the U.S. school milieu. In this country’s federal system, public education is intended to produce equity (fairness) in the treatment of students. Although the terms are often used interchangeably, equity and equality are not synonyms. Some degree of inequality will exist, but it should be minimized.
ECONOMICS AND SOCIAL PROGRESS

Profits are earned when revenues, generated by sales, exceed costs. Profits are meaningful only in the private sector of the economy. When consumers and producers engage in market transactions, the resulting profits are signals that private firms use to guide their investment, hiring, and strategic decisions. Through the resources generated in the private sector, the public sector, including education, receives the financial resources it requires to operate. Therefore, a system of diverting funds from the private sector to the public sector must exist. The most common system to accomplish this goal—albeit one that is far from perfect—is taxation.

The reliance on taxation to provide funds for education requires a recognition and understanding of the relationship between public education and the field of economics. Educational leaders at all levels cannot continue to give mere fleeting glances and incidental references to fundamental economic theories and principles if they are to be effective in helping solve, or reduce, the complex and persistent problems involved in financing education adequately and equitably. Therefore, some knowledge of economics and its partnership role with education is deemed to be important for school finance students as well as practitioners. For that reason, this book begins with a brief discussion of some of the fundamental principles and concepts of economics that have practical application to the broad field of school finance.

The effects of compulsory school attendance laws, taxation laws, changes in the economy, clamor for improvement in government-sponsored schools, and social pressures can be understood with a basic grasp of economic principles. Because education is vital to the interests of the individual and broader society, the state has the right and the responsibility to provide education opportunities broadly and to ensure that those opportunities are accessed by every child. Parents and guardians have the responsibility to ensure that their children and wards take advantage of the schooling provided by the public.

There are diverse ways of measuring or rating the degree of advancement or upward progress of a society. One way is to apply the economic dimension that attempts to determine the degree or percentage of total human effort that is being diverted to production of the goods and services required for survival, such as food, clothing, and shelter. This measure of human effort is then added to the effort devoted to producing goods and services that make life more comfortable but are not required for survival, such as entertainment, travel, and education. Societies at the low end of the social–progress continuum devote all or nearly all of their efforts to producing essential goods and services. As societies develop economically, the percentage of human effort expended to produce goods and services not required for subsistence increases.

When societies reach the point where all the material requirements for survival are met, production and consumption decisions are devoted to satisfying other desires. Society has no
ability to judge which desires should be met or how to allocate scarce resources. Through free exchange in the marketplace, individual consumers signal producers which goods and services they desire. Education is one of those desires that is highly sought after as societies advance above the basic survival level. The economic history of more-developed countries is replete with examples of the importance of education services and the strong consumer demand for increased educational services. Early education entrepreneurs provided schools, books, and other opportunities to meet the demand for education. In the 1800s and thereafter, governments began to recognize the value of providing basic education to more children. Today, countries around the world are located at various points on the education–economic development continuum.

Thus, it appears that the greater the degree of advancement of a society, the greater its potential for producing additional goods and services, including education. Those countries that lack resources or people with technical ability must spend most of their time and effort in producing goods for subsistence and survival. In turn, they will have commensurately little time and ability to produce a good educational system. A report from the World Bank stated:

Although exceptions are made, in general the emphasis in low-income countries is on the development of low-cost basic education to lay the requisite foundation of science, language, mathematics, and other cognitive skills. In middle-income countries, where first-level education is already widely available, educational quality is emphasized, and with it the expansion of facilities to meet the needs of an increasingly sophisticated economy. As the absorptive capacity of an economy grows, the priority tends to shift toward providing higher level technical skills, as well as developing skills in science, technology, information processing, and research.8

A country that strives to produce quality educational services is constantly improving the foundation on which advances in economic productivity and wealth are built. Countries that make only minimal effort in education usually produce only those goods and services necessary for a meager, subsistence existence. The educational system, then, is both a very important result and a key determinant of the social and economic progress of a nation. As stated in The Economist:

In the advanced economies of America and Europe, today’s chief economic worry is that jobs and industries will be lost to new competition from Asia, Latin America, and Eastern Europe. It is commonplace that, among these emerging economies, the most successful are the ones that have educated most of their workers up to, and in many cases well beyond, levels typically achieved in the West.9

**Education Produces Nonfree Services**

Any college student can attest to the fact that education is not a free commodity in the economic sense. When consideration is given to the indirect costs, what economists call **opportunity costs** (the income and time lost while attending school), as well as the direct costs (living expenses, fees, textbooks, computers, materials, and tuition), there is no need for an additional reminder that education is far from free.

As a purchaser of educational services, the student recognizes education as a consumer good, paying money for the avowed purpose of consuming as much education as possible for the money spent. Conversely, because education creates human capital, it can also be treated as a
producer good. The increase in human capital generated by education allows for a greater production of goods and services, not the least of which is more education. After all, instructors must first be educated before they can teach.

As the college graduate receives an academic degree and moves into the world of work, no stock of accumulated physical capital is evident from educational experiences. Instead, the investment has been made in nontangible goods and services—human capital that, it is hoped, will be used to provide consumers with valuable goods and services that follow from the necessary process of earning a living. The human capital is bundled with the goods and services provided in the market. A good such as a house, for example, has embedded in the rooms and conveniences the educational attainment of architects, mortgage lenders, carpenters, plumbers, electricians, and many others.

These educational services acquired in school may be used and reused almost without limit; thus they are described as multiple-use goods or services. In contrast to machines, equipment, and other physical goods that depreciate with use, the durability or utility of educational services normally appreciates with use.

Although much learning is sought and obtained for its intrinsic and cultural value, most education is sought to increase the ability of the student to engage in some useful occupation or profession and consequently produce goods and services for the marketplace. This process is an economic one, since it provides the means to satisfy wants as a consumer as well as to produce goods and services for other consumers. An education adds to the richness of life for its recipients, allows for more informed decision making, and changes the scope of consumption decisions to products that require more education to access, such as books, magazines, works of art, and musical compositions. Thus, education is literally both a consumer’s good and a producer’s good.

**Education Stimulates Economic Growth**

Education is important to increases in economic productivity. Wealth in the economy is created by increasing the amount of labor or capital available for production or by improving the productivity of their use. Labor increases are determined by demographics, capital increases are determined by savings and investment, and productivity increases are enhanced by increases in knowledge. The only durable way to increase wealth is by improving capital and labor productivity. One may think of education as a necessary condition for economic growth, but not as a sufficient condition to ensure such growth.

In the quest for economic growth and higher productivity, it is important to recognize that other investment projects have legitimate claims to investment dollars. Legislative leaders find themselves under pressure from educational advocates as they attempt to make decisions to establish and support public educational institutions; such decisions require diverting resources from other worthy investments. These leaders understand only too well that education, as an industry, does not and cannot operate in a vacuum without reference to the broader economy. To become effective, educators must be cognizant of the philosophy of individual politicians, economic principles, political theories, and related disciplines. Educators must understand that politicians are just as much their clients as students are. Whether it is a school board member making programmatic or salary decisions, a legislator determining the level of school support, a member of Congress, or the President of the United States, each party is influential in determining the fiscal factors that affect the educational program.

Although the United States has been blessed with a well-educated citizenry, the demands that can be made on the private sector always have limits. In recent years, the spiraling costs of
the services of government and its institutions, together with a weak economy, have sharpened
competition for the tax dollar more than ever before. As an important economic service with
increasing responsibility to the people of the nation, education would seem to have established
itself as a strong and deserving competitor for the economic resources responsible for its
support.

The Scope of Educational Services

Economics has a concept called consumer sovereignty, which means that consumers in free-
market systems determine what gets produced.\(^\text{10}\) In a competitive market, consumers determine
what goods and services will be provided with their purchasing decisions. If entrepreneurs desire
to create new goods or services, they must ensure that an adequate demand for those items exist.
Without consumer demand, entrepreneurs cannot repay their suppliers or earn a profit, and the
enterprise will fail. It is consumers’ willingness to pay for a good that creates the supply. Demand
for education, however, is unlike the demand for most other goods and services. In education, the
consumers of education—the students—generally do not pay for their education. Rather, funds
for education are primarily provided through taxes collected by the government.

The quality and quantity of educational services are determined largely by the wishes of
government officials; by the pleasant or unpleasant experiences voters have had with education
in their own lives; by groups with interest in education such as parents, teachers, and administra-
tors; and by taxpayers who seek to lower their share of the tax burden. The degree of satisfaction
of students is often secondary to the concerns of taxpayers, who largely determine the extent of
such services available. Thus, educational expenditures are often determined in a right-to-left
direction—in much the same way as a customer who is short of cash might approach the menu in
a luxurious restaurant.

The individuals who determine the supply of education to be made available often have no
children or other family who are students nor have a direct relationship with any of the individu-
als of any education interest group. For that reason, school board members, other elected offi-
cials, and government administrators who are responsible for the supply of education may
approach school finance with a neutral or even a negative attitude. Their decisions may be made
in terms of a real or imagined financial tax burden to the exclusion of more relevant and neces-
sary educational needs. This perspective often results in exaggerated criticism of increases in
educational expenditures, especially in areas where there is little objective evidence of commen-
surate results. Regular and substantial increases in financial inputs are necessary to keep pace
with inflation and the addition of new students, and to increase and improve quality and expand
services. Teacher and administrative salaries must reflect growing inflation rates. Increasing
teacher quality also requires a financial commitment.

The Marginal Dollar Principle

How does a free society determine the amount of resources it will spend for such an important
service of government as education? Theoretically, it could be done in the same way an individu-
al decides how to allocate scarce resources among competing goods and services in a free mar-
ket. The individual considers the marginal utility of prospective goods and services. The utility is
the pleasure or satisfaction that the consumer achieves in consuming a good or service.

It is important to understand what economists call diminishing marginal utility. The utility of additional units of a particular good or service decreases as additional units are consumed. For example, an individual will have a smaller increase in utility with the purchase of a third car
than with the purchase of a second one, and the second car adds much less additional utility than the first. Diminishing marginal utility explains the paradox that water, which is essential for life, is relatively cheap, whereas diamonds, which fulfill no basic human need, are very expensive. To a man suffering extreme thirst, a little water might command a very high price, but to the average water consumer, a gallon of water has very little monetary value.

Diminishing marginal utility is important in education, too. The public may place a high value on the purchase of elementary education for all its children at public expense and give top priority to this undertaking, but may put less emphasis on funding four years of high school education and still less emphasis on providing funds for higher education. The public might also think that the expenditure of the first $10,000 per pupil per year is highly desirable, but that an additional $10,000 might be less desirable, and that expending a further $10,000 might be undesirable or unwise—because it might require taking funds away from other seemingly more important goods or services.

