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MACROECONOMICS

PRIVATE AND PUBLIC CHOICE • 16E

KEYS TO ECONOMIC PROSPERITY

These keys to the economic prosperity of a nation are highlighted throughout the text.

1. **Human Ingenuity.** Economic goods are the result of human ingenuity and action; thus, the size of the economic pie is variable, not fixed. [Chapter 2]

2. **Private Ownership.** Private ownership provides people with a strong incentive to take care of things and develop resources in ways that are highly valued by others. [Chapter 2]

3. **Gains from Trade.** Trade makes it possible for individuals to generate more output through specialization and division of labor, large-scale production processes, and the dissemination of improved products and production methods. [Chapter 2]

4. **Invisible Hand Principle.** Market prices coordinate the actions of self-interested individuals and direct them toward activities that promote the general welfare. [Chapter 3]

5. **Profits and Losses.** Profits direct producers toward activities that increase the value of resources; losses impose a penalty on those who reduce the value of resources. [Chapter 3]

6. **Price Stability.** Maintenance of price stability is the essence of sound monetary policy; price stability provides the foundation for both economic stability and the efficient operation of markets. [Chapter 15]

7. **International Trade.** When people are permitted to engage freely in international trade, they are able to achieve higher income levels and living standards than would otherwise be possible. [Chapter 18]

8. **Role of Government.** Governments promote economic progress when they protect individuals and their property, enforce contracts impartially, provide access to money of stable value, avoid high taxes and excessive regulation, and foster competitive markets and free international trade. [Chapter 16]

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Macroeconomics: Private and Public Choice, 16e
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RELATIONSHIP BETWEEN MAIN EDITION AND THE MACRO/MICRO EDITIONS

In addition to the full length text, Microeconomic and Macroeconomic splits of this text are also available. The chapters and special topics covered by the micro and macro split versions are indicated in this table.

Chapters

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4	4	4	Demand and Supply: Applications and Extensions
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4	4	4	Keynes and Hayek: Contrasting Views on Sound Economics and the Role of Government
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9	9		Do Labor Unions Increase the Wages of Workers?
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11	11		Difficult Environmental Cases and the Role of Government

PREFACE

These are interesting times. In many ways, they are characterized by uncertainties, paradoxes, and contradictions. Technology has dramatically increased the speed and reduced the cost of information, communication, and transportation. But, has this improved our well-being or merely turned our lives into meaningless rat races? Why do people feel so insecure even though their incomes are at historic highs? Is government indebtedness, including that of the federal government of the United States, a time bomb that will soon explode and wreck our economic future? Why are interest rates so low, and will the current era of low interest rates continue? Does international trade elevate our living standards, or is cheap foreign labor impoverishing American workers? These are vitally important questions. This text addresses all of them and provides insights that will enhance your understanding of these critical issues.

Beginning with the first edition 40 years ago, our goal has been to use the tools of economics to explain how the real world works and to do so in a clear and understandable manner. Perhaps more than ever before, students are seeking to make sense of the world in which they live. This thought was constantly on our minds as we worked on this edition.

We have always used the tools of economics to analyze the operation of both the market and political processes. We are aware that some economists merely analyze the failures of markets and focus on how various idealized policy responses might improve economic efficiency, ignoring the insights of economics about the operation of the political process. We believe this approach is naïve and that it serves students poorly. Idealized alternatives are never an option. Instead, the relevant options are about market allocation versus political allocation. Economics reveals a great deal about the operation of both. If we are going to provide students with insight about the real world, the tools of economics must be applied to both market and political allocation.

ORGANIZATION AND INSTRUCTOR FLEXIBILITY

The organization of *Macroeconomics: Private and Public Choice* is designed to provide instructors with maximum flexibility. As in recent editions, the text is divided into core chapters and a concluding special topics section. The 19 core chapters cover all of the material taught in most macroeconomics principles courses, and they are presented in the usual manner. Examples and data from the real world are used to reinforce the analysis. In addition, "Beyond the Basics" includes 6 relatively short special topic applications on high-profile topics such as Social Security, the Great Recession of 2008, and the Great Depression of the 1930s. These features will grab the interest of students and are short enough to cover during a single class period. If you have not integrated the special topic materials into your course, please consider doing so. They will enrich your course and help students better understand the political economy debates that dominate the daily news of our world.

Instructors integrating public choice throughout their course will probably want to cover Chapters 5 and 6 before moving to the core macro material. Others may want to jump from Chapter 4 directly to the core macro chapters. The chapters have been written so that any of these options will work.

