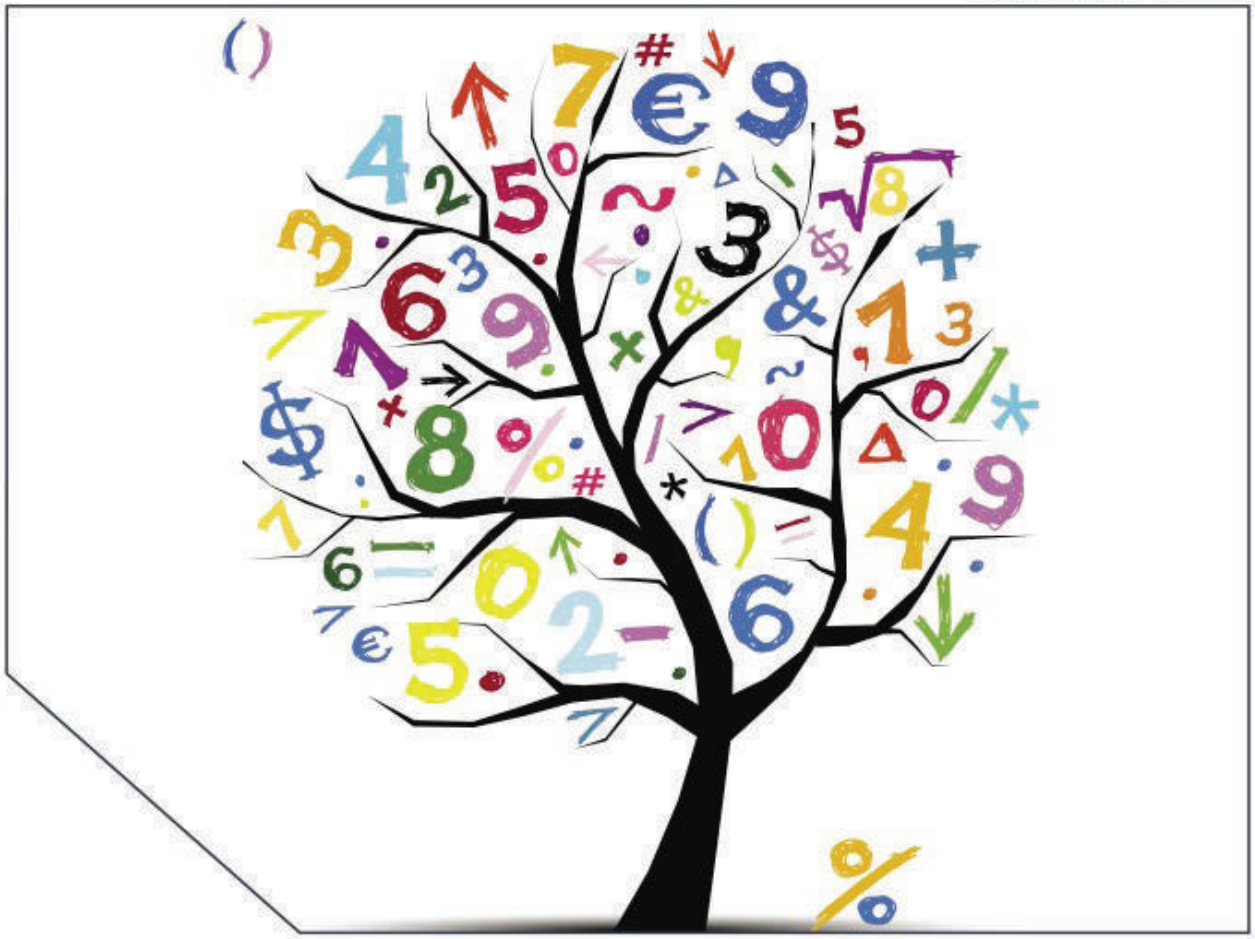
The Pearson Educational Leadership Series

FINANCING EDUCATION IN A CLIMATE OF CHANGE

THIRTEENTH EDITION



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Dedication

To Dawn
To Michael and Nathan
To Kathleen

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PREFACE

Change is a constant. The pace of change is not. Just since the last edition of this text, change has been accelerating at an alarming rate. The Great Recession that encompassed the country finally turned around, but school funding has been uneven. Some states have provided new money to elementary and secondary public schools, while schools in other states remain underfunded and struggling. Teachers have walked out of the classroom for better wages and working conditions in Kentucky, Arizona, West Virginia, Colorado, Oklahoma, and North Carolina. Illinois and Kansas have completely revised their school finance systems. More states are considering student centered funding, and the federal government has replaced the ESEA, Title I, *No Child Left Behind Act* with the *Every Student Succeeds Act.* A new wave of weighted funding systems has spread across the states.

U.S. elections in 2016 and 2018 brought many new directions to the nation at large and have impacted schooling. Stock markets initially soared but then experienced volatility. Unemployment fell to record lows. Passage of a broad income tax overhaul brought new brackets and additional changes, but a rising national debt and greater income inequalities followed. Wars continued in Afghanistan and Syria. Schools experienced major disruptions and losses. Natural disasters punctuated the decade, with hurricanes, flooding, fires, and drought. Mass shootings continued to plague education. The Parkland, Florida students rose up and were joined by others across the nation to demand gun control and additional safety measures for students and schools after a school shooting that resulted in many lives lost. A focus on school choice dominated the federal agenda, and Congress enacted legislation that allowed 529 college savings accounts to be used for private schooling, including religious education. Demographics and costs continued to change, as did goals and standards for the nation's schools. The list goes on. As Bob Dylan penned, "The times they are a changing."