The marginal dollar is the dollar that would be better spent for some other good or service. Thus, allocating funds for education becomes a problem of determining at what point an additional amount proposed as an expenditure for education would bring greater satisfaction or worth if it were spent for other goods or services.

Education has specific problems allocating resources while recognizing diminishing marginal utility. As McLure has noted:

The theory of marginal utility cannot be applied as clearly in education as in some other operations. It is difficult, for example, to determine when the addition of one more staff member may or may not produce results which would be equal to or less than the value of the money paid the person. In industry, however, the addition of one worker would be at the margin if the increased income would be equal to the cost of the worker.11

Economists who are becoming more involved in studying this relationship in education are classifying the concept as value added.

The Point of Diminishing Returns

Undoubtedly, economists argue, there is a point of diminishing returns in the expenditure of funds for education—a point beyond which additional expenditures will yield very little or no additional educational returns. Where this point is, in terms of expenditures per pupil, has not yet been determined. The problem with education is that the information needed to determine precise educational returns is not available. One reason is that education is not bought and sold like other commodities.

Determining the relationship of per-pupil expenditures for education to the quality of the product has proved to be a popular yet elusive research subject for many years. There is disagreement among researchers on whether and the extent to which a direct relationship exists between dollars spent and student performance. Such divergence of opinion has caused some to believe that public education has already reached the marginal dollar limit and the point of diminishing returns. Others disagree, finding the concept lacking in the realm of education as it exists today. The lack of unanimity among scholars does not diminish the notion that whatever improvements can be made to make education more effective, more extensive, and more applicable to the lives of U.S. citizens should be made.
To say that resource inputs always can and do make a difference in students’ educational outcomes may still be a matter of interpretation. It is normal for people, and especially overburdened taxpayers, to compare the costs and apparent productivity of various public institutions or industries—particularly those in direct competition with each other for scarce tax dollars. Such comparisons may reflect unfavorably on education for reasons beyond the control of those involved.

The problem of producing spectacular improvements in education with the allocation of additional funds is another matter. It is argued that greatly increased expenditures for education may not produce such large or fantastic increases or improvements in its products. The nature of the learning process being what it is, any increases in learning effectiveness usually can be anticipated only in the form of small percentage improvements, regardless of the magnitude of the financial increments applied to the improvement process. It is unlikely that the field of education, even with the application of almost limitless resources, will ever have available ways of multiplying the quantity or the quality of learning that human beings can achieve in a predetermined amount of time. However, vast sums of money have not been provided to determine the veracity or lack thereof of this hypothesis. Perhaps huge resource inflows would affect outcomes in ways unforeseen, but this remains unknown until changes in current resources, together with data and measurement limitations, can be overcome that would allow such an analysis to proceed.

**ECONOMIC BENEFITS OF EDUCATION**

Right or wrong, the main thrust of expenditures for public education is toward transmitting known knowledge and skills to individual consumers. Given that the generally accepted philosophy of education requires that all citizens have a high-quality education through most of their preadult life, the costs of a formal education program must, of necessity, be proportionately higher for the United States than for countries that are disposed to release their youths from the educational system at an earlier age. But precisely what are the benefits of education to individuals under a system that requires participation for such an extended period?

Many studies have been conducted and estimates made to determine the economic benefits that accrue to the average person with varying amounts of formal education. Universally, these reports indicate the high pecuniary benefits of education (see Table 1.3).

The educated person enjoys a broader range of job opportunities than his or her less well-educated counterpart. Because unemployment is usually closely related to the lack of education and adequate work skills, education provides some security against joblessness in periods of change or a slackening of business and industrial activity. However, no figures can be quoted to indicate the economic benefits of education to individuals in such matters as growth in vocational alternatives, growth in vocational and avocational interests, and greater appreciation for cultural and intellectual pursuits.

Many people view education strictly in terms of costs, legislative allocations, and percentage of taxes. If education is considered as an investment in human capital, the problem becomes one of extracting sufficient resources from the present economy to provide educational opportunities to the populace now that will be adequate to pay dividends to society in the future. If one considers only the taxes paid by individuals who make more money, the benefit or cost to the state is significant. Research by Belfield and Levin^{12} finds that in the United States:

- A high school dropout imposes a fiscal burden on society; a college-educated person produces four times as much revenue for government programs and services.
- The difference in total tax and expenditure benefits for a high school graduate versus a dropout is at least $129,230. For a college graduate that difference is over $350,000.
<table>
<thead>
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<th>Sex and Year</th>
<th>Total</th>
<th>Less than 9th Grade</th>
<th>Some High School, No Completion</th>
<th>High School Completion (includes equivalency)</th>
<th>Some College, No Degree</th>
<th>Associate’s Degree</th>
<th>Bachelor’s Degree</th>
<th>Master’s Degree</th>
<th>Professional Degree</th>
<th>Doctor’s Degree</th>
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<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>2006</td>
<td>45,759</td>
<td>22,708</td>
<td>27,653</td>
<td>37,031</td>
<td>43,834</td>
<td>47,072</td>
<td>66,933</td>
<td>60,906</td>
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<td>23,375</td>
<td>29,317</td>
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<tr>
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<td>24,255</td>
<td>29,768</td>
<td>39,009</td>
<td>45,821</td>
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<td>65,800</td>
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<td>24,997</td>
<td>29,900</td>
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<td>46,578</td>
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<td>71,936</td>
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<td>73,854</td>
<td>66,196</td>
<td>76,284</td>
<td>119,474</td>
</tr>
</tbody>
</table>

**Current Dollars**

| Females      |       |                     |                                 |                                              |                         |                   |                  |                 |                   |                 |
|--------------|-------|---------------------|---------------------------------|                                              |                         |                   |                  |                 |                   |                 |
| 2006         | 35,095| 18,133              | 20,130                          | 26,737                                       | 31,954                  | 35,159            | 49,571           | 45,408          | 52,438            | 76,242          |
| 2007         | 36,086| 18,261              | 20,398                          | 27,240                                       | 32,837                  | 36,333            | 50,398           | 45,773          | 55,426            | 71,098          |
| 2008         | 36,697| 18,634              | 20,405                          | 28,382                                       | 32,626                  | 36,760            | 51,409           | 47,026          | 57,512            | 71,297          |
| 2009         | 37,264| 18,480              | 21,226                          | 29,150                                       | 34,087                  | 37,267            | 51,878           | 46,832          | 61,068            | 83,905          |
| 2010         | 38,178| 18,204              | 20,836                          | 29,843                                       | 33,469                  | 37,729            | 51,967           | 47,447          | 59,295            | 76,861          |
| 2011         | 38,909| 20,102              | 21,113                          | 30,011                                       | 34,592                  | 39,286            | 52,136           | 49,108          | 60,304            | 80,718          |

• Compared to college graduates, annual losses exceed $267,390 in federal and state income taxes for each high school dropout over his or her lifetime.
• The nation loses $150 billion in combined income and tax revenue with each cohort of 18-year-olds who never complete high school and $610 billion in costs to society.
• Aggregate health-related losses for the estimated annual 800,000 high school dropouts total at least $75.2 billion, or nearly $95,000 per student.
• The country could save about $50 billion in income losses and $200 billion in social costs annually by improving educational attainment among all recipients of Temporary Assistance for Needy Families (TANF), food stamps, and housing assistance. Savings from the costs of crime total $198,410 per dropout, or over $158 billion per cohort.
• Increasing the high school completion rate by just 5 percent would save this country as much as $32 billion in reduced costs from crime over a lifetime.
• The economic benefits of participation in model preschool programs range as high as $7–$10 for each dollar invested.
• College graduates are three times more likely to vote than Americans without a high school degree; those who earn more are far more likely to be affiliated with a political organization.

In addition to these benefits, there is significant pecuniary advantage to the individual. According to Table 1.3 (U.S. Census Bureau) and Figure 1.1 (U.S. Department of Commerce)

**FIGURE 1.1** Money Income of Households, Families, and Persons in the United States.

economic benefits, in terms of average earnings per person in the United States relative to education level achieved in 2011, were as follows:

- A male junior high school dropout earned $15,224 less per year than a high school graduate. In lifetime earnings, that difference amounts to $532,840.
- A male high school dropout earned $10,024 less per year than a high school graduate. In lifetime earnings, that difference equates to $350,840.
- A male high school graduate earned $25,749 less annually than a college graduate did. In lifetime earnings, that difference equals $901,215.
- Increasing education for males at the master’s, doctorate, and professional levels showed similar gains.
- A female junior high school dropout earned $9,909 less per year than a high school graduate. That difference amounts to $346,815 in lifetime earnings.
- A female high school dropout earned $8,898 less per year than a high school graduate. That difference equates to $311,930 in lifetime earnings.
- A female high school graduate earned $19,097 less annually than a college graduate did. That difference equals $668,395 in lifetime earnings.
- Increasing education for females at the master’s, doctorate, and professional levels showed similar gains.

Workers are limited because of a lack of education. The more education they receive, on average, the more money they make. The relationship of education and earnings is positive for both males and females. Males, however, have higher median annual incomes than females. Also, males at the professional level make more than those with a doctorate. Females usually follow this same pattern. The disparity in incomes between males and females is counterproductive and unfair. It remains a key issue in twenty-first-century America.

**Increasing Expenditures and the Economy**

It is well established that human capital is more important than natural resources in wealth creation. Fortunate is the nation that has extensive natural resources; however, the nation with highly developed human resources is even more fortunate. A nation with high educational development will overcome to a great degree any lack of natural resources, but no nation having a poor educational system, even with tremendous stores of natural wealth, has been able to approach high individual economic productivity. Countries such as Japan, Taiwan, Singapore, and Finland are examples of high-income countries with a strong tradition of quality education and few or very limited natural resources. At the other extreme are countries such as Nigeria, Brazil, Saudi Arabia, and Indonesia, which possess abundant natural resources but fail to provide adequate education for their citizens. As a result, these countries with abundant natural resources are too slowly improving the incomes and well-being of their citizens.

**Education Expenditures Benefit Individuals and Society**

It is clear that the returns on education expenditures are shared by the individual student as private benefits and by society at large as public benefits. The amount that society and the individual benefit from education varies with the amount of education. Early elementary education—basic reading, writing, and math skills—aids society enormously. Through elementary education,
Chapter 1 • The Economics of Education

society acquires voters who are better informed, patients who are better able to take advantage of health services, and individuals who more readily communicate. With regard to students, they acquire very few skills through early elementary education that will differentiate them in the marketplace. Instead, those marketable skills are acquired later, in secondary and higher education. As such, the returns to education start out favoring social returns, but in college and graduate and professional schools, the individual benefits by acquiring marketable skills and captures the larger share of the returns from education.