As in the past edition, we worked hard to reduce the length of the text. Several addendums included in past editions have been deleted, but they have been updated in the format of this edition and are available on the open access student Web site. These include the following: "Incentives and Economic Organization: Who Produces, Who Pays, and Why It Matters" (addendum to Chapter 6) and "The Keynesian Aggregate Expenditure Model" (addendum to Chapter 11). These materials are available to students on the open access Web site for the text. Thus, instructors can freely assign them if they would like to do so.

NEW MATERIAL IN THIS EDITION

New material designed to enliven economics and illustrate its relevance has been integrated in just about every chapter. Following are several of these additions:

- In Chapter 4, the analysis of the minimum wage has been revised and material on city minimum wages has been added.
- In Chapter 6, the cases of Uber versus the taxi industry and of Tesla versus the auto dealers are used to illustrate the tendency of the political process to favor older, more established businesses relative to innovative start-up firms seeking to enter the market.
- Chapter 7 uses data on cost-of-living differences among cities to highlight that these price level differences, like those across time periods, influence the real purchasing power of income.
- Chapter 14 contains an extensive analysis of alternative explanations for the current lengthy period of historically low interest rates. Both monetary and non-monetary explanations are presented and their implications for the future discussed.
- Chapter 15 contains a new section on “The Growing Federal Debt and Economic Stability.” This section presents data on the size of government debt, explains why it is difficult to control, and analyzes the potential consequences of high levels of debt.
- Chapter 17 presents data indicating that the institutional quality differences between high-income developed countries and low-income developing economies has narrowed substantially since 1980 (Exhibit 8). Per capita income of low-income countries is now growing more rapidly than that of their high-income counterparts, and dramatic reductions in worldwide poverty have been achieved (Exhibit 9). Further, for the first time since the rise of sustained economic growth about 200 years ago, worldwide income inequality has declined during the past three decades.

ADDITIONAL TEXT FEATURES

Economics: Private and Public Choice retains several features that make the presentation of economics both more interesting and understandable.

- Keys to Economic Prosperity. Students often fail to appreciate the organizational and institutional factors that are the foundation for economic progress. To help remedy this situation, we have incorporated a “Keys to Economic Prosperity” feature that highlights the importance of factors like gains from trade, secure property rights, competition, and free trade as sources of economic prosperity. In all, 12 key factors that underlie modern economic prosperity are highlighted at appropriate places throughout the text; they also are listed inside the front cover.
- Applications in Economics. “Applications in Economics” boxes apply economic theory to real-world issues and controversies. These features illustrate the importance and power of the principles covered in the text.
- Measures of Economic Activity. The “Measures of Economic Activity” boxes explain how important economic indicators such as the unemployment rate and the index of leading indicators are assembled and what they mean.
- Outstanding Economists. Boxes throughout the text highlight the lives of major economists and focus on how their work has contributed to the development of economics.
- Myths of Economics. These boxed articles dispel commonly held fallacies of economic reasoning. Because they are tomorrow’s leaders, we believe that all students should be aware of common economic misperceptions that tend to hamper a nation’s economic progress.

- Chapter Focus Questions and Closing Key Point Summaries. Each chapter begins with four or five questions that summarize the focus of the chapter. At the end of each chapter, the Key Points section provides students with a concise statement of the material covered in the chapter (the chapter learning objectives). These two features help students better integrate the material into the broader economic picture.
- Critical Analysis Questions. Each chapter concludes with a set of discussion questions and problems designed to test students' ability to analyze economic issues and to apply economic theory to real-world events. Appendix B at the end of the text contains suggested answers for approximately half of these questions.
- Graphing at a Glance. New Graphing at a Glance video tutorials enhance the learning experience by bringing graphs to life, allowing students to see graphs physically move along the axes.
- ConceptClips. New ConceptClips in the interactive eReader address the challenge of understanding economics terminology that students face when first introduced to the subject matter.

SUPPLEMENTARY MATERIALS

The text is accompanied by a robust set of online learning tools designed to support your classroom work. Aplia and MindTap include real-time, interactive tutorials; online experiments; Graph Builder; Adaptive Test Prep; Graphing at a Glance; ConceptClips; Audio Cases with assessments; Concept & Application Videos; automatically graded quizzes; and automatically graded problem sets. Likewise, the book's dynamic PowerPoint presentation—considered by many to be the best in the principles market—has been further enhanced with multimedia to facilitate your teaching.

FOR THE STUDENT

MindTap MindTap is a fully online, highly personalized learning experience built on Cengage Learning content that combines student learning tools—readings, multimedia, activities, and assessments—into a singular Learning Path that guides students through their course.

Product Support (www.cengagebrain.com) Valuable resources can be found on the text's Internet support site. Students will find an interactive study center with access to various tools.