Financing Education in a Climate of Change, 13th 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 post-recession era. It provides 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, key concepts, new to this edition, and learning objectives. This new edition adds information on classic and current topics such as the economics of education, recent court decisions, 50-state tables on key funding provisions, state taxes, and the ongoing debate about vouchers, tax credits, church–state issues, and charter schools.

This classic school finance book contains three major sections: the economics of education, education finance policy, and school business management. Cross-cutting themes of equity, adequacy, and efficiency are woven throughout the text.

NEW TO THIS EDITION

Financing Education in a Climate of Change provides 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:

- **A focus on adequacy, equity** and efficiency throughout the text emphasizes these continuing public policy priorities and the trade-offs inherent in their resolution.
- **Updated tables, figures, and references** throughout the book reflect new issues and information surrounding education finance as it is influenced by public demand, legislative action, and the courts. These elements highlight concepts and comparisons in a clear and understandable manner for the reader while using up-to-date research and information.
- **Current 50-state comparisons** throughout provide readers with contrast, similarities, and other information among all the states along key dimensions in school finance, including state taxes, the major state finance system, funding for high-cost students (that is, special education, English language learners, low-income students, gifted and talented students), funding for transportation, capital outlay, and small/sparse school districts.
- **Attention to issues concerning students with special needs** and new information on state funding mechanisms for English language learners across all 50 states.
- **The federal role** in education is discussed, and new information is given on federal programs including the *Every Student Succeeds Act* program and the *Carl Perkins Act* for career and technical education.
- **Budget procedures** focus on the interrelationship between the district and the local school in building and 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.
- **Expanded material and new information** on the following school finance issues are provided:
  - The economic benefits of education, especially related to a changing economy and the gender gap, with recent census tables providing facts and figures (Chapter 1)
  - The question of whether money matters in student outcomes, with recent research informing the discussion (Chapter 1)
  - Shifting demographics, including the increased number of children in poverty, a new majority-minority in the schools, and changing balances among different groups involved in the education sector (Chapter 2)
  - A focus on equity and adequacy, with an expanded section on horizontal and vertical equity (Chapter 3)

- Weighted student funding, also called student centered funding, which is discussed in greater detail for states, districts, and schools (Chapter 3)
- A new analysis of funding for English language learners, with a 50-state table depicting allocation methods together with tables for low-income, special education, and gifted and talented funding provisions across the states (Chapter 4)
- 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 5)
- New developments in state finance systems, including the new funding model in Illinois and detail on finance plans in Arizona and Maryland (Chapter 6)
- The influence of the courts and legislatures on states and local districts, including a comprehensive overview of recent cases restructured into three major "waves" and its aftermath (Chapter 9)
- The most current information on the volatile church–state issue, with recent court decisions discussed, as well as the continuing evolution of public charter schools, education savings accounts, and vouchers (Chapter 10)
- A focus on business management of schools, with examples of budgetary, accounting, and purchasing procedures (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 State Standards and future funding for elementary and secondary public schools, including the New Finance (Chapter 16)

- Restructuring of Chapters 6 and 7, with the state role now examined in Chapter 6 following the discussions in Chapters 3, 4, and 5 on state funding and taxes
- 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; 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 the following: How do states pay for schools? 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 and the federal government influenced education support?

ACKNOWLEDGMENTS

Many people were involved in the development and production of this text, and we thank them wholeheartedly. First, it is a special pleasure to welcome author Robert C. Knoeppel, professor and dean, University of South Florida. Dr. Knoeppel brings a wealth of knowledge and experience to the team, and provides invaluable conceptual, practical and scholarly contributions to the text.

We would like to acknowledge the finance scholars, leaders, and experts who provided the epigraphs that open each chapter. We are also grateful to our reviewer, Daniel Wayne Eadens from Northern Arizona State University for excellent suggestions and thought-provoking comments. Importantly, much gratitude is expressed to Misty Soles, attorney and doctoral candidate, Clemson University, who carefully, and with attention to the recent court decisions, revised Chapter 10. We appreciate Blake Haselton, superintendent-in-residence and dean, University of Louisville, for his contributions to Chapter 7. Particular appreciation is expressed to Kevin Davis, and others at Pearson including Aileen Pogran, Faraz Sharique Ali, Jessa May Dales, Rajakumar Venkatesan, and Maria Feliberty. Their expertise and assistance are valued.

Finally, 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.
Robert C. Knoeppel

1 THE ECONOMICS OF EDUCATION

Economists are not certain about many things, but we are quite certain that a college diploma or an advanced degree is a key to economic success.

—Janet L. Yellen, Federal Reserve Chair[1]

Learning Outcomes

When you have finished this chapter, you should be able to:

- Trace the development of the economic theory that education is an investment in human capital.
- Discuss equal pay for equal work, present and compare data for males and females, and give your views.
- Describe five philosophical orientations to school finance.
- Explain the relationship of education funding and the gross domestic product.
- Assess the question of whether money matters in school outcomes, using evidence from research.