It is true that many of the benefits of education cannot be measured with standard economic tools. For example, an individual gains social mobility, a higher status, more appreciation for arts and culture, and the ability to participate more fully in the democratic process. In addition, benefits accrue to the individual’s family, neighborhood, business, society, and culture that cannot be measured in dollars and cents. Children of college graduates are more likely to attend college and be successful in college, creating a family education cycle. The whole of society benefits from scientific inventions. Business organizations benefit from higher skilled and motivated workers.

Generally, the more education a person attains, the more income he or she will have. As income rises, so do property and income taxes. Therefore, more resources become available for government-provided goods and services such as education. As income increases, more services can be provided even without increasing the tax burden on individuals.

Education expenditures, particularly those for teacher and administrative salaries (75 to 80 percent of current expenditures), quickly find their way back into the private economy through normal flow in the economic system. Thus, the withdrawal from the private sector in the form of taxes paid, their passage into and through the public sector via the payroll, and their return to the sector of their beginnings usually forms a cycle that is operative in such a short period of time that the original withdrawal effect on the economy is minimal.

NONECONOMIC BENEFITS OF EDUCATION

The positive economic effects of good education are extremely important. Much is said and written about education as an investment in people. Sometimes, however, in an effort to show its economic investment characteristics, people may inadvertently overlook the public and social benefits—that is, the noneconomic benefits of education. A republic must stake its chances for a free democratic society on a viable education system. Uninformed and illiterate people are not able to govern themselves. Students must understand the philosophical foundation and the rights and responsibilities of the U.S. Constitution, the framework of government, their role in continuing the nation’s political system, and the dangers of anarchy. The foundation of representative government is a population of well-informed and responsible citizens with knowledge to cast a rational vote for candidates for public office. Those for whom they vote must make decisions about the education system, national defense, communication, and international affairs, which make it clear that an educated citizenry is essential in a democratic system of government.

Perpetuating our form of government is just one of the many noneconomic benefits of education. Another is that schools are a source of civic and moral values. The principles of honesty, integrity, morality, compassion, and adherence to rules and laws are still taught, both directly and indirectly, in the schools. Although religious instruction is left for churches, other values such as tolerance, rejecting prejudice, and equality are studied in school classrooms. Informed and perceptive minds are nurtured in the school setting.
Individuals also learn to appreciate and patronize the arts, which benefits all members of society. Education preserves a nation’s culture and a people’s sense of identity. Only through education can the history and traditions of a people be preserved and the standard of living (as measured by quantity of money and quality of life) is enhanced.

**Education Produces External Benefits**

As previously stated, education produces benefits for society beyond (external to) the benefits obtained by its recipients. Therefore, it is said that education creates *externalities*.

Externalities may be either positive or negative. A **negative externality** is something like pollution. For example, individuals value steel and, therefore, companies produce it for consumers; however, iron ore and coal must be mined, which scars the landscape and creates pollution, and steel is transported to consumers on trains or trucks that emit pollution. The consumer of steel does not pay for the pollution generated in the production of steel. Rather, society as a whole pays the cost of this pollution.

Education, in contrast, is a good example of a **positive externality**. The benefits that are produced from education are not all captured by the student. That is, a healthier society, a more informed electorate, and a more productive labor force are a few of the benefits that the student shares with society at large.

This positive externality is used to justify financing education through taxation rather than by collecting fees, using rate bills, or charging tuition. All members of society benefit from an education, so all must pay for it. Also, the purchaser of elementary education would not be the student but rather the student’s parents or guardians. One cannot always assume that parents and guardians would always take into account the best interest of the student or be able to provide for it. Some parents or guardians would purchase little or no education if allowed to exercise their individual options. The large societal benefit of elementary education is such, however, that society does not permit individuals to refrain from purchasing it. Society, through government, sets a minimum level of education that every child should acquire.

To ensure that an adequate amount of education is produced and consumed, education is supported financially by taxation. Income taxes are based on some measure of a person’s ability to pay. Property taxes are based on the value of real estate. Sales taxes depend on the level of consumption. These tax systems presume no direct relation between the amount of taxes paid and the amount of public goods or services that are received by the taxpayer. To a great degree, the systems deny the individual the right of choice of the type, amount, or method of educational services he or she is required to assume except through representatives such as the school board, legislators, and congressional representatives.

It is evident that individuals are concerned not only with the amount of education they consume but also the extent of education others consume. Standards of living are raised and economic growth is enhanced by the externalities that are generated by education. Individuals will reap additional personal benefits when most citizens have an adequate education. If only a few people in society obtain adequate education, many others in that society will suffer lost income and well-being.

**Exclusion or Free Rider Principle**

The ability of a consumer to enjoy exclusively a good or service is commonly referred to as the *exclusion principle*. Most goods and services produced by the private market cannot be consumed simultaneously by others. An apple bought at the grocery store can be eaten only once; a
barber cannot cut the hair of two heads at the same time. The private sector is very adept at producing these types of goods. Such goods and services provide benefits only to the consumer and cannot be enjoyed by others.

Other types of goods, called pure public goods by economists, can be enjoyed by many people simultaneously. The community police force provides benefits for every citizen in the community by reducing crime. Clean air benefits every citizen of the community. Examples of public goods include defense, police, vaccinations, and the courts. A consumer who enjoys a good or service that is paid for and provided to the community as a whole, without paying for that service, is known as a free rider.

Education is a public good and allows for free riders. There is a large social benefit if the vast majority of individuals acquire adequate education. Individuals may garner many of these benefits without spending their income or foregoing income to continue schooling. Everyone benefits from education when the results are lower social costs, increased wealth, greater income and sales tax revenue, and development of the five elements that expand the economy: resources, labor, capital, technology, and management. It is therefore impossible to assess the costs of education in terms of potential benefits to purchasers and at the same time exclude nonpurchasers from similar benefits.

Externalities Justify the Ability Principle

The problem of financing education is different from that of most other goods and services. Notably, the recognition of the existence of externalities and free riders over time changed the method of financing education from the benefit principle—providing benefits to those who pay: to the ability principle—basing payments on an individual’s economic ability but benefits based on need (see Chapter 5). The lessons learned in the prepublic school era in this matter should not be forgotten. Unfortunately, some individuals in every society would not be partakers of education if it were purchasable only on a voluntary basis. Instead, these persons must be required by government to obtain it in some minimum quantity by compulsory school attendance laws. A second important factor is that not only does education benefit individuals but it also pervades society and indirectly affects all citizens. These effects lead to higher standards of living and allow greater consumption of cultural goods and services.

It is impossible to measure the benefits that come to the person or to society from individual purchases of educational services and assess costs based on benefits received. That being true, the most defensible approach is to assume that all individuals in society benefit about the same degree or extent. On that basis, the costs of education should be paid by all members of society in terms of their ability-to-pay (economic well-being). Under this ability-to-pay principle, the wealthy pay more for the services of government, but their comparative burden (as a percent of income) is no greater than that borne by the less affluent.

TAXATION AND EDUCATION

To tax individuals in direct relation to the benefits they receive from the service or commodity that is funded by that tax would seem to be defensible, provided that the benefit is observable and to a high degree measurable, and provided further that taxpaying individuals alone benefit from the tax they pay. Proponents of the benefit system of taxation argue that taxation by the ability principle penalizes the affluent and financially successful person. Such a process, they contend, stifles and curtails further activities of an economic nature and tends to create an indolent society.
They point to the high tax rate imposed at the upper level of income as having a negative effect on business and industrial expansion.

Education and certain other services of government do not lend themselves to the benefit principle of taxation. Every state has a compulsory school attendance law that requires all children of certain ages to spend a predetermined amount of time in formal education. But what about those children who are required to attend school but who do not have the financial ability to pay for these services? Should the parents of six children pay six times as much as the parents of one child? Should the adult without children be exempt from school taxation altogether? Should renters pay at the same level as homeowners? Such questions have faced the states through the years; even today, the relative importance of this form of taxation in funding education varies considerably among the states.

**COST–QUALITY RELATIONSHIP IN EDUCATION**

Economic, political, and educational leaders are concerned with the question of how the amount of money spent for education relates to the quality of the educational product. Various reform movements have sought more productivity from instructional staff, lower administration costs, better utilization of buildings, and other cost-saving remedies, with the anticipation that the quality of services would not be affected by these cost-cutting efforts. It is difficult to obtain data and other available evidence to characterize all such cost–quality relationships.

The difficulty of solving the cost–quality problem in education is increased by the fact that the term high quality has not been defined in ways that are measurable and acceptable to all concerned. Is high-quality education something that can be measured by scores on achievement and other tests? What relation does it have to vocational training or to the kinds of attitudes and habits developed by students? Is a student’s score of 95 on an examination compared with another student’s score of 80 a measure of a difference in quality or quantity of education or some other factor? Does extending the school year provide for potentially greater quality of education, or is quantity the variable affected by this change? These and many other similar questions make the resolution of this important problem difficult, if not impossible.

The goals of education have been under almost continuous critical evaluation, resulting in frequent restatements. Quality of education should be a measurement of the extent to which the recipients of educational offerings have attained established goals and outcomes. But therein lies the difficulty: The “goals” of education vary from place to place and from time to time; even if they are agreed on, there is no way to measure all the changes in human behavior that are the products of formal education. Although advances in scholarship and academic achievement can be measured objectively, there have always been other goals of varying importance, for which only the crudest methods are available to determine their degree of inculcation in the lives of a school’s clientele.

The cost–quality relationship—in reality a matter of efficiency with which schools reach their objectives with the smallest outlay of money—is not unique to education, of course. All institutions that are financed with public funds are, to some degree, concerned with maintaining maximum efficiency if it can be attained. This must always be true with the institutions and agencies of government that are responsible for wise and defensible expenditures of limited tax dollars. A lack of concern for efficiency tends to destroy public confidence in social and governmental institutions.