FOR THE INSTRUCTOR

We are sure that many of the features incorporated with this textbook will help you become a better teacher and make your classes more interesting to students. Personally, we have incorporated the Keys to Economic Prosperity series, economics video clips, homework assignments, and online quiz questions into our own classes with great success. The full set of supplements that can accompany the book include the following:

MindTap MindTap is a fully online, highly personalized learning experience built on Cengage Learning content that combines student learning tools—readings, multimedia, activities, and assessments—into a singular Learning Path that guides students through their course. Instructors personalize the experience by customizing authoritative Cengage Learning content and learning tools, including the ability to add their own content in the Learning Path via apps that integrate into the MindTap framework seamlessly with Learning Management Systems.

Aplia Aplia™ is an online interactive learning solution that improves comprehension and outcomes by increasing student effort and engagement. Founded by a professor to enhance his own courses, Aplia provides automatically graded assignments that were written to make the most of the Web medium and contains detailed, immediate explanations on every question. Aplia is available in more than 15 disciplines and has been used by more than 2 million students at more than 1,800 institutions. Visit www.aplia.com/economics/ for more details.

Write Experience This technology product allows you to assess written communication skills without adding to your workload. Instructors in all areas have told us that students need to be able to write effectively in order to communicate and think critically. Through an exclusive partnership with a technology company, Cengage Learning's Write Experience allows you to do just that! This new product utilizes artificial intelligence not only to score student writing instantly and accurately but also to provide students with detailed revision goals and feedback on their writing to help them improve. Write Experience is the first product designed and created specifically for the higher education market through an exclusive agreement with McCann Associates and powered by e-Write IntelliMetric Within™. IntelliMetric is the gold standard for automated scoring of writing and is used to score the Graduate Management Admissions Test® (GMAT®) analytical writing assessment. Better Writing. Better Outcomes. Write Experience. Visit www.cengage.com/writeexperience to learn more.

Student Engagement Analytics in Progress App via MindTap How do you know students have read the material or viewed the resources you've assigned? How can you tell if students are struggling with a concept? Engagement Tracker assesses student preparation and engagement. Use the tracking tools to see progress for the class as a whole or for individual students. Identify students at risk early in the course. Uncover those concepts that are most difficult for your class. Monitor time on task. Keep students engaged.

Interactive eBook In addition to interactive teaching and learning tools, Economic MindTap includes an interactive eBook. Students can take notes, highlight, search, and interact with embedded media specific to their book. Use it as a supplement to the printed text or as a substitute—with MindTap, the choice is up to your students.

Test Banks The test banks for the 16th edition were prepared by the author team with the assistance of Joe Calhoun. The authors have worked hard to update and improve the test banks for this edition. The three test banks contain approximately 7,000 questions—multiple choice and short answer. Within each chapter, the questions correspond to the major subheadings of the text. The first ten questions of each chapter are suitable for use as a comprehensive quiz covering the material of the chapter. Instructors who want to motivate their students to study will find online practice quizzes on MindTap that can easily be incorporated into their quizzes and exams. The cloud-based test banks for this edition have been enhanced significantly. Cognero contains all of the questions in the test bank so that you can create and customize tests in minutes. You can easily edit and import your own questions and graphics and edit and maneuver existing questions.

PowerPoint We believe our PowerPoint presentation, prepared by Joseph Connors of Florida Southern University, is the best you will find in the principles market. The presentation includes chapter-by-chapter lecture notes with fully animated, hyperlinked slides of the textbook's exhibits. Its dynamic graphs and accompanying captions make it easy for instructors to present (and students to follow) sequential changes. The graphs are also used to highlight various relationships among economic variables. To facilitate classroom discussion and interaction, questions are strategically interspersed throughout the PowerPoint slides to help students develop the economic way of thinking. Instructions explaining how professors can easily add, delete, and modify slides in order to tailor the presentation to their liking are included. If instructors want to make the PowerPoint presentation available to students, they can place it on their Web site (or the site for their course).

Instructor's Manual The Instructor's Manual was prepared by coauthor David Macpherson. It contains special sections for Advanced Placement instructors prepared by James Chasey and Francis McMann, two of the nation's leading AP instructors. Information on how to use and modify the PowerPoint material is contained in the front of the Instructor's Manual. The manual is divided by chapters, and each chapter is divided into three parts. The first part consists of a detailed chapter outline in lecture-note form. It is designed to help instructors organize their notes to match the 16th edition of the book. Instructors can easily prepare detailed, personalized notes by revising the downloadable lecture notes on the book companion Web site that they access through www.cengage.com. The second part of each chapter contains teaching tips, sources of supplementary materials, and other helpful information. Part 3 of each chapter consists of in-class economic games and experiments. Contributed in part by Professor Charles Stull of Kalamazoo College, the games are popular with many instructors. We hope you will try them.

The book companion Web site contains the key supplements designed to aid instructors, including the content from the Instructor's Manual, test banks, and PowerPoint lecture and exhibit slides for overhead use.