Education is an investment in human capital—the habits, knowledge, and skills that make individuals more productive and give them economic value. Human capital formation occurs in various settings—in formal and informal education, on-the-job training, professional seminars and interactions, 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."[2] 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.[3]

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.[4]

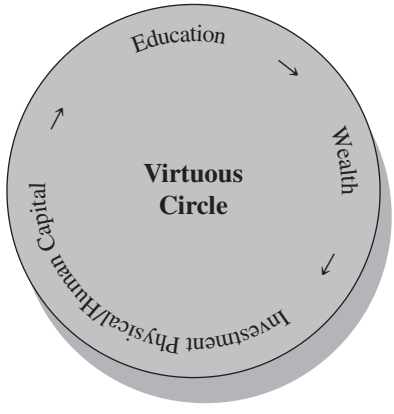
Because human capital has the fundamental characteristics of any form of economic capital and becomes a part of the person who possesses it, such capital deteriorates with inactivity. It does not disappear completely until the death or complete incapacity of the person possessing it. Human capital often 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.[5] 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, alternative energy, 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 productivity, 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 states 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 spend the highest number of years in formal education of any wealthy country."[6] With regard to expenditures, statistics from the U.S. Department of Education show that 7.1 percent of the country's gross domestic product (GDP) in 2014–2015 went toward all educational institutions, including public and private education. This figure represents a decline from 8.0 percent in 2010–2011 (see Table 1.1). Total expenditures for all levels of education were estimated to be $1.2 trillion. Expenditures for K–12 education were $696 billion; postsecondary (degree granting) institutions expended $532 billion.[7] International comparisons show that of the 26 countries that comprise the Organisation for Economic Co-operation and Development (OECD), the 5 countries with the highest expenditure per student are Luxembourg, Switzerland, United States, Norway, and Austria. The lowest spending countries are Turkey, Argentina, Mexico, Colombia, and Indonesia.[8]

According to the OECD, expenditure per student by educational institutions is largely influenced by teachers' salaries, followed by pension systems, and instructional and teaching hours. Also included in these expenditures are the cost of teaching materials and facilities, the program provided (for example, general or vocational), and the number of students enrolled in the education system. Other policies such as those to attract new teachers, reduce average class size, or change staffing patterns have also affected per-student expenditure. Ancillary and research and development services can also influence the level of expenditure per student.[9]

TABLE 1.1 Total Expenditures of Educational Institutions Related to the Gross National Product, by Level of Institutions: Selected Years, 1929–1930 to 2014–2015[10]

			Expenditures for Education in Current Dollars					
			All Educational Institutions		**All Elementary and Secondary Schools**		**All Postsecondary Degree-Granting Institutions**	
Year	Gross Domestic Product (GDP) (in Billions of Current Dollars)	School Year	Amount (in Millions)	As a Percentage of GDP	Amount (in Millions)	As a Percentage of GDP	Amount (in Millions)	As a Percentage of GDP
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1929	$103.6	1929–30	—	—	—	—	$632	0.6
1939	92.2	1939–40	—	—	—	—	758	0.8
1949	267.2	1949–50	$8,494	3.2	$6,249	2.3	2,246	0.8
1959	506.6	1959–60	22,314	4.4	16,713	3.3	5,601	1.1
1969	984.4	1969–70	64,227	6.5	43,183	4.4	21,043	2.1
1970	1,038.3	1970–71	71,575	6.9	48,200	4.6	23,375	2.3
1975	1,637.7	1975–76	114,004	7.0	75,101	4.6	38,903	2.4
1980	2,788.1	1980–81	176,378	6.3	112,325	4.0	64,053	2.3
1985	4,217.5	1985–86	259,336	6.1	161,800	3.8	97,536	2.3
1990	5,800.5	1990–91	395,318	6.8	249,230	4.3	146,088	2.5
1995	7,414.7	1995–96	508,523	6.9	318,046	4.3	190,476	2.6
2000	9,951.5	2000–01	705,017	7.1	444,811	4.5	260,206	2.6
2005	12,638.4	2005–06	925,712	7.3	572,135	4.5	353,577	2.8
2010	14,498.9	2010–11	1,153,000	8.0	681,000	4.7	471,000	3.2
2015	17,348.1	2014–15	1,228,000	7.1	696,000	4.0	532,000	3.1

Primary, secondary, and postsecondary non-tertiary education comprise 3.6 percent of the GDP on average across OECD countries. Denmark, Iceland, New Zealand, Norway, Portugal, and the United Kingdom allocate the highest share of their GDP to these levels of education, at 4.5 percent or more. The United State spends slightly more than 4.0 percent, but does not rank in the top five countries. At the other extreme, the Czech Republic, Lithuania, and the Russian Federation spend less than 2.7 percent of their GDP on K–12 education.[11]

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, goals, and students, and the 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.[12]

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, as well as to 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.)