Studies show that communities that spend more tend to be more adaptable and tend to utilize improved methods more quickly. In addition, higher-expenditure schools are characterized
by a different behavior pattern than lower-expenditure schools: Skills and knowledge are taught more in line with the best understanding of how human beings learn; more attention is given to the discovery and development of special aptitudes; and more attention is given to the positive unfolding in individual boys and girls of stronger patterns of behavior, citizenship, personality, and character.\(^{13}\)

The relationship between cost and quality in education has been questioned more critically as a result of studies by Coleman and colleagues\(^ {14}\) and Jencks and colleagues.\(^ {15}\) The results of these early studies seemed to indicate that costs (as evidenced in such things as salaries and facilities) have only a minor effect on achievement of students when compared with the much larger effect of their peers and family. The net effect of these studies has been to raise doubts and controversy concerning input–output relationship in education and the methods used to examine it. Perhaps Coons, Clune, and Sugarman best summarized the debate in 1960s in the following passage:

There are similar studies suggesting stronger positive consequences from dollar increments, and there are others suggesting only trivial consequences, but the basic lesson to be drawn from the experts at this point is the current inadequacy of social science to delineate with any clarity the relation between cost and quality. We are unwilling to postpone reform while we await the hoped-for refinements in methodology which will settle the issue. We regard the fierce resistance by rich districts to reform as adequate testimonial to the relevance of money. Whatever it is that money may be thought to contribute to the education of children, that commodity is something highly prized by those who enjoy the greatest measure of it. If money is inadequate to improve education, the residents of poor districts should at least have an equal opportunity to be disappointed by its failure.\(^ {16}\)

There is a need for members of the public and school personnel alike to recognize that there is a positive relationship between cost and quality in education. Coons, Clune, and Sugarman stated a practical and reasonable rationale concerning that point of view:

The statutes creating district authority to tax and spend are the legal embodiment of the principle that money is quality in education. The power to raise dollars by taxation is the very source of education as far as the state is concerned. By regulating the rates of taxation, typically from a minimum to a maximum, the state is in effect stating that dollars count (at least within this range) and that the district has some freedom to choose better or worse education. If dollars are not assumed to buy education, whence the justification for the tax?\(^ {17}\)

It is apparent that definitive statistical evidence linking spending and student outcomes is difficult to measure because of the many different variables that influence student achievement. Money is only one element; one must also consider the characteristics of a family, the effectiveness of the school, the expertise of the teacher, the native intelligence and hard work of the child, and the multiple talents of diverse human beings. Although Hanushek has stated that there is no strong or systematic relationship between school expenditures and student performance,\(^ {18}\) improvements in measurement over time have resulted in research that, according to Hedges, Laine, and Greenwald, has found that relying on the data most often used, yields the following conclusion: “We find that money does matter after all.”\(^ {19}\)
Verstegen and King, reviewing 35 years of research following Coleman, wrote that “a large and growing body of research—that has taken advantage of improvements in technology, better databases and advances in methodologies and measurements—provides further evidence that school inputs can and do make a difference in education and are positively associated with both enhanced student achievement and labor market earnings.”

They continue, “There are clear relationships between funding and achievement.” Their basis for these conclusions was the work of several investigators who used different research technologies, databases, and methodology to study cost–quality relationships in education. These researchers found:

- Teacher quality relates positively to student performance (Darling-Hammond).
- There are significant relationships between school resources and student outcomes (Ferguson).
- Significant relationships exist between schooling inputs and students’ success (Cooper and associates).
- A teacher’s education is linked to positive student outcomes (Monk).
- Smaller class sizes in the early grades are associated with higher student outcomes (Finn and Achilles).
- School funding accounts for one-third of the variation in proficiency test scores but money matters most for children and youth in poverty (Verstegen).
- The proportion of teachers with master’s degrees and class sizes affect student learning (as measured by ACT scores); because these variables cost money, this relationship suggests that money matters (Ferguson and Ladd).
- The more money schools spend, the higher the achievement of their students (Baker).
- Significant relationships exist between spending on education and labor market outcomes (Card and Krueger; they used earnings as the outcome measures rather than test scores).

Knoeppel, Verstegen, and Rinehart confirm and extend these results. According to these authors, “Resource inputs are powerful predictors of multiple student outcomes.” Their analytical methodology (canonical correlation) “has helped confirm the results of previous research studies linking inputs to schooling with measures of student achievement and other important outputs of schools: performance on standardized exams, graduation rates, participation in higher education, and citizenship” (voting).

Even though profound improvements have been made in recent research techniques and data availability, studies that investigate cost–quality relationships are still two-edged. Picus concluded, “There is still a great deal of debate as to whether or not money makes a difference in education…. Everyone agrees that high spending provides better opportunities for learning and seemingly higher student achievement, [but] statistical conformation . . . has been hard to develop.” Other variables exist as well. A 15-year analysis of studies done by the National Institute of Education noted that the place called school makes a difference if it has instructional leadership from the principal, a safe and secure environment, high expectations of students, a good monitoring system, and commitment to basic skills instruction. Leadership, money, teacher attributes, pedagogy, research methodology—all are important when attempting to unravel the variables in scientific research as it relates to cost–quality relationships. According to Linda Darling-Hammond, summarizing recent research, “Clearly, money well spent does make a difference. Equalizing access to resources creates the possibility that all students will receive what should be their birthright: a genuine opportunity to learn.”
Summary

Economists regard education as an investment in human capital. Resource allocations to education are a responsibility of government at all levels. The scope of services provided is determined by the value of those services as compared to the value of other services at the same cost. Funding the costs of education is a serious challenge for Americans in the twenty-first century. Education requires additional resources to accommodate population growth and the continual increase in spending per pupil. Funding is problematic because it is difficult to prove definitively that gains in output are commensurate with increases in financial inputs and because not all benefits of education can be directly measured. It is problematic even to define education output.

Economists and politicians from a broad ideological spectrum value education. Not only does the individual benefit from an investment in an organization (individual benefit) but society as a whole also benefits when goods and services are produced for all (public benefits). When seeking financial support for schools, educators need insight to understand various philosophies related to allocation.

Education is recognized as an important stimulator of economic growth. In the United States, its sponsorship and financing are public-sector responsibilities. Its services should be provided equitably. Although expenditures for education continue to increase annually, the burden is eased by the fact that most school costs involve money, particularly in salaries, that is returned quickly to the private sector. In other words, this money is not removed from the marketplace.

Education provides many benefits to both individuals and the public—economic, social, and political. Because it provides external benefits beyond those provided to its consumers, it must be financed by those persons with the ability to pay rather than based on the benefits received. The relationship between cost and quality in education is strong, but there is a difference of opinion among researchers about how best to define and measure educational quality.

Assignment Projects

1. Trace the development of the economic theory that education is an investment in human capital.
2. Prepare a paper to be presented to a state legislature to aid it in determining the extent of state resources that should be allocated to public education in comparison with the resources allocated to other services of state government.
3. Prepare a feature article for a local newspaper in support of an upcoming school election, arguing for an increase in the local tax levy. Show that education is an investment in—not a drain on—the local economy.
4. Choose a prominent economist and study his or her economic theories. Relate those theories to education and the role of government in education.

Selected Readings

Chapter 1 • The Economics of Education


Endnotes

2. Ibid.
Meeting education needs of a complex society is a daunting responsibility. Identifying those needs and responding to them with financial support is a task that taxpayers in the United States assume. To do so equitably and adequately is a challenge that legislators must address as they determine the structure for providing revenue to support the education program in their state. Relatively few people realize the enormity of educational operations in this country. Education in the United States is big business and is a major user of the nation’s economic resources. As “big business,” the field of formal education employs more people than any other industry in the United States.

**SOCIETAL IMPACT ON EDUCATIONAL NEEDS**

Year after year student and community services offered by the public schools have continued to increase in spite of the rising costs of education. Most of the normal improvements in living discovered by scientific research, social conditions, and economic circumstances soon find a place in the curriculum of the schools. The schools are constantly assigned added responsibilities for teaching new programs, improved techniques, and better processes. Seldom, if ever, are successful school services taken away and given to other agencies or institutions.

Society recognizes the fact that few, if any, institutions are better prepared or equipped than the schools to render or provide for certain emerging services. The point is that such additional services require additional funds—and the taxpaying public must accept financial responsibility for the added costs.

Data from the *Digest of Education Statistics* published in 2012 indicated that the total expenditures for public and private education from prekindergarten through graduate school totaled more than $1.2 trillion. The average spending per student in public schools at the K–12 levels was $10,838, ranging from a high of $18,616 in New York to a low in Arizona of $6,683. (See Table 2.1.)
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Other data from the *Digest of Education Statistics* indicate that some 49.5 million students were enrolled in K–12 programs in more than 98,000 public school facilities. Approximately 4.7 million teachers were employed in the system with professional administrative and support staff at educational institutions adding another 5.4 million positions to the total number of education employees.\(^2\) The number of teachers and support staff in education plus the number of students in prekindergarten through graduate school indicates that the primary activity of about one in every four persons in the United States is involved in an education endeavor.

Between 1985 and 2011, elementary enrollment in prekindergarten through grade 8 increased by 29 percent. A large percentage of this growth was attributed to the increase in prekindergarten programs organized in districts throughout the nation. There was an increase of 17 percent in secondary enrollment in the 1985–2011 period. A decline in enrollment of 8 percent was noted in the 5-year period from 1985 to 1990. Overall, public school enrollment rose 25 percent between 1985 and 2011.

Enrollment in public schools is projected to reach 57.9 million by 2020, a 7 percent increase from the number of students enrolled in 2011. New records of growth are expected every year through 2020.\(^3\) The greatest school population increase will occur in the South, where
enrollment is predicted to increase by 18 percent. Enrollment in the West will increase 14.7 percent, whereas the Midwest will show only a slight increase of 0.03 percent in school enrollment; in contrast, the Northeast is projected to have a negative growth rate of –5.4 percent.4

These growth rates are very significant, as they have a great impact on school finance. Consider the number of new schools that will need to be constructed, the number of teachers and support staff who will be needed to staff them, the decisions to be made related to demographic changes associated with a shifting population, and the challenges inherent in meeting the needs of an increasing diverse clientele. Basically the increases in spending are related to four factors: (1) changing enrollments and diversity of students, (2) additional programs and services provided, (3) changing rates of inflation, and (4) inequities in the quantity and quality of services provided in the country’s thousands of school districts.

In 1946, the baby boom began as families were reunited after World War II. The rise in the number of births continued for 18 years, until 1964. Today, those children (now mature adults) range in age from 46 to 68 years old. It is estimated that 80 million baby boomers will exit the workforce during this and the next decade.

The 1960s created a new track for household change, with fewer children being born—creating the “baby bust.” In the 1970s, women joined the labor force in heretofore-untold numbers, divorce rates increased rapidly, marriage rates declined, and married couples postponed childbearing, thereby continuing the baby bust. The 1980s were a time characterized by an influx of immigrants from Asia and Latin America; the poor and the wealthy grew in number, while the middle class shrank.

In the 1990s, divorce rates declined and a “baby boomlet” (sometimes referred to as an “echo baby boom”) occurred. The number of children ages 5 to 14 increased 17 percent between 1990 and 2000. In 2002, the birth rate in the United States fell to a record-low since national data have been available. In 2007, there were more births than any other year in American history. “The increase reflected a slight rise in childbearing by women of all ages including those in their 30s and 40s, and a record share of births to unmarried women.”5 Births decreased by 2 percent in 2009, with some indication that the drop was consistent with previous periods of bad economic conditions. In 2012, there were 3,952,841 births in the United States—slightly fewer than recorded in 2011 (749). “Births declined 1% for non-Hispanic white and Hispanic women and were essentially unchanged for non-Hispanic black women from 2011 to 2012.”6

The United States underwent significant changes during the 2000–2010 decade. Information from the U.S. Census Bureau paints a picture of an interesting new social structure in our country. The fluctuating employment figures embarked on a steep decline beginning in 2008 and continuing through 2010. More professional, high-salaried persons were out of work, and a greater number of men were unemployed than women during this period. The size of the unemployed or underemployed population—those persons unable to find full-time work or working part-time or not at all—grew to reach 17 percent of the total U.S. population.7

Data show that in the latter part of the decade (2007–2010) businesses were struggling, the real estate market was flat, and tax revenues were slipping. School districts needed to consider ways to trim budgets, including such drastic measures as cutting the number of school days in the year and reducing the number of teaching/staff positions. The federal government provided revenues to save large banks and bail out a failing auto industry. States had difficulty managing their budgets, and schools received incentive grants of various types in an effort to save teachers’ jobs and to stimulate the economy.