Instructor Resource Center (www.login.cengage.com) This password-protected Web site includes instructor's manuals and test banks and the PowerPoint lecture and exhibit slides. To download these supplements, register online at www.login.cengage.com.

A NOTE TO INSTRUCTORS

As we try to improve the book from one edition to the next, we rely heavily on our experiences as teachers. But our experience using the book is minuscule compared to that of the hundreds of instructors who use it nationwide. If you encounter problems or have suggestions for improving the book, we urge you to let us know by writing to us in care of Cengage Learning, 5191 Natorp Blvd., Mason, OH 45040.

A NOTE TO STUDENTS

This textbook contains several features we think will help you maximize (a good economic term) the returns of your study efforts. Here are some of the things that will help you and a few tips for making the most of them.

- Each chapter begins with a series of focus questions that communicate the central issues of the chapter. Before you read the chapter, briefly think about the focus questions, why they are important, and how they relate to the material in prior chapters.
- The textbook is organized in the form of an outline. The headings within the text (in red) are the major points of the outline. Minor headings are subpoints under the major headings. In addition, important subpoints within sections are often set off and numbered. ***Bold italicized*** type is used to highlight material that is particularly important. Sometimes "thumbnail sketches" are included to recap material and help you keep the important points mentally organized.
- A "Key Points" summary appears at the end of each chapter. Use the summary as a checklist to determine whether you understand the major points of the chapter.
- A review of the exhibits and illustrative pictures will also provide you with a summary of the key points of each chapter. The accompanying captions briefly describe the economic phenomena illustrated by the exhibits.
- The key terms introduced in each chapter are defined in the margins. As you study the chapter, review the marginal definition of each key term as it is introduced. Later, you also may find it useful to review the marginal definitions. If you have forgotten the meaning of a term introduced earlier, consult the glossary at the end of the book.

- The boxed features go into more depth on various topics without disrupting the flow of the text. In general, the topics of the boxed features have been chosen because they are a good application of the theory described in the book or because students tend to be interested in them. The boxed features supplement the text and will enhance your understanding of important economic concepts.
- The critical analysis questions at the end of each chapter are intended to test your understanding of the economic way of thinking. Answering these questions and solving the problems will greatly enhance your knowledge of the material. Answers to approximately half of these questions are provided in Appendix B.

If you need more practice, ask your professor about Aplia and MindTap.

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Russell S. Sobel earned his Ph.D. in economics from Florida State University in 1994. He has published more than 200 books and articles and has received national recognition for his works on entrepreneurship and FEMA reform. He serves on the editorial board for three academic journals and on the advisory board for four university centers. He has won numerous awards for his teaching as well as his research. He regularly teaches courses in principles of economics and public economics and gives lectures at economic education outreach programs. He is a professor of Economics and Entrepreneurship at The Citadel.

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PART 1

The Economic Way of Thinking

Life is a series of choices

Economics is about how people choose. The choices we make influence our lives and those of others. Your future will be influenced by the choices you make with regard to education, job opportunities, savings, and investment. Furthermore, changes in technology, demographics, communications, and transportation are constantly altering the attractiveness of various options and the opportunities available to us. The economic way of thinking is all about how incentives alter the choices people make. It can help you make better choices and enhance your understanding of our dynamic world.

CHAPTER 1

The Economic Approach

FOCUS

- What is scarcity, and why is it important even in relatively wealthy economies?
- How does scarcity differ from poverty? Why does scarcity necessitate rationing and cause competition?
- What is the economic way of thinking? What is different about the way economists look at choices and human decision-making?
- What is the difference between positive and normative economics?

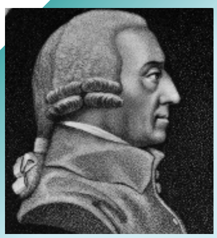
Economist, n.–A scoundrel whose faulty vision sees things as they really are, not as they ought to be. **—Daniel K. Benjamin, after Ambrose Bierce**

Welcome to the world of economics. In recent years, economics has often been front-page news, and it affects all of our lives. The boom and bust of the housing market, the recession of 2008 and the slow recovery, interest rates near zero, a volatile stock market, falling oil and gasoline prices, the soaring costs of a college education and poor job opportunities for graduates—all of these have been in the news and have turned the lives of many American upside down. Economics will enhance your understanding of all of these topics and many more. You will soon see that economics is about much more than just financial markets and economic policy. In fact, a field trip to the fruits and vegetables section at your local grocery store could well be filled with more economics lessons than a trip to the New York Stock Exchange.

In a nutshell, economics is the study of human behavior, with a particular focus on human decision-making. It will introduce you to a new and powerful way of thinking that will both help you make better decisions and enhance your understanding of how the world works.