TABLE 1.2 Political and Economic Continuum

	Marx	Keynes	Galbraith	Friedman	Smith
Government or Economy	***Communist***	***Government Intervention***	***Liberal***	***Conservative***	***Capitalist***
Role of Government	Central government has total control; sets policy and goals in all aspects of society; strong bureaucracy.	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.	Government is a dominant factor in society. Limit overproduction by private sector. Provide affluence for all citizens.	Government interventions have hampered programs. Should reduce bureaucracy because people who are free to choose without bureaucratic influence create a better quality of life.	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.
Educational Perspective	Free public education, controlled and financed by centralized government. Trains in value system of the government.	"Education is the inculcation of the incomprehensible into the indifferent by the incompetent" and provided by government.	Education is vital for technical advances and growth. Education must be encouraged for future research and development.	Government overgoverns education. Voucher system for education. Education is essential in maintaining free enterprise, political freedom, and open economy.	Education is one of the essential government services to make capitalism work; competition between schools. Local education control, compulsory education at elementary level.
Taxes	Highly graduated progressive tax on income.	Progressive tax to redistribute wealth so the poor can spend more and the wealthy save less.	Public economy is starved; private economy is bloated. Tax the affluent society (private sector) more to provide needed public services, education, etc.	Private economy is starved; public economy is bloated. Tax reform encourages investment in private sector.	Taxes should reflect ability to pay, not be arbitrary; should be convenient and efficient. Needed to provide for essential government services.

(*Continued*)

TABLE 1.2 Political and Economic Continuum (*Continued*)

	Marx	Keynes	Galbraith	Friedman	Smith
Government or Economy	***Communist***	***Government Intervention***	***Liberal***	***Conservative***	***Capitalist***
Property	Abolition of private ownership of property.	Private property essential; however, government is the most important element of a nation's economy.	Private ownership has been oversold through advertising; the affluence of private sector has cheated public needs. Fiscal policy is essential.	People must be free to own and exchange goods. Monetary policy, not fiscal policy, is essential in shaping economic events.	Private property is essential to freedom; if state owns, freedom vanishes.
Vantage Point in History	Reaction to exploitation of workers in the Industrial Revolution. History is determined by economic conditions.	Predicted ruin of Europe's economy because of harsh economic conditions imposed on Germany by the Treaty of Versailles.	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.	Freedom is more important than prosperity. However, freedom is the best environment for economic prosperity; monetary policy leads to stability.	Wrote *The Wealth of Nations* in 1776, but its major impact came in early 1800s. Reaction to British mercantilism; tariffs and limited "free" trade.

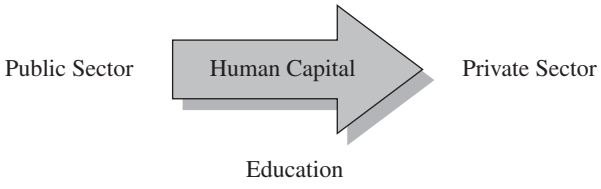
When seeking financial support for the schools, educators must understand the diverse philosophies and communicate across the political spectrum by using concepts that resonate within a particular philosophy. More and more educational leaders understand that all major social forces must not only recognize 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.



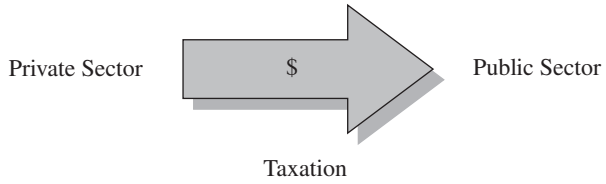
Government institutions, including public schools, do not react as quickly or as obediently to consumer demand, external pressure, and public criticism as their counterparts in the competitive world. Local, state, and federal governments use tax funds to pay for their part of the education pattern. These tax funds are disbursed with less reliance on consumer demand to reject financial decisions. In addition, 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 inequality 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, the 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 educational 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 examining 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 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 educational 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.[13]

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.[14]

As Nobel Laureate in Economics, Theodore Schultz, so succinctly stated, "Economists have long known that people are an important part of the wealth of nations."[15]

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 or selecting one

activity rather than another), 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 government services and institutions, together with a recovering 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.[16] 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 exists. 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 an interest in education such as parents, teachers, and administrators; and by taxpayers who seek to lower their share of the tax burden. The degree of student satisfaction 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 neither children nor other family who are students nor have a direct relationship with any of the individuals of any educational interest group. For that reason, school board members, other elected officials, and government administrators who are responsible for the supply of education may approach school finance with a neutral or even negative attitude. Their decisions may be made in terms of a real or imagined financial tax burden to the exclusion of more relevant and necessary educational needs. This perspective often results in exaggerated criticism of increases in educational expenditures, especially

in areas where there is little objective evidence of commensurate 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 government service as education? Theoretically, it could be done in the same way an individual decides how to allocate scarce resources among competing goods and services in a free market. 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 an additional $10,000 might be less desirable, and expending a further $10,000 might be undesirable or unwise—because it could 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.[17]

Economists who are becoming more involved in studying this relationship in education are classifying the concept as value added. It raises important questions as McLure suggests. At what point does the value added by another unit decrease? How does the decrease in value compare to its additional costs? Does this linear relationship relate to learning and education?

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 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 individuals. 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? Benefits accrue to individuals and society; they are economic and noneconomic.

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).

Educated persons enjoy a broader range of job opportunities than their less well-educated counterparts. 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[18] 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.
- Compared to college graduates, annual losses for high school dropouts over their lifetime exceed $267,390 in federal and state income taxes for each person.
- 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.