These and other major factors produced a decade of change that influenced society as a whole and the public schools in particular. The unpredictable circumstances and the adjustments that needed to be made financially during this period were very challenging for both school administrators and state legislatures.
The following projections from the U.S. Census Bureau should be analyzed by school personnel to assist in planning for the future financial needs in a complex changing society:

- The nation will become more racially and ethnically diverse, as well as much older by the middle of this century.
- In 2030, nearly one in five U.S. residents is expected to be age 65 or older. This age cohort is projected to increase to 88.5 million by 2050.
- Similarly, the age 85 and older population is expected to increase to 19 million by 2050 (Figure 2.1).
- The nation is projected to reach the 400 million population milestone in 2039.
- The non-Hispanic, single-race White population is projected to be only slightly larger in 2050 (203.3 million) than in 2008 (199.9 million), accounting for 46 percent of the total population in 2050—down from 66 percent in 2008.
- The Hispanic population is projected to triple from 2008 to 2050, increasing from 15 percent to 30 percent (or one-third) of the total U.S. population. The Black population will account for 15 percent, and the Asian population for 9.2 percent. Other groups accounting for the remainder of the population will increase from 1.6 percent to 2.0 percent of the total U.S. population.  
- The percentage of the U.S. population in 2010 that was younger than age 18 was 24.25 percent. In 2050, 23.14 percent of the population is expected to be younger than age 18.

Inequities in the amounts of revenue available per person to be educated and heavy property tax burdens on individual citizens have provided motivation for school finance reform in nearly every state. The population’s increasing mobility has also resulted in increased school

**FIGURE 2.1** Projected Resident Population of the United States as of July 1, 2050.

*Source: National Projections Programs, Population Division, U.S. Census Bureau, Washington, DC.*
costs, particularly for new school facilities. As families move, they leave behind partially occupied school buildings and reduced pupil–teacher ratios. Families frequently find that the places to which they move have overcrowded classrooms and high pupil–teacher ratios. Figure 2.2 shows the projected percentage change in public school enrollment in the United States between fall 2010–2011 and 2020–2021.

Such imbalances naturally increase the total cost of education and change the responsibility of the various states and the nation in financing education adequately. It seems clear that the problems of financing education will continue to plague school boards and state legislatures in the future. In spite of the increasing needs of educational systems in many states, public resistance to imposition of new or increased taxes to fund these services remains high. Schools of today will find little relief from these issues.

EDUCATION DESERVES HIGH PRIORITY

Unfortunately, not all citizens of this country have given education the high priority it deserves and requires if the schools are to accomplish their objectives. Too few people realize the contribution that formal education has made to the social, political, and economic achievement of the United States. The landmark report *A Nation at Risk*, published in April 1983, warned of a
“rising tide of education mediocrity in the schools that threatened our future.” It stated, “We recommend that citizens across the nation hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms and that citizens provide the support and stability required to bring about the reforms we propose.”

A report issued from the Center on Education Policy in 2005 indicated that some progress in education had been made since the *A Nation at Risk* report was released, stating that a more balanced picture of education has emerged. However, the following shortcomings were listed as needing attention to improve the public schools at that time—and could still be listed as needing attention at the time of this book’s publication:

- High school graduation rates are too low.
- Dropout rates need to be reduced.
- The achievement gaps for minority, low-income, children with disabilities and English learners need to improve.
- Funding inequities between school districts need to be reduced.
- The education system needs to attract and retain qualified teachers.

On the twenty-fifth anniversary of the publication of *A Nation at Risk*, the U.S. Department of Education released a new report focusing on U.S. education, titled *A Nation Accountable*. The document stressed the following:

If we were at risk in 1983, we are at even greater risk now. The rising demands of our global economy, together with demographic shifts, require that we educate more students to higher levels than ever before. Yet, our education system is not keeping pace with these growing demands.

While grave problems threaten our education system, our civic society, and our economic prosperity, we must consider structural reforms that go well beyond current efforts, as today’s students require a better education than ever before to be successful.

School authorities continue to request the necessary funds to operate and maintain educational programs. Citizens of the United States need to react positively and give education the high priority that it requires. Groups who oppose taxes may hinder the progress needed to improve education in the public schools. Although some taxpayer relief may be necessary and overdue, the field of education in particular stands to lose much—and the nation stands to lose more—if tax revolts have a harmful effect on the future of the public school system.

**THE PUBLIC WANTS GOOD SCHOOLS**

The public expects improvement and increased efficiency in the operation of the public schools. The cry of the people is generally couched under the broad umbrella of *accountability*. Public sentiment virtually demands that the education establishment produce valid information and proof that the schools are achieving their intended objectives and that in the process they are using tax revenues efficiently.

Although actions toward accountability are desirable and encouraged, some potential dangers are inherent in rushing too quickly into this process. One danger is that taxpayers may expect the schools to be accountable, while at the same time ignoring their own responsibility for providing adequate funds for achieving the comprehensive goals of education. Closely related is
Chapter 2 • The Need for Adequate Funds

the possibility that some lawmaking bodies may, without fully understanding the ramifications, legislate school accountability laws. These mandates could involve such questionable notions as requiring all pupils to take certain academic examinations and relying solely on the results of those tests to determine the degree of success or failure of the schools to achieve their purposes.

In general, parents have a positive attitude about their local schools but believe that schools nationwide are lacking. Parents and the public in general receive information about schools on a national level from the news media, which often carry stories about how school are failing. Politicians carry the message as a theme because it is a popular topic to which they feel the public will respond. Therefore, the perception of the public is that schools in the nation are less than average.

The nation’s schools are average to awful. . . . The reason for this disconnect [is] simple: Americans never hear anything positive about the nation’s schools. During the 2008 presidential campaign a $50 million project, Ed in 08, inundated Americans with negativity on its web site, TV ads, and YouTube clips. On the other hand, parents use other sources and resources for information about their local schools: teachers, administrators, friends, neighbors, newsletters, PTA’s and the kids themselves; and they’re in a much better position to observe what’s actually happening in American Schools.12

This does not presume that all schools are bad or that all schools are good. The point is that the public perception of schools is both national and local. Parents judge local schools from the success of their own child, newsletters, teacher conferences, school-centered activities, and friends and neighbors. These influences are demonstrated in the 45th Annual Phi Delta Kappa/Gallup poll (September 2013) that asked participants to grade schools “in the nation as a whole,” using the A–D–Fail pattern. The respondents gave a C grade or less (78 percent) to the nation’s schools, with only 1 percent willing to give them an A and 18 percent willing to give them a B. In contrast, when asked to grade the schools in their own community, 13 percent of the respondents gave them an A and 40 percent gave them a B.13

The significant generalization derived from responses to the questions in the PDK/Gallup poll over the years is that the closer respondents are to their public schools, the higher the grades they give them. People give the schools in their own communities much higher grades than they give the nation’s schools.

Another pertinent question regarding the public’s attitude toward schools was asked in the same poll. In response to the question, “What do you think are the biggest problems that the public schools of your community must deal with?” lack of financial support was listed as the biggest problem—the top issue now for over a decade. “Three new concerns rose to near the top of the list of the biggest problems facing public schools: lack of parental support, difficulties in getting good teachers and testing requirements and regulations.”14

Parents want the best possible education for their children. Schools need to be responsive to those wants; the expenditure of government funds should reflect the needs, wants, and demands of the people they serve.15 However, the justification for expenditure of public funds for education goes much deeper. Mass public education can be justified on the more basic grounds that it creates and perpetuates the culture, promotes social equality, and enhances economic development. Each of these factors by itself may be ample reason for government to finance education, but to view them in combination leaves little doubt as to the importance of education. To gain and advance the accumulated culture and knowledge of humankind, create a respect for humanity, promote the attributes of citizenship, and inculcate ethical and moral
Chapter 2 • The Need for Adequate Funds

character is fundamental. Education not only preserves the cultural heritage but it also exalts the status of humans and provides at least a minimum level of citizenship. The advantages of education cannot be quantified. The benefits of reading a book, appreciating a painting, playing a violin, speaking a foreign language, and understanding a theorem are priceless.

THE INCREASING COSTS OF EDUCATION

Education is most meaningful when it is fashioned in terms of goals or objectives, whether they are implied or formally stated in the literature. Education without purpose or philosophical commitment would have little value and would stimulate little, if any, support or dedication. The purposes of education have much to do with the cost of the program that is established and operated to achieve those objectives. To compare the problems of financing a three R’s curriculum with those of financing a program constructed to achieve ambitious learning goals of present-day education is a futile exercise, guaranteed to result in frustration. As the schools reach out to supply new curricula and provide new methods of attaining increasingly complex and comprehensive goals for their clientele, the costs multiply, and taxpayers are forced to reach into their treasuries to pay the bills.

The revenues made available for financing public elementary, secondary, and postsecondary institutions from local, state, and federal sources have increased dramatically, as have the responsibilities, the number of students to be served, and the costs of operation. Education problems do not belong to educators alone, of course; institutions and the family must share in the process of preparing children for the future. When deciding how much should be spent for education, educators and legislators must agree on what the schools are expected to do. As the goals and objectives of education become more inclusive and more difficult to achieve, the taxpayers must face the stark fact that the costs will likewise increase.

Goals Have Increased

The persistent but irregular march of change and innovation in the public schools is shown by the many successive changes in the goals and objectives of education. Such redefinitions have usually come after serious study, based on changing needs. Not all resultant statements have made an indelible imprint on education in the United States, but a few have. Statements of the objectives of education were limited, easy to achieve, and correspondingly inexpensive. Goals of the schools became more comprehensive and costly as the schools improved and as public confidence in them increased. The Committee of Ten, the Seven Cardinal Principles of Secondary Education, the Four Objectives of the Educational Policies Commission, and the Ten Imperative Needs of Youth are early examples of some of the important statements of what people have at different times viewed as the important goals of education. None of these statements promoted more than worthy objectives that educators could hope to accomplish. That situation changed with the passage of the No Child Left Behind Act of 2001, and its subsequent changes, which prescribes accountability for teachers and students, among other requirements.