You may have heard some of the following statements: The soaring federal debt is mortgaging the future of our grandchildren, and it will bankrupt the country if we do not get it under control. The Chinese and Mexicans are stealing our jobs and paralyzing our economy. Budget deficits stimulate the economy and promote employment. A higher minimum wage will help the poor. Making college tuition free for all will promote economic growth and lead to higher earnings. Are these statements true? This course will provide you with knowledge that will enhance your understanding of issues like these and numerous others. It may even alter the way you think about them.

The origins of economics date back to Adam Smith, a Scottish moral philosopher, who expressed the first economic ideas in his breakthrough book, *An Inquiry into the Nature and Causes of the Wealth of Nations,* published in 1776. As the title of his book suggests, Smith sought to explain why people in some nations were wealthier than those in others. This very question is still a central issue in economics. It is so important that throughout this book we will use a special "Keys to Economic Prosperity" symbol in the margin to highlight sections that focus on this topic. A listing of the major keys to prosperity is presented inside the front cover of the book. These keys and accompanying discussions will help you understand what factors enable economies, and their citizens, to grow wealthier and prosper.



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Outstanding Economist: The Importance of Adam Smith, the Father of Economic Science

Economics is a relatively young science. The foundation of economics was laid in 1776, when Adam Smith (1723–1790) published *An Inquiry into the Nature and Causes of the Wealth of Nations.*

Smith was a lecturer at the University of Glasgow, in his native Scotland. Before economics, morals and ethics were actually his concern. His first book was *The Theory of Moral Sentiments*. For Smith, self-interest and sympathy for others were complementary. However, he did not believe that charity alone would provide the essentials for a good life.

Smith stressed that free exchange and competitive markets would harness self-interest as a creative force. He believed that individuals *pursuing their own interests* would be directed by the "invisible hand" of market prices toward the production of those goods that were most advantageous to society. He argued that the wealth of a nation does not lie in gold and silver, but rather in the goods and services produced and consumed by people. According to Smith, competitive markets would lead to coordination, order, and efficiency without the direction of a central authority.

These were revolutionary ideas at the time, but they had consequences. Smith's ideas greatly influenced not only Europeans but also those who developed the political economy structure of the United States. Further, Smith's notion of the "invisible hand" of the market continues to enhance our understanding of why some nations prosper while others stagnate.[1]

[1]For an excellent biographical sketch of Adam Smith, see David Henderson, ed., *The Fortune Encyclopedia of Economics* (New York: Warner Books, 1993), 836–38. The entire text of this useful encyclopedia is now available online, free of charge, at http://www.econlib.org.

1-1 WHAT IS ECONOMICS ABOUT?

Economics is about scarcity and the choices we have to make because our desire for goods and services is far greater than their availability from nature. Would you like some new clothes, a nicer car, and a larger apartment? How about better grades and more time to watch television, go skiing, and travel? Do you dream of driving your brand-new Porsche into the driveway of your oceanfront house? As individuals, we have a desire for goods that is virtually unlimited. We may want all of these things. Unfortunately, both as individuals and as a society we face a constraint called **scarcity** that prevents us from being able to completely fulfill our desires.

Scarcity
Fundamental concept of economics that indicates that there is less of a good freely available than people would like.

Scarcity is present whenever there is less of a good or resource freely available than people would like. There are some things that are not scarce—seawater comes to mind; nature has provided as much of it as people want. But almost everything else you can think of—even your time—is scarce. In economics, the word *scarce* has a very specific meaning that differs slightly from the way it is commonly used. Even if large amounts of a good have been produced, it is still scarce as long as there is not as much of it *freely available* as we would all like. For example, even though goods like apples and automobiles are relatively abundant in the United States, they are still scarce because we would like to have more of them than nature has freely provided. In economics, we generally wish to determine only if a good is scarce or not, and refrain from using the term to refer to the relative availability or abundance of a good or resource.

Choice
The act of selecting among alternatives.

Resource
An input used to produce economic goods. Land, labor, skills, natural resources, and human-made tools and equipment provide examples. Throughout history, people have struggled to transform available, but limited, resources into things they would like to have—economic goods.

Because of scarcity, we have to make choices. Should I spend the next hour studying or watching TV? Should I spend my last $20 on a new cell phone case or on a shirt? Should this factory be used to produce clothing or furniture? **Choice**, the act of selecting among alternatives, is the logical consequence of scarcity. When we make choices, we constantly face trade-offs between meeting one desire or another. To meet one need, we must let another go unmet. The basic ideas of *scarcity* and *choice*, along with the *trade-offs* we face, provide the foundation for economic analysis.