TABLE 1.3 Median Annual Income of Year-Round, Full-Time Workers 25 Years Old and Over, by Highest Level of Educational Attainment and Sex: 2010 through 2015[19]

	Elementary/Secondary				College						
							Bachelor's or Higher Degree				
Sex and Year	Total	Less than 9th Grade	Some High School, No Completion	High School Completion (includes equivalency)	Some College, No Degree	Associate's Degree	Total	Bachelor's Degree	Master's Degree	Professional Degree	Doctor's Degree
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
					*Current Dollars**						
Males											
2010	50,422	24,997	29,790	40,082	46,578	50,353	71,936	64,168	80,962	115,595	101,231
2011	50,655	25,223	30,423	40,447	47,072	50,928	73,854	66,196	76,284	119,474	100,766
2012	50,955	25,131	30,329	40,351	47,187	50,961	75,320	66,153	85,116	116,354	102,335
2013	51,202	26,160	30,565	40,289	47,650	50,998	76,105	67,236	86,308	126,725	100,708
2014	50,397	26,582	30,838	40,933	46,896	51,112	75,908	68,158	84,759	121,754	105,281
2015	52,305	27,155	32,143	41,569	49,672	52,072	79,320	71,385	86,738	136,189	106,467
Females											
2010	38,178	18,204	20,836	29,843	33,469	37,729	51,967	47,447	59,295	76,861	77,429
2011	38,909	20,102	21,113	30,011	34,592	39,286	52,136	49,108	60,304	80,718	77,458
2012	39,977	20,060	21,386	30,406	35,058	37,321	57,219	50,173	60,927	94,473	77,902
2013	40,613	19,840	22,248	30,801	35,242	37,704	55,943	50,745	61,281	85,396	75,091
2014	40,829	20,991	21,986	30,646	34,377	37,475	55,724	51,347	60,828	91,812	80,542
2015	41,679	21,054	22,670	31,249	36,377	40,186	57,219	51,681	62,379	82,473	82,305

* Earnings in current dollars 2015, CPI-U-RS.

- 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 to $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), economic benefits in terms of average earnings per person in the United States relative to education level achieved in 2015, the latest year for which data were available, were as follows:

- A male junior high school dropout earned $14,414 less per year than a high school graduate. In lifetime earnings, that difference amounts to $504,490.
- A male high school dropout earned $9,426 less per year than a high school graduate. In lifetime earnings, that difference equates to $329,910.
- A female high school dropout earned $9,426 less per year than a high school graduate. That difference equates to $329,910 in lifetime earnings.
- A female high school graduate earned $29,816 less annually than a college graduate did. That difference equals $1,043,560 in lifetime earnings.

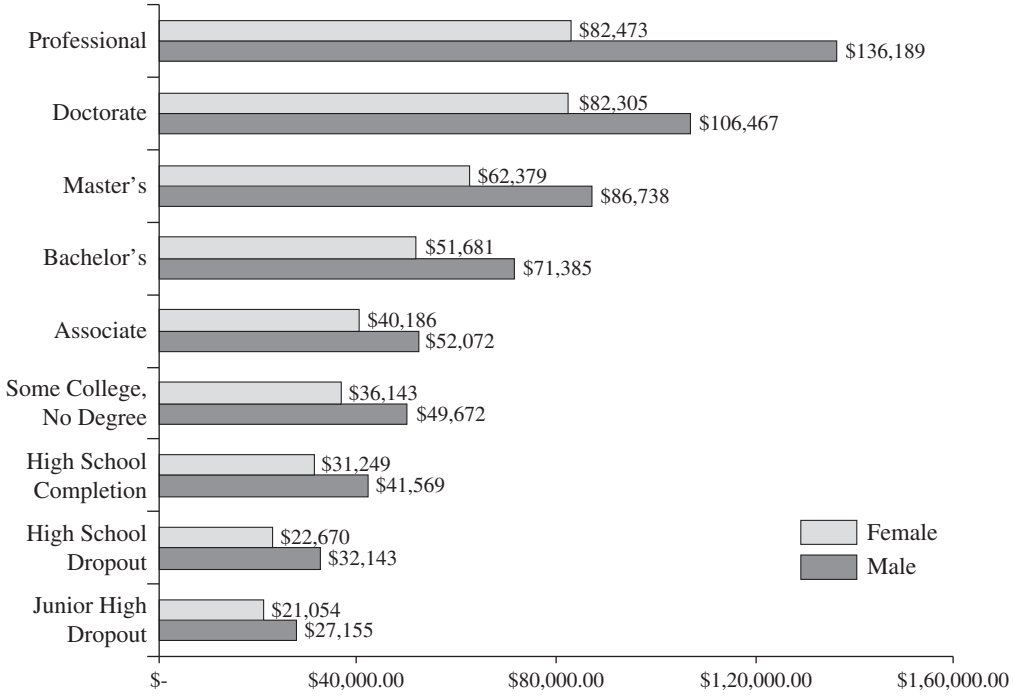


FIGURE 1.1 Money Income of Households, Families, and Persons in the United States.[20]

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; however, the disparity in incomes between males and females is large. Women earn about 70 percent of what men earn at all levels. For people with a high school degree, women earn 75 percent of men's average earnings; this comparison is 72 percent for individuals with a college degree and 77 percent for those with a doctorate. The disparity in earnings between men and women remains a key issue in twenty-first century America. Lack of parity depresses economic outputs and individual opportunities. However, for everyone, regardless of gender, more education results in high earnings, on average. The Federal Reserve chairwoman, Janet L. Yellen, underscored this point when she said, "[E]conomists are not certain about many things, but are quite certain that a college diploma or an advanced degree is a key to economic success."[21]

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, Venezuela, 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 slow in 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, 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, 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 and medical discoveries. Business organizations benefit from more highly skilled and motivated workers.