Just as the costs of education have increased almost exponentially, so have the demands placed on schools. Each level of government, each important social organization, and almost every individual continues to increase the expectations with which the school is confronted and on which its achievements are evaluated.

Citizens of the United States continue to make large investments in the educational enterprise in spite of its alleged inadequacy in many states and school districts. The reasons for these perennial increases are often beyond the power of school boards or administrators to change.
However justified these cost increases become when viewed in proper perspective and in comparison with the alternatives, they tend to irritate the overburdened taxpayer, whose resistance often becomes a cumulative matter and often one of deep personal concern.

DEMOGRAPHIC AND SOCIAL INFLUENCES

The history of public education in the United States has been one of growth and expansion. Most of the serious problems of financing have been concerned with increasing enrollments, shortages of buildings and classrooms, inadequate facilities, and the need to employ greater numbers of teachers and other staff members. With such causal factors, taxpayers were generally able to understand the reasons for annual increases in their investment in education. Taxpayers did not, however, anticipate the expanding numbers of high-cost students who were beginning to be brought into the schools, thereby increasing the cost of education per student.

The demographics of minority students in elementary and secondary schools has escalated significantly over the past three decades. The numbers differ by regions in the country. The Digest of Educational Statistics reports the following:

The change in racial/ethnic distribution of public school enrollment differed by region. From fall 2000 through fall 2010, the number and percentage enrollment of White students decreased in all regions, with the largest percentage decrease in the West (9 percentage points). The number of Hispanic students and their share of enrollment increased in all four regions, with the largest increase in the south (8 percentage points). From 2000 through 2010, the number of Black students fluctuated in all regions with the exception of the Northeast, where the number decreased. The enrollment percentage of Black students fluctuated in the Midwest and decreased in the Northeast, West, and South. The number and percentage enrollment of Asian/Pacific Islander students increased in all regions, with the largest increase in the Northeast (2 percentage points). There was minimal change among other racial/ethnic groups during this period.

In projected data through 2021, the National Center for Education Statistics indicates that the number of White students enrolled in U.S. public schools will decline to 48 percent. The number of Hispanic public school students will represent 27 percent of the enrollment and Black students 16 percent. “Beginning in 2016 and continuing through 2021 the percentage of public school students who are White will be less than 50 percent. The decrease in their share is partly due to the increases in Hispanic and Asian enrollment.”

The research literature and media accounts have been advising educators, policymakers, and the public that enrollment changes and increases are inevitable. Implications for the demand for public school teachers—some with special training—and other education personnel are obvious. Education expenditure decisions by state and local governments will need to accommodate expanding resource demands associated with changing enrollment growth and demographic changes.

Effects of Inflation/Deflation

Although the problem of procuring sufficient funds for educating millions of public elementary and secondary school students has always been a difficult one, the inflation rates of the last quarter of the twentieth century greatly exacerbated the challenge. The erosive effect of high and
continuous inflation of the dollar on school budgets needs few illustrations and little documentation, for it is an undesirable phenomenon that affects every citizen and every school in the nation. The problem of financing education, once considered the responsibility of only a few specialists with vested interests in the schools—boards of education, school administrators, state departments of education, and state legislatures—developed into a priority item for virtually all citizens.

Inflation—when the value of the dollar falls—uncontrolled causes the dollar cost of education to rise rapidly. Inflation not only reduces the real income of the individuals but also increases their tax obligations under a progressive income tax system. Inflation causes people to cut back on the purchase of goods and services in an attempt to maintain their economic position. The result is a serious one for schools. At the same time as taxpayers press to reduce their tax burden, the costs of operating an educational program usually continue to increase. Predicting inflation and its effects is difficult. It is nevertheless an important factor to consider when providing adequate funds for education.

Planning and maintaining a budget in the unpredictable wave of inflation is difficult enough, but beginning in 2008, education leaders experienced a new period of uncertainty as the economy took a downward spiral as the country was thrown into a near depression. The inflation rate took a nosedive into a deflation mode, leveling in mid-2009 to a low of –2.10 percent. Note the inflation/deflation rate from January 1994 through January 2014 in Figure 2.4. School districts that had been somewhat comfortable in relying on accrued interest from interest-producing funds suddenly found limited revenues from that source. Property prices dropped, residents began losing their homes, property tax revenues decreased, and other factors caused school
districts to reevaluate their budgets in midyear. Revenue-saving measures had to be taken to stay within the operating budget.

**Scarcity and High Cost of Energy**

Energy is a crucial factor in the increasing costs of education. Conservation is the key to survival in the midst of the tumultuous world scene influenced by oil-producing countries. School programs are affected by the cost of gasoline and oil products necessary for the transportation of millions of students to and from school. Unforeseen by most administrators and the public in general, the cost of a gallon of gasoline and diesel fuel doubled in 2008–2009, placing an enormous burden on many school transportation budgets. To trim costs in this area, some districts cut bus routes completely; others implemented “no idling” policies and extended the distance students had to walk rather than being bused to school.

School districts are hit hard when prices for heating fuel and electrical energy soar. Some school districts in the western states experienced cost increases of more than 50 percent when heating energy was scarce. In 2007, California schools were “left in the dark” owing to the lack of electric power to fully meet their needs; massive blackouts paralyzed the United States and Canada, causing school districts to pay extremely high premiums for power to keep schools open. The devastation caused by natural disasters such as Hurricane Katrina in 2005 and Hurricane Sandy in 2012 influenced districts in multiple budget categories.

In general, schools should be well equipped to initiate and carry out their own conservation measures. Some of the lessons this nation has generally ignored about the wise use of limited

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**FIGURE 2.4** Annual Inflation Rate, January 1989 to January 2014.
energy resources can be practiced effectively in school operations. More energy-efficient construction and maintenance procedures can decrease energy expenditures without seriously diluting the overall school program.

THE CONSEQUENCES OF NOT EDUCATING PEOPLE ADEQUATELY

Perhaps all people think about the high costs of educating the nation’s citizens at some point, but comparatively few devote much thought to the higher cost of not educating them. Crime rates and costs related to public welfare or private charity are much greater among those who have an inadequate education.

A study by researchers at Northeastern University (Boston), noted:

Over their working lives, the average high school dropout will have a negative net fiscal contribution to society. . . . The average high school graduate generates a positive lifetime net fiscal contribution. . . . Adult dropouts in the U.S. in recent years have been a major fiscal burden to the rest of society. . . ., given the current and projected deficits of the federal government the fiscal burden of supporting dropouts and their families is no longer sustainable.18

Illicitacy

The following facts from DoSomething.org, a nonprofit organization for young people and social change, emphasize the need to provide a better method of meeting the needs of those lacking in literacy skills:

- Two-thirds of students who cannot read proficiently by the end of 4th grade will end up in jail or on welfare. Over 70 percent of America’s inmates cannot read above a 4th-grade level.
- One in four children in America grow up without learning how to read.
- Literacy is a learned skill. Illiteracy is passed down from parents who can neither read nor write.
- Nearly 85 percent of the juveniles who face trial in the juvenile court system are functionally illiterate, proving that there is a close relationship between illiteracy and crime. More than 60 percent of all inmates are functionally illiterate.
- 75 percent of Americans who receive food stamps perform at the lowest 2 levels of literacy, and 90 percent of high school dropouts are on welfare.
- Teenage girls ages 16 to 19 who live at or below the poverty level and have below average literacy skills are 6 times more likely to have children out of wedlock than the girls their age who can read proficiently.
- Reports show that low literacy directly costs the healthcare industry over $70 million every year.19

Improving literacy in the nation is a noble goal. Legislators, community leaders, parents, and school personnel should all be involved in providing resources for adult learners as well as students in the public schools. “There is no equal opportunity in the classroom or workplace without basic reading and writing skills. The demand for literacy skills is especially increasing in today’s technological economy.”20
Unemployment

Unemployment is closely related to the lack of adequate education. Figures show that inability to find work is much more of a problem for school dropouts and those with a minimum education than for those who have attended schools and succeeded academically. In 2012, the National Center for Educational Statistics reported that workers 25 years and older who had less than a high school education had the highest percentage of unemployment (24.4 percent), which continued to follow the pattern observed in earlier years. Those persons with a bachelor’s degree or higher had a 4.5 percent unemployment rate, whereas those with a high school education and no college had an unemployment rate of 8.3 percent. For those with associate degrees or some college, this rate was 6.2 percent. (See Figure 2.5.) Individuals with adequate education are usually able to adjust to new jobs and new occupations more easily and with less frustration than those with limited schooling.

Not only is educational attainment a factor in employability but it is also a factor in the total earning potential for the worker. The Bureau of Labor Statistics notes the following comparisons of the median salaries for workers in 2012:

By educational attainment, full-time workers age 25 and over without a high school diploma had median weekly earnings of $471, compared with $652 for high school graduates (no college) and $1,066 for those holding at least a bachelor’s degree. Among college graduates with advanced degrees (professional) the average was $1,735.21

According to the National Committee for Support of the Public Schools, the great financial and social losses from unemployment can never be recovered:

![Diagram](image.png)

**FIGURE 2.5** Earnings and Unemployment Rates by Educational Attainment.

*Note:* Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Economic losses from unemployment are never regained. The social costs of unemployment are even greater than the economic losses. The discouragement and frustration of able-bodied men and women, eager to work but unable to find employment, cannot be measured in dollars any more than can the distress of their families. Prolonged unemployment contributes to further unemployment, since human capital deteriorates when it is idle. Unemployment impairs the skills that workers have acquired. It also contributes to family disintegration, crime, and other social ills.  

The media are replete with reports that applicants seeking occupational positions in business and industry lack adequate educational preparation. Many businesses and industries have implemented basic education and retraining programs to overcome some of these inadequacies. This condition results in an obvious waste in time and cost for U.S. industry.

Education is an investment in human skills, involving both a cost and a return. In summarizing statistics on the employment benefits of education, the U.S. Department of Education notes the following:

Among the returns related to the labor market are better employment opportunities, jobs that are less sensitive to general economic conditions, better opportunities to participate in employer-provided training, and higher earnings. The immediate difficulty of making the transition from full-time school attendance to full-time work appears much greater for those who leave school before finishing high school.

Poverty and Low Income

“Education is one prime ingredient in any formula to break the cycle of poverty that can follow a family from generation to generation. . . . Education is key to interrupt the cycle.” Poverty has a great impact on the lives of children in public schools in the United States. Society as a whole is affected when a segment of the population suffers from a lack of resources to meet daily needs. The child having little or no control over his or her circumstances suffers.