Resources are the ingredients, or inputs, that people use to produce goods and services. Our ability to produce goods and services is limited precisely because of the limited nature of our resources.

Capital
Human-made resources (such as tools, equipment, and structures) used to produce other goods and services. They enhance our ability to produce in the future.

Exhibit 1 lists a number of scarce goods and the limited resources that might be used to produce them. There are three general categories of resources. First, there are *human resources*—the productive knowledge, skill, and strength of human beings. Second, there are *physical resources*—things like tools, machines, and buildings that enhance our ability to produce goods. Economists often use the term **capital** when referring to these human-made resources. Third, there are *natural resources*—things like land, mineral deposits,

EXHIBIT 1

A General Listing of Scarce Goods and Limited Resources

History is a record of our struggle to transform available, but limited, resources into goods that we would like to have.

Scarce Goods	Limited Resources
Food (bread, milk, meat, eggs, vegetables, coffee, etc.)	Land (various degrees of fertility)
Clothing (shirts, pants, blouses, shoes, socks, coats, sweaters, etc.)	Natural resources (rivers, trees, minerals, oceans, etc.)
Household goods (tables, chairs, rugs, beds, dressers, television sets, etc.)	Machines and other human-made physical resources
Education	Nonhuman animal resources
National defense	Technology (physical and scientific "recipes" of history)
Leisure time	Human resources (the knowledge, skill, and talent of individual human beings)
Entertainment	
Clean air	
Pleasant environment (trees, lakes, rivers, open spaces, etc.)	
Pleasant working conditions	

oceans, and rivers. The ingenuity of humans is often required to make these natural resources useful in production. For example, until recently, the yew tree was considered a "trash tree," having no economic value. Then, scientists discovered that the tree produces taxol, a substance that could be used to fight cancer. Human knowledge and ingenuity made yew trees a valuable resource. As you can see, natural resources are important, but knowing how to use them productively is just as important.

As economist Thomas Sowell points out, cavemen had the same natural resources at their disposal that we do today. The huge difference between their standard of living and ours reflects the difference in the knowledge they could bring to bear on those resources versus what we can.[1] Over time, human ingenuity, discovery, improved knowledge, and better technology have enabled us to produce more goods and services from the available resources. Nonetheless, our desire for goods and services is still far greater than our ability to produce them. Thus, scarcity is a fact of life today, and in the foreseeable future. As a result, we confront trade-offs and have to make choices. This is what economics is about.

1-1a SCARCITY AND POVERTY ARE NOT THE SAME

Think for a moment about what life was like in 1750. People all over the world struggled 50, 60, and 70 hours a week to obtain the basic necessities of life—food, clothing, and shelter. Manual labor was the major source of income. Animals provided the means of transportation. Tools and machines were primitive by today's standards. As the English philosopher Thomas Hobbes stated in the seventeenth century, life was "solitary, poor, nasty, brutish, and short."[2]

Throughout much of South America, Africa, and Asia, economic conditions today continue to make life difficult. In North America, Western Europe, Oceania, and some parts of Asia, however, economic progress has substantially reduced physical hardship and human drudgery. In these regions, the typical family is more likely to worry about financing its summer vacation than about obtaining food and shelter. As anyone who has watched the TV reality show *Survivor* knows, we take for granted many of the items that modern technological advances have allowed us to produce at unbelievably low prices. Contestants on *Survivor* struggle with even basic things like starting a fire, finding shelter, and catching fish. They are thrilled when they win ordinary items like shampoo, rice, and toilet paper.

Monty Brinton/CBS Photo Archive/Getty Images

The degree to which modern technology and knowledge allow us to fulfill our desires and ease the grip of scarcity is often taken for granted—as the castaways on the CBS reality series Survivor quickly find out when they have to struggle to meet even basic needs, such as food, shelter, and cleaning their bodies and clothes.

[1]Thomas Sowell, *Knowledge and Decisions* (New York: Basic Books, 1980), 47.

[2]Thomas Hobbes, *Leviathan* (1651), Part I, Chapter 13.

During one episode, a contestant eagerly paid over $125 for a small chocolate bar and spoonful of peanut butter at an auction—and she considered it a great bargain!

It is important to note that scarcity and poverty are not the same thing. Scarcity is an **objective** concept that describes a factual situation in which the limited nature of our resources keeps us from being able to completely fulfill our desires for goods and services. In contrast, poverty is a **subjective** concept that refers to a personal opinion of whether someone meets an arbitrarily defined level of income. This distinction is made even clearer when you realize that different people have vastly different ideas of what it means to be poor. The average family in the United States that meets the federal government's definition of being "in poverty" would be considered wealthy in most any country in Africa. A family in the United States in the 1950s would have been considered fairly wealthy if it had air conditioning, an automatic dishwasher or clothes dryer, or a television set. Today, the majority of U.S. families officially classified as poor have many items that would have been viewed as symbols of great wealth just 65 years ago.