Generally, the more education people attain, the more income they 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 makes it clear that an educated citizenry is essential in a democratic system of government. As Horace Mann pointed out as early as 1848, "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. . . . [A]nd, if this education should be universal and complete, it would do more than all things else to obliterate factitious distinctions in society."[22]

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 and participate in government, 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) be 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 individuals the right of choice about the type, amount, or method of educational services they are required to assume except through representatives such as school boards, 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 to 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 percentage of income) is no greater than that borne by the less affluent.

COST–QUALITY RELATIONSHIP IN EDUCATION: DOES MONEY MATTER?

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 the 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 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 to utilize improved methods more quickly. In addition, higher-expenditure schools are characterized by different behavior patterns 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.[23]

The relationship between cost and quality in education has been questioned more critically as a result of studies by Coleman and colleagues[24] and Jencks and colleagues.[25] 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 the input–output relationship in education and the methods used to examine it. Perhaps Coons, Clune, and Sugarman best summarized the debate in the 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.[26]

There is a need for members of the public and school personnel alike to recognize that a positive relationship exists 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?[27]

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,[28] 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."[29]

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."[30] They find : "There are clear relationships between funding and achievement."[31] 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).
- Significant relationships exist 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 youths 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).[32]

Even though profound improvements have been made in recent research techniques and data availability, and new approaches are being used to address the cost–quality relationship in education, studies 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."[33] Other variables that affect student outcomes 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, climate, research methodology—all are important when attempting to unravel the variables in scientific research as it relates to cost–quality relationships. Still, new research is beginning to distill the results of funding in education and student achievement, and the results are positive.

These earlier results have been confirmed and extended by Knoeppel, Verstegen, and Rinehart. According to these authors, "Resource inputs are powerful predictors of multiple student outcomes." Their new 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).[34]

Two additional recent studies, which also use a fresh statistical approach for examining the cost–quality relationship in education, agree. These studies found that "it turns out spending more probably does improve education." [35] The first concluded unequivocally that money really does matter in education. Researchers Julien LaFortune, Jesse Rothstein, and Diane Whitmore examined student achievement in National Assessment of Educational Progress (NAEP) test scores in states that changed their funding system after 1990 in response to a lawsuit, and compared them to those that did not. The year 1990 was selected because it was a turning point in education finance litigation, given the focus on whether states provided enough money for education (that is, whether funding was adequate), rather than a singular concern over on whether funding was equitable. The study, published by the National Bureau of Economic Research, found that over time "states that send more money to their lowest income school districts see more academic improvement in those districts than states that don't."[36] The results were significant and consistent. The second study examined funding and long-term outcomes, such as students' adult earnings and the length of time they stayed in school, in school districts with and without court-ordered funding changes. Findings were dramatic. Researchers C. Kirabo Jackson, Rucker C. Johnson, and Claudia Persico reported in the 2016 *Quarterly Journal of Economics* that a 10 percent increase in funding per pupil for each year of schooling resulted in "wages that were almost 10 percent higher, a drop in the incidence of adult poverty and roughly six additional months of schooling."[37]

Synthesizing research to date, Bruce Baker, in a 2017 review of available evidence on the question of whether money matters in creating higher student learning outcomes, is clear: Money, and what it buys, matters. He concludes: "For decades, some politicians and pundits have argued that 'money does not make a difference' for school outcomes. . . .[but] this viewpoint is contradicted by a large body of evidence from rigorous empirical research."[38] According to Linda Darling-Hammond, summarizing the research to date, "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."[39]

Summary

Economists regard education as an investment in human capital. Resource allocations to education are a responsibility of government at all levels—federal, state, and local. 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 outputs.

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. Recent research finds that money matters.

Assignment Projects

1. Discuss the following key concepts: human capital, virtuous circle, taxation, equity, opportunity costs, diminishing marginal utility, value added, externality, free rider, benefit principle, private benefits, public benefits, and cost–quality relationship.
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 taxes for education. Discuss education as 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.

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2 THE NEED FOR ADEQUATE FUNDS

A central problem for education finance is that there are long lags before most of the impacts occur, sometimes very long lags. But in the end education determines the future.

—Walter W. McMahon

Learning Outcomes

When you have finished this chapter, you should be able to:

- Understand the concepts of adequacy and equality of educational opportunity.
- Explain the factors that impact adequacy.
- Outline the methods to calculate adequacy.
- Discuss the demographic changes in schools and the challenges these changes pose to the provision of an adequate system of education.
- Describe the variation in spending for schooling across the states.