Poverty for most purposes is defined by federal guidelines. In 2013, the most commonly used statistic to determine the guideline was an annual income of $23,550 for a family of four. For larger families $4,020 was added to the formula; $4,020 was subtracted per person for a smaller family. A single-person household is classified as poor if the person’s income is $11,490 or less. Poverty thresholds are dollar amounts used to determine poverty status. Each person or family is assigned 1 of 48 possible poverty thresholds that vary according to size of the family and ages of the members. Depending on the section of the country, the level of children in poverty ranges between 12 and 35 percent with a nationwide average of 23 percent. The budget needs calculations show how much it takes for families to afford minimum daily necessities. The basic needs budget for a family in the United States varies considerably among states. In 2013, for example, a family of four in rural Nebraska was $31,080. In Boston, Massachusetts, it was $64,654. The poverty thresholds used throughout the United States do not vary geographically.

With such a large segment of the school population in poverty (exceeding 50 to 75 percent in some urban schools), a great responsibility is put on the education community. It is a responsibility that must be shared with parents, community leaders, business and industry leaders, social agencies, and all levels of government. For education, the solution includes more funds concentrating on the problem, providing the best leadership and instructional staff available,
providing incentives for students to succeed in spite of environmental conditions, and providing educational resources and opportunity for parents to improve their education.

Following are some of the consequences of not meeting the needs of children in poverty:

- Children living in poverty have a higher number of absences or leave school altogether because they are more likely to have work or care for family members. Dropout rates of 16- to 24-year-old students who come from low income families are seven times more likely to drop out than those from families with higher incomes.
- A higher percentage of young adults (31 percent) without a high school diploma live in poverty, compared to the 24 percent of young people who finished high school.
- 40 percent of children living in poverty are not prepared for primary schooling.
- Children who live below the poverty line are 33 times more likely to have developmental delays or learning disabilities than those who don’t live in poverty.
- Less than 30 percent of students in the bottom quarter of incomes enroll in four-year school. Among that group, less than half graduate.29

Low income—defined as students eligible for free school or reduced lunches—expands the definition of poverty and exacerbates the problem of providing adequate funding for education. In a 2013 report from the Southern Education Foundation, A New Majority: Low Income Students in the South and the Nation reveals that children in 17 states and one-third of the 50 states were low-income students. “In 2010 and 2011, for the first time in modern history, the West has had a majority of low income-students attending P-12 public schools.” The report indicates that “many low-income students are not given the opportunity to achieve academically due to inadequate funding of essential resources in their schools,” and that this trend will “ricochet across all aspects of American society for generations to come.”30

The findings of the report follow:

1. The learning gap by income is a concern. Public schools will need to address the issue as the percentage of low income students is growing. The problem is the same in private schools.
2. Low income students in the nation as a whole make up about 48 percent of the student population—over 50 percent in the South and West.
3. In the 2001–2011 decade the number of low income students grew by about 3, while the spending per pupil increased by only 14 percent.
4. If the trend of neglecting the low income students by not providing adequate funding and designing programs to meet their needs continues, the nation as a whole will suffer.31

Military Service Incapability

“Success in any branch of the Military depends on a good education and a high school diploma is most desirable. Candidates with a GED (General Education Development) certificate can enlist, but some Services may limit opportunities. It is very difficult to be considered a serious candidate without either a high school diploma or accepted alternative credential. In any case, staying in school is important for entering the military.”32

Undereducation saps the nation’s defense potential. Modern warfare in an era of missiles, unmanned aerial vehicles (drones), and other sophisticated weaponry requires an educated military.

For some time, applicants have needed a high school diploma to be accepted into the armed services. Poorly educated students find it difficult to meet the requirements to serve. Other
factors that keep candidates out of the military include criminal records, drug addiction, obesity, physical ailments, and mental problems.

A report, titled *Ready, Willing, and Unable to Serve*, sponsored by the Mission Readiness Organization, indicated that nearly 75 percent of young people between the ages of 17 and 25 (about 26 million) were unfit to serve in the U.S. armed services. So alarming were these figures that retired military leaders met with then Secretary of Education, Arne Duncan, to address the problem. In his statement, Duncan noted, “If we don’t educate our children well, we put our nation at risk.” Recommendations included funding early education programs and developing dropout prevention plans, which according to the report included one out of every four high school students. Several of the retired generals who met with the Secretary stressed the importance of education in developing the quantity and quality of people needed for military jobs: “The best aircraft, ships, and satellite-guided weapon systems are only as effective as the personnel the military can recruit to operate them. Just as with our evolving economy, tomorrow’s military will need young people who are better prepared than earlier generations for tomorrow’s challenges.”

“Don’t think of this as a great thing to do for kids, it’s a [necessary] thing for our country.”

Since 1950, the armed forces of the United States have required applicants and recruits to take a literacy test. The tests—designed to learn about the applicants’ and recruits’ aptitudes, cognitive skills, and ability to perform on the job—have had major revisions through the years. One of the major findings of the military studies is that achieving high levels of literacy requires continued opportunities for lifelong learning: “Investments in adult literacy provide unique and cost-effective strategy for improving the economy, the home, the community, and the schools.”

The armed services provide many opportunities for members to pursue further education. It is after all, in the best interests of the individuals as well as the country.

**Prison Incarceration**

In January 2010, the Pew Foundation in association with State Correctional Administrators reported that there were 1,404,530 persons in state prisons. Two years earlier, the Pew Foundation presented a study that tells the story in its title: *One in 100: Behind Bars in America 2008*. The study noted that the United States has the largest per-capita prison population in the world. The Bureau of Justice Statistics reported that more than 6.98 million people were under some form of correctional supervision in 2011—in prison, on parole, in a local jail, or on probation.

The Pew Foundation report stressed that the costs for such correctional services vary greatly between states and that the costs are clearly staggering. Thirteen states devote more than $1 billion per year in general funds for their correctional systems. California spends the most at $8.8 billion. Texas is second spending $3.3 billion. Rhode Island spends the most per inmate ($44,860 per year), whereas Louisiana spends the least ($13,009). Capital expenses—estimated to be approximately $65,000 per bed for a medium-security facility—merely add to these costs. The average operating cost in the United States to house a prisoner for a year is approximately $25,000. By comparison, the average cost in the United States to educate a child in a K–12 school system for a year is approximately $10,000.

Prisons are largely populated with individuals who have little formal education, with a large percentage having dropped out of high school. Unless the United States continues its commitment to educational opportunities that provide constructive paths to responsive adult life experiences, it will “lock up” a growing share of the population. The focus should be on providing a good education rather than punishing people who are suffering from the lack of a good education.
Health and Education

“Whether people get sick often has more to do with education, income and racial or ethnic group and with conditions in homes, schools, workplaces and neighborhoods where people spend their time.” This statement comes from a survey conducted by the Robert Wood Johnson Foundation titled *Reaching America’s Health Potential among Adults.* This report emphasizes the intimate relationship between education and health. Following are some of the findings from that study:

- Nationally and in every state, the percentage of adults in *less than very good* health varies by level of education. The most-educated adults (college graduates) compared to the least-educated adults (those who had not graduated from high school) were more likely—almost three times more likely in some states—to be in less than very good health.
- The lower the education level of the parents, the worse their children’s chances are of being healthy during childhood and over their own lifetimes.
- A statistically significant correlation shows that the better someone’s education, the better his or her health.
- Infant mortality rates vary based on the mother’s education and ethnic group, but the death rate among babies born to mothers with fewer than 12 years of school is nearly twice that among babies born to mothers with 16 years or more of school. All across the country, the health of those less educated is markedly worse than for those who are better educated.
- People with more education tend to live longer and have healthier lives. On average, college graduates live 5 years longer than those persons who have not finished high school.

In a survey of health behaviors of adults in the United States released in May 2013, the Centers for Disease Control and Prevention (CDC) reported the following: “Adults who had earned a GED but had no further education had among the highest rates of at-risk drinking, cigarette smoking, obesity, physical inactivity, and insufficient sleep.” In summary, the CDC stated, “Americans who never graduated from high school are more likely to smoke, live a sedentary life and be overweight than more educated people.”

SOCIETY SUFFERS THE EFFECTS OF POOR EDUCATION

Individuals who suffer the consequences of poor or inadequate education are not confined to a particular area, town, city, or state. The frustrations that unemployment, inadequate income, and substandard living conditions bring often produce high mobility rates among those who suffer them. The problems related to poor education in one locality then become the welfare or reeducation problems of another community. High mobility rates of people may quickly shift the problems of the disadvantaged (higher welfare and law enforcement costs, for example) from the source of their creation to a state or locality whose educational system is adequate or even superior. Thus, the effects of poor education are not localized. The problems of providing adequate and high-quality education are not just local but statewide and national in scope. No longer can states and districts have concern only for their own citizens.

The spiraling costs of education and the changing social climate of the country have combined to raise serious questions about public education. Have the increased costs resulted in proportionately increased productivity? Why has the public lost confidence in the schools? Why does the public not accept the arguments for increased costs of education as explained by the professionals? These are a few of the unanswered questions that have resulted in taxpayer revolts,
student militancy, racial unrest in the schools, and a general deterioration in the traditional confidence that many citizens have shown in the nation’s schools.

**A Question of Priorities**

In the past, educators and economists have proved remarkably adept at convincing large numbers of taxpayers that education is an investment in people. Unfortunately, they have been less successful in showing the investors how much they have earned on the added investments that education has required each year. In the current frenzy to try to place a dollar value on the student who participates in the educational process, it must be understood that cost–benefit studies have not been producing conclusive results concerning this complex problem and cannot be expected to do so.

All groups of people who are concerned with education appear to be demanding their own version of accountability—often with little regard for their own responsibility. But the principle of accountability applies to all segments of the school complex: administrators, students, teachers, boards of education, parents, and the legislative bodies. The public schools cannot prosper or achieve their intended place in the lives of their students if any one of these groups is not held accountable for playing its part in the educational process. However, the important point so far as school finance is concerned is that the educational family—administrators, teachers, and other staff members—must realize that the taxpaying community needs and demands more comprehensive and objective ways to measure the output of education compared with input. Without such accountability, the economic theories and principles that are generally followed in financing education may be counterbalanced by the actions of skeptical taxpayers. Education will suffer irreparable damage if the public decreases its support because of insufficient evidence that schools are doing what they purport to do.

Many people believe that education is receiving its equitable share of the wealth of this country and that additional funds are not available for financing this system. Others insist that the nation’s priorities are inconsistent with its values and that there is little, if any, defense for the fact that more is spent on cosmetics, liquor, and tobacco than on education.

**Equality and Adequacy Not Yet Attained**

Equality of educational opportunity is sound philosophy, as is investing sufficient funding to close the opportunity gap. Providing such opportunities has its challenges and has often drawn attention from the courts. Many state courts have questioned the response of legislatures in providing appropriate educational opportunities for all students and have ruled that injustices exist and equality has not yet been attained.