Objective
A fact based on observable phenomena that is not influenced by differences in personal opinion.

Subjective
An opinion based on personal preferences and value judgments.

People always want more and better goods for themselves and others about whom they care. Scarcity is the constraint that prevents us from having as much of *all* goods as we would like, but it is not the same as poverty. Even if every individual were rich, scarcity would still be present.

1-1b SCARCITY NECESSITATES RATIONING

Scarcity makes **rationing** a necessity. When a good or resource is scarce, some criterion must be used to determine who will receive it and who will go without. The choice of which method is used will, however, have an influence on human behavior. When rationing is done through the government sector, a person's political status and ability to manipulate the political process are the key factors. Powerful interest groups and those in good favor with influential politicians will be the ones who obtain goods and resources. When this method of rationing is used, people will devote time and resources to lobbying and favor seeking with those who have political power, rather than to productive activities.

Rationing
Allocating a limited supply of a good or resource among people who would like to have more of it. When price performs the rationing function, the good or resource is allocated to those willing to give up the most "other things" in order to get it.

When the criterion is first-come, first-served, goods are allocated to those who are fastest at getting in line or willing to spend the longest time waiting in line. Many colleges use this method to ration tickets to sporting events, and the result is students waiting in long lines. Sometimes, as at Duke University during basketball season, they even camp out for multiple nights to get good tickets! Imagine how the behavior of students would change if tickets were instead given out to the students with the highest grade point average.

In a market economy, price is generally used to ration goods and resources only to those who are willing and able to pay the prevailing market price. Because only those goods that are scarce require rationing, in a market economy, one easy way to determine whether a good or resource is scarce is to ask if it sells for a price. If you have to pay for something, it is scarce.

1-1c THE METHOD OF RATIONING INFLUENCES THE NATURE OF COMPETITION

Competition is a natural outgrowth of scarcity and the desire of human beings to improve their conditions. Competition exists in every economy and every society. But the criteria used to ration scarce goods and resources will influence the competitive techniques employed. When the rationing criterion is price, individuals will engage in income-generating activities that enhance their ability to pay the price needed to buy the goods and services they want. Thus, one benefit of using price as a rationing mechanism is that it encourages individuals to engage in the production of goods and services to generate income. In contrast, rationing on the basis of first-come, first-served encourages individuals to waste a substantial amount of time waiting in line, while rationing through the political process encourages individuals to waste time and other resources in competing with others to influence the political process.

Within a market setting, the competition that results from scarcity is an important ingredient in economic progress. Competition among business firms for customers results in newer, better, and less expensive goods and services. Competition between employers for workers results in higher wages, benefits, and better working conditions. Further, competition encourages discovery and innovation, two important sources of growth and higher living standards.

1-2 THE ECONOMIC WAY OF THINKING

One does not have to spend much time around economists to recognize that there is an "economic way of thinking." Admittedly, economists, like others, differ widely in their ideological views. A news commentator once remarked that "any half-dozen economists will normally come up with about six different policy prescriptions." Yet, in spite of their philosophical differences, the approaches of economists reflect common ground.

That common ground is **economic theory**, developed from basic principles of human behavior. Economic researchers are constantly involved in testing and seeking to verify their theories. When the evidence from the testing is consistent with a theory, eventually that theory will become widely accepted among economists. Economic theory, like a road map or a guidebook, establishes reference points indicating what to look for and how economic issues are interrelated. To a large degree, the basic economic principles are merely common sense. When applied consistently, however, these commonsense concepts can provide powerful and sometimes surprising insights.

It [economics] is a method rather than a doctrine, an apparatus of the mind, a technique of thinking which helps its possessor to draw correct conclusions.

—John Maynard Keynes[3]

Economic theory
A set of definitions, postulates, and principles assembled in a manner that makes clear the "cause-and-effect" relationships.

1-2a EIGHT GUIDEPOSTS TO ECONOMIC THINKING

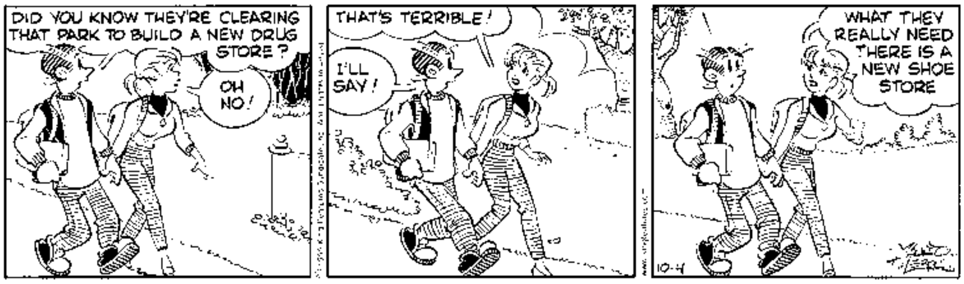
The economic way of thinking requires incorporating certain guidelines—some would say the building blocks of basic economic theory—into your own thought process. Once you incorporate these guidelines, economics can be a relatively easy subject to master. Students who have difficulty with economics have almost always failed to assimilate one or more of these principles. The following are eight principles that characterize the economic way of thinking. We will discuss each of these principles in more depth throughout the book so that you will be sure to understand how and when to apply them.