The delivery of a system of public education is a large enterprise; states are tasked with the provision of an adequate educational system so that all children can be afforded the equality of educational opportunity.[1] The costs associated with an adequate system of public education are variable and can be impacted by the number of children to be educated, the needs of the children who attend public schools, and the outcome goals enumerated in state educational policy and law. Scholars, lawmakers, and practitioners have the difficult task of balancing cost estimates and allocating sufficient resources to meet the demand for education with taxpayers bearing the costs associated with the provision of a system of public education. Taxpayer support for public schools is critical to provide adequate funding for education.

ADEQUACY AND THE FACTORS IMPACTING IT

The development and refinement of state systems of public education can be guided and informed by reliable analyses that estimate the cost of an adequate education.[2] Moreover, a growing body of literature exists to support the conclusion that school finance reform can have a positive effect on student outcomes, both in raising overall achievement and

in reducing gaps in student outcomes. The definition of adequacy has been an iterative process. Current thinking is that state finance systems should be designed to provide all children, regardless of where they live and attend school, with an equal opportunity to achieve some defined level of outcome.[3]

Many factors impact adequacy. Chief among these factors is the establishment of outcome standards, or the *adequacy target*. Scholars have argued that connecting state aid formulae to outcome goals is a critical step toward understanding how much money is required to adequately fund education. State funding formulae must include key features that ensure the sufficiency and equity of the system. For example, scholars suggest that an adequacy study should be conducted at regular intervals in order to determine funding levels; states should adjust basic state aid by student need factors such as poverty, limited English proficiency, and disability status; state aid should be adjusted based on the ability of the school district to raise revenues locally and for regional cost differences; states should adopt two-year budgets to help school districts to predict revenues; and hold-harmless provisions should be included to protect school districts against loss.[4]

EDUCATION DESERVES HIGH PRIORITY

Unfortunately, not all citizens of this country have given education the high priority it deserves and requires if schools are to accomplish their objectives. Formal education has made a large contribution to the social, political, and economic achievement of the United States. Attention has waxed and waned. Most recently, the nation's attention turned to educational improvement with the publication of the landmark report *A Nation at Risk*, which warned of a "rising tide of mediocrity that threatens our very future." The report 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."[5]

At different milestone years since the publication of this report, policy analysts and scholars have published updates on efforts to improve educational outcomes for children. For example, twenty-five years following the release of *A Nation at Risk*, the U.S. Department of Education published their report, *A Nation Accountable*.[6] This publication reported improved implementation of high school graduation standards and access to courses in core content areas such as English, Math, Science, Social Studies, and Foreign Language; stagnant scores on normed referenced tests for high school students; slight improvements on normed referenced tests for children in elementary and middle schools; the adoption of increasingly rigorous content standards in all of the states; and better systems of capturing data to draw conclusions about educational improvement. However, the report cautioned that much work is still needed. It pointed out:

> • 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.
> [. . .]

- We simply cannot . . . stick our heads in the sand 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.[7]

Building on this idea, the American Institutes for Research[8] and others[9] published summary reports on progress made thirty years after the publication of *A Nation at Risk*. One positive finding from these reports is that high school students are taking more rigorous courses: 88 percent of students completed a course in geometry, while 70 percent completed a course in chemistry. In addition, the high school graduation rate improved from 74 to 78 percent nationally. These reports found that National Assessment of Educational Progress (NAEP) scores had not improved significantly since the 1980s. Large gains were made in NAEP scores for Black and Hispanic students, but opportunity gaps remained large between subgroups and their White counterparts. These gaps are particularly troubling given projections for an increasingly diverse population of students to be entering school in the next two decades.

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

Recent polling[10] on public opinion about public education reveals that Americans want schools to prepare children academically, but they also want schools to focus on career preparation and to develop students' interpersonal skills. According to survey results, less than half the respondents believed that academic preparation should be the only goal of public schools. Results showed that 82 percent believed that students should be enrolled in job or career skills classes, even if that meant students would spend less time in an academic core subject, while 86 percent expressed the opinion that their local schools should offer a certificate or licensing program that would qualify students for employment. Soft skills were also seen as an important aspect of schooling. Of survey respondents, 82 percent believed that it was highly important for schools to teach interpersonal skills such as being cooperative, showing respect, and problem solving. The public saw the inclusion of career preparation and the development of soft skills as complimentary to academic preparation. According to the survey results, 76 percent of Americans believed that advanced coursework is a strong indicator of school quality. The public favored a balanced approach to education, with 70 percent supporting the inclusion of extracurricular activities and 71 percent believing that art and music classes were indicators of a quality school.

Merely 42 percent of Americans felt that performance on standardized testing was an indicator of school quality. In fact, survey respondents rated every other measure of school quality (extracurricular activities, art and music classes, advanced academic classes, technology and engineering classes, and interpersonal skills) as more important. Interestingly, the public felt that schools should assess students on interpersonal skills and that those assessments should be part of a school's accountability score.

When survey respondents were asked to grade public schools, the results showed that not much has changed over the past five decades. Consistent with previous results, the public tends to rate schools in their communities higher than the nation's public schools. Of survey respondents, 49 percent rated their local school as an A or B, which is the highest grade since 1999. This number grew to 62 percent when limiting responses to parents who had children enrolled in the public schools. When grading the nation's schools, only 24 percent rated schools as an A or B. The lowest ratings were found in the most densely populated cities.