One of the primary problems in this regard—dealing fairly and objectively with injustices based on race and class—must base its chances for a solution on education. No other agency or institution has greater hope and greater responsibility than education for eradicating the hazards that prevent cultural and economic improvement. Just as the schools have justified the national faith in them in their responsibility for dissolving the great problems created by differences in national origin of students, so are they now challenged by the tremendous problem of providing equality of educational opportunity. The price of such a worthy goal will be high in both dollars and human effort, but it is a price that all thinking citizens should be willing to pay.

**Underinvestment Is Poor Economy**

The determination of the optimal amount of money the nation should invest in education is a difficult problem. Although numerous schools do not have any financial problems, many others
operate with inadequate laboratories, limited libraries, overcrowded classrooms, and poorly trained teachers. Of course, not all the limitations of poor schools are the result of insufficient financing. Adequate revenues provide the possibility of producing a good educational program but do not guarantee it. Inadequate revenues, however, will almost certainly guarantee a poor educational program. No prudent person would invest large sums of money in an enterprise and then forget it or refuse to use all possible means of protecting that investment. Sometimes adequate protection may involve spending additional funds. Such is the case with investment in education, given that inadequate future expenditures may result in loss of all or a major part of the original investment.

Every economist and most intelligent citizens readily recognize the fallacy of assuming that the economy requires spending the smallest amount of money possible in purchasing a good or service. Certainly, examples of underspending that have resulted in lack of protection of the original investment are easy to discern in any area of business, industry, or education. For example, the school board that employs an unqualified or incompetent teacher at a low salary, or that refuses to keep its buildings and equipment in good repair with the excuse of saving money, will sooner or later recognize such actions as poor business and a violation of true economy. The educational system that provides only a small part of an optimal program for its students will at some point come to realize that the taxpayers’ investment in human capital has not been protected adequately.

The United States must protect the value of its investment in the education of its citizens—and this value cannot be fully measured in standard dollars and cents. It must also protect the individual’s indirect and intangible benefits that are a part of the educational process. Education, or the lack of it, has serious social consequences. As Hodgkinson has stated:

In a state that retains a high percentage of its youth to high school graduation, almost every young person becomes a “net gain” to the state—with a high school diploma, there is a high probability of that person getting a job and repaying the state for the cost of his [or her] education. However in a state with a poor record of retention to high school graduation, many youth are a “net loss” to the state, in that without a high school diploma, the chances of that student getting work and thus repaying the state for that person’s education are very small indeed.48

**WHAT IS THE COST OF AN ADEQUATE EDUCATION?**

Although it has evaded understanding for some time, the cost of an adequate education can now be estimated due to improvements in technology and data availability. Cost studies use four key methods to determine if a state is adequately financing the schools. Each approach results in an adequacy target that can be compared to funding under current law and can be adjusted for high-need students and districts. The purpose is to establish a rational basis for school finances rather than the political basis that has been used—or a practice referred to as “residual budgeting,” which means paying for education after everything else has been funded by the state.

Following are the four methods used to assess school finance adequacy:

- **Professional judgment.** The resources ingredients for an adequate education are defined by professionals in the field, priced, and then summed. This approach is also called the resource cost model.
- **Successful school/district.** Successful schools/districts are identified as meeting state targets and objectives, and their expenditures are determined.
• **Cost function/econometric modeling.** The relationship between expenditures and achievement is determined as a basis for estimating costs.

• **Evidence-based approach.** Experts acquire research evidence for high-performance strategies and link them to costs with estimates for areas lacking empirical support.\(^49\)

Using the *professional judgment* approach for determining costs, resources or “ingredients” deemed necessary to meet state laws, objectives, and standards are identified by service providers, and then prices are attached to them and summed. The result is the estimation of an average base cost of a defined set of resources in the average district, needed to achieve particular state standards and objectives that define adequacy. Resources that are priced include personnel, class size, materials, supplies, technology, utilities, and equipment. This approach, as it has been implemented, aligns resources with state laws and standards but does not determine how funding is distributed or how funds should be used in districts or schools.\(^50\)

The advantages of the *professional judgment* approach are that it is easy to understand and relatively transparent. It is not reliant on current state spending because it is a bottom-up approach for determining needed costs. In addition, it is not limited by state performance data. It can determine the cost of a broad array of state laws, requirements, and standards in addition to areas that are not easily measured, such as citizenship and art. The disadvantages of the approach are that it may be based on current practice and therefore should be supplemented by research whenever possible to ensure that resource configurations and strategies are able to produce the desired results. This method has been implemented using variations to the basic method with some studies more rigorous and reliable than others.

Another approach for determining the cost of an adequate education is the *successful school/district* strategy. This approach first identifies schools or school districts where student performance/outcomes meet desired targets and then determines the level of resources expended by such schools or school districts to estimate costs for a state. It can include controls for nonschool factors that may affect student achievement and costs related to special student or district needs.

Some scholars have noted that this approach of inferring costs from exemplary districts is intuitively appealing and understandable. However, how success is defined varies, with some studies modeling an average test score and others modeling a proficient test score. This results in different costs. The method may be based on limited state performance data. The successful school/district approach usually eliminates “outlier” school districts, adding or using questionable “efficiency” screens, and leading to the possibility of recommendations that underfund education. Exemplary districts generally are affluent districts with few high-need students, so adjustments must be made for school districts with greater diversity. Also, if the funding system is inadequate for all districts in the state, rich and poor alike, this method will yield inaccurate results that would underfund education. This method determines what “successful” districts are spending and specifies an amount to maintain that spending, not what a struggling school needs to reach high outcomes and maintain them.

In *econometric modeling*, also referred to as the cost-function approach, costs are derived by associating total district spending with predetermined pupil performance levels or outcomes, such as student achievement test scores. In essence, this approach statistically isolates factors contributing to school costs independent of other related factors and adjusts them by the cost factors to achieve an overall “adequacy target.” Controls may be used for student characteristics and nonschool factors contributing to these costs. Thus, the calculation summarizes all the information about costs into a single number, which indicates how much each school district must spend to achieve a given level of educational output, such as the average level of current student performance in a state.
The strength of this statistical technique is that it appears scientific and uses state data to produce costs. However, the approach requires a well-developed state database. The often widely varying costs of education produced through econometric modeling weaken confidence in the findings. Moreover, the assumptions undergirding the models are not obvious. These and other problems can raise questions about the defensibility of the findings emerging from the studies.

Another strategy for developing an adequacy target is based on the evidence-based approach. This approach uses research to isolate proven, effective strategies, attaches costs to each, and then sums them together. A difficulty that is encountered, however, is that not all elements costed have a research base, such as central office costs. Another issue is that the approach assumes that the whole is a sum of its parts, but that is not always the case.\(^5\)

Cost studies provide a rational basis for determining the amount of funding necessary for all children to have a meaningful opportunity for an adequate education. This practice raises the level of discussion and is a vast improvement over the political decision making and residual budgeting practices of the past that based costs on politics rather than rational analysis. Although the studies have raised the level of discussion and increased the scrutiny and debate over the amount of funding needed to support an adequate education, there is increasing interest in the contributions each of the major methods provide in determining the cost of an adequate education. As a result, cost studies are becoming more rigorous, and hybrid approaches or multiple methods are being used across the states. Moreover, as the states continue to implement the Common Core State Standards, new studies will be needed and new questions will be raised about the cost of educational adequacy.

Adequacy decisions in courts have highlighted factual evidence related to the state finance system, its constitutional history, and other state contextual factors that result in diminished opportunities and outcomes for all children, particularly children of color, the poor, other non-native English speakers, and students with special needs. Courts have examined funding policies for rural schools in Tennessee, for urban areas in New Jersey, for facilities in Arizona and Idaho, and for special education in Alabama, Wyoming, and Ohio. Preschool has been highlighted in North Carolina, and assistance for children at risk of dropping out of school has been scrutinized in New York, Wyoming, and Wisconsin.\(^5\) Overall, the courts are investigating the quality of education in schools and in classrooms, and determining whether schools can equip each child to be a “citizen and competitor” in academics or in the job market upon graduation from high school. Unlike an equity issue that may apply to poor districts only, an adequacy challenge impacts an entire state system of education for both rich and poor districts alike, and asks that funding be increased for all schools in all districts across the states.

The evidence presented in the adequacy finance cases focuses directly on adequacy in the level of educational opportunities offered to schoolchildren in one or more schools and districts within a state. It typically shows that some students are not receiving a sufficient education as required under the state constitution and as measured by contemporary education standards, state rules/regulations, state laws and regulations, or comparisons to other school systems (or states). Thus, in assessing the constitutionality of the finance system, courts have shifted their focus, moving to include substantive education content in addition to dollar disparities and other educational input, process, and output factors. In essence, courts are interested in determining whether a certain quality of education is available in all schools and districts and are examining at not only disparities in dollars but also in what dollars buy—including teachers, class sizes, technology, materials, curriculum, facilities, budget flexibility, and other indicators of adequate educational opportunities for all students.\(^5\) Importantly, the cost of an adequate education is determined by what that education is
expected to accomplish—its goals and outcomes, and whether students are equipped, upon graduation, to compete in the economy of the twenty-first century. It also is concerned with inputs, and whether they are sufficient to achieve these results. Thus, education policy and finance policy are inextricably intertwined.

Summary

Most citizens of the United States recognize education as “big business.” The taxpayers of the country often do not give education high enough priority so that it can receive the resources it requires.

There are numerous reasons for the greatly increasing costs of education year after year: (1) the nation’s educational goals and objectives continue to increase; (2) communities are constantly demanding more and better services from the schools; (3) more programs and professional services are being provided for high-cost students such as children with disabilities; (4) inflation/deflation factors have increased; (5) the cost of treating students in alternative educational settings has vacillated; (6) energy costs have increased; and (7) changing social and demographic influences have affected expenditures.

As expensive as public education may be, the cost to society of not educating people is much higher. The detrimental effect of illiteracy on employment, on military capability, and on the size of welfare and relief rolls is strong evidence of the costliness of permitting people to remain uneducated or undereducated.

Four methods have been used to determine the cost of an adequate education. Each results in an adequacy target that can be compared to the level of funding the state is providing. Financing education at less than an adequate level is poor economy. With such a large investment in buildings and facilities, the 50 states must provide enough revenue to protect that investment and to achieve the best possible education for all their youths, regardless of their place of residence, the wealth of their parents, or the wealth of their school district.

Assignment Projects

1. Review the actions of some school districts that have experimented with an extension of their school year and explain what the problems and the advantages of such extensions are.
2. What evidence can you find that increasing social problems are causing large increases in the annual costs of public elementary and secondary education?
3. Describe how projected demographic and economic changes in a local area will affect the revenue and expenditures of a school district. Identify what school officials should do to prepare for such changes.
4. Research adequacy in your state and discuss any reports or studies that have addressed this issue.

Selected Readings


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