Finally, and most importantly for the purposes of this text, Americans expressed the opinion that raising adequate funds was the biggest challenge facing local schools. This ranking has persisted for more than a decade. While the percentage naming finances as the largest problem is down slightly from the economic downturn of 2008, the finding has implications for policymakers and educators who are concerned with the provision of an adequate system of schooling for all children and youths.

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 post-secondary 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 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. Prior to the adoption of standards-based education reform policies, statements of the objectives of education were limited, easy to achieve, and correspondingly inexpensive. Over the course of the last four decades, goals of the schools became more comprehensive and costly as the schools improved and public confidence in them increased. As noted earlier in the chapter, an important change in education after the publication of *A Nation at Risk* was the adoption of more rigorous content standards. As of the printing of this text, 42 states, the District of Columbia, 4 U.S. territories, and the Department of Defense schools have adopted the Common Core State Standards. The Common Core State Standards have been described as college- and career-ready standards for children in kindergarten through twelfth grade in English/language arts, literacy, and mathematics. The standards were designed by educational leaders in each of the states with the goal that all students graduating from high school would be prepared to take introductory credit-bearing courses at institutions of higher education or enter the workforce.[11]

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.

SPENDING ON EDUCATION AND THE SIZE OF THE ENTERPRISE

Data from the *National Education Association*, published in 2017, indicated that the total expenditures for public and private education from prekindergarten through graduate school totaled more than $1.25 trillion.[12] The average spending per student in public schools at the K–12 levels was $11,984, ranging from a high of $24,421 in Vermont to a low of $6,515 in Idaho. (See Table 2.1).

Other data from the *Digest of Education Statistics* indicate that some 55.6 million students were enrolled in K–12 programs in more than 98,000 public school facilities. Approximately 3.6 million teachers were employed in the system; projections indicate that 3.8 million teachers will be needed by the year 2025. Perhaps the greatest change in school staffing can be seen in professional administrative and support staff at educational institutions, who added another 4.1 million positions to the total number of education employees. The large increase in this category of employees over time can be seen in the

TABLE 2.1 Current Expenditures for Public K–12 Schools per Student in Fall Enrollment, 2017 (Revised) (in dollars)[13]

	United States	11,984
1.	Vermont	$24,421
2.	New York	22,659
3.	Alaska	21,261
4.	Connecticut	20,861
5.	District of Columbia	20,640
6.	New Jersey	20,556
7.	Massachusetts	18,072
8.	Wyoming	17,052
9.	Rhode Island	16,401
10.	New Hampshire	16,200
11.	Michigan	15,981
12.	Pennsylvania	15,139
13.	Maryland	14,768
14.	Delaware	14,462
15.	Illinois	13,875
16.	Minnesota	12,522
17.	Kentucky	12,257
18.	Oregon	12,161
19.	West Virginia	12,127
20.	Hawaii	11,964
21.	California	11,743
22.	Wisconsin	11,533
23.	Louisiana	11,495
24.	Montana	11,195
25.	Colorado	11,169
26.	Virginia	11,141
27.	South Carolina	11,039
28.	Iowa	10,891
29.	Missouri	10,828
30.	New Mexico	10,785
31.	Nebraska	10,367
32.	Ohio	10,333
33.	Kansas	10,240
34.	Washington	10,119
35.	Arkansas	9,749
36.	Texas	9,336
37.	Florida	9,277
38.	Alabama	9,255
39.	Tennessee	9,148
40.	Georgia	9,013

41.	South Dakota	8.961
42.	Maine	8,956
43.	North Carolina	8,940
44.	Mississippi	8,361
45.	Nevada	8,165
46.	Oklahoma	8,164
47.	North Dakota	8,077
48.	Arizona	7,501
49.	Indiana	7,267
50.	Utah	6,906
51.	Idaho	6,515
	Median	11,141
	Range	17,906
	SDev	4,178
	CV	.34

addition of instructional coaches.[14] 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 1990 and 2014, elementary enrollment in prekindergarten through grade 8 increased by 14 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 30 percent in secondary enrollment in the 1990–2014 period. Overall, public school enrollment rose 19 percent between 1990 and 2014.

Enrollment in public schools is projected to reach 56.8 million by 2026, a 2 percent increase from the number of students enrolled in 2014. New records of total enrollment are expected every year through 2026.[15] The greatest school population increase will occur in the West, where enrollment is predicted to increase by 12 percent. Enrollment in the South will increase 9 percent, whereas the Midwest will show only a slight increase of 1 percent in school enrollment; similarly, the Northeast is projected to have a growth rate of 1 percent.[16]

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 increasingly 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 54 to 72 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. Commensurate with the increase in births, school enrollment began to rise in the fall of 1985 and reached record levels in the 1990s, with the growth in student enrollment leveling out in 2006.

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."[17] 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. "Births declined 1% for non-Hispanic white and Hispanic women and were essentially unchanged for non-Hispanic black women from 2011 to 2012."[18] These factors led to a period of time that the National Center for Education Statistics has characterized as a period of slight declines or stable enrollment in public schools.[19]

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.[20]

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.

The decade beginning in 2010 has been characterized as the "decade of the city."[21] This decade saw growth in cities outpacing suburban population growth. All cities outgrew their respective surrounding suburbs, which is contrary to a longstanding pattern of population migration to the suburbs. The largest population growth was seen in cities with