1. The use of scarce resources is costly, so decision-makers must make trade-offs. Economists sometimes refer to this as the "there is no such thing as a free lunch" principle. Because resources are scarce, the use of resources to produce one good diverts those resources from the production of other goods. A parcel of undeveloped land could be used for a new hospital or a parking lot, or it could simply be left undeveloped. No option is free of cost—there is always a trade-off. A decision to pursue any one of these options means that the decision-maker must sacrifice the others. The highest valued alternative that is sacrificed is the **opportunity cost** of the option chosen. For example, if you use one hour of your scarce time to study economics, you will have one hour less time to watch television, spend social networking, sleep, work at a job, or study other subjects. Whichever one of these options you would have chosen had you *not* spent the hour studying economics is your highest valued option forgone. If you would have slept, then the opportunity cost of this hour spent studying economics is a forgone hour of sleep. In economics, the opportunity cost of an action is the highest valued option given up when a choice is made.

Opportunity cost
The highest valued alternative that must be sacrificed as a result of choosing an option.

It is important to recognize that the use of scarce resources to produce a good is always costly, regardless of who pays for the good or service produced. In many countries, various kinds of schooling are provided free of charge *to students*. However, provision of the

[3]John Maynard Keynes (1883–1946) was an English economist whose writings during the 1920s and 1930s exerted an enormous impact on both economic theory and policy. Keynes established the terminology and the economic framework that are still widely used when economists study problems of unemployment and inflation.



When a scarce resource is used to meet one need, other competing needs must be sacrificed. The forgone shoe store is an example of the opportunity cost of building the new drugstore.

schooling is not free *to the community as a whole*. The scarce resources used to produce the schooling—to construct the building, hire teachers, buy equipment, and so on—could have been used instead to produce more recreation, entertainment, housing, medical care, or other goods. The opportunity cost of the schooling is the highest valued option that must now be given up because the required resources were used to produce the schooling.

By now, the central point should be obvious. As we make choices, we always face trade-offs. Using resources to do one thing leaves fewer resources to do another.

Consider one final example. Mandatory air bags in automobiles save an estimated 400 lives each year. Economic thinking, however, forces us to ask ourselves if the $50 billion spent on air bags could have been used in a better way—perhaps say, for cancer research that could have saved *more* than 400 lives per year. Most people don't like to think of air bags and cancer research as an "either/or" proposition. It's more convenient to ignore these trade-offs. But if we want to get the most out of our resources, we have to consider all of our alternatives. In this case, the appropriate analysis is not simply the lives saved with air bags versus dollars spent on them, but also the number of lives that could have been saved (or other things that could have been accomplished) if the $50 billion had been used differently. A candid consideration of hard trade-offs like this is essential to using our resources wisely.

2. Individuals choose purposefully—they try to get the most from their limited resources. People try not to squander their valuable resources deliberately. Instead, they try to choose the options that best advance their personal desires and goals at the least possible cost. This is called **economizing behavior**. Economizing behavior is the result of purposeful, or rational, decision-making. When choosing among things of equal benefit, an economizer will select the cheapest option. For example, if a pizza, a lobster dinner, and a sirloin steak are expected to yield identical benefits for Mary (including the enjoyment of eating them), economizing behavior implies that Mary will select the cheapest of the three alternatives, probably the pizza. Similarly, when choosing among alternatives of equal cost, economizing decision-makers will select the option that yields the greatest benefit. If the prices of several dinner specials are equal, for example, economizers will choose the one they like the best. Because of economizing behavior, the desires or preferences of individuals are revealed by the choices they make.

Economizing behavior
Choosing the option that offers the greatest benefit at the least possible cost.

Purposeful choosing implies that decision-makers have some basis for their evaluation of alternatives. Economists refer to this evaluation as **utility**—the benefit or satisfaction that an individual expects from the choice of a specific alternative. Utility is highly subjective, often differing widely from person to person. The steak dinner that delights one person may be repulsive to another (a vegetarian, for example).

Utility
The subjective benefit or satisfaction a person expects from a choice or course of action.

The idea that people behave rationally to get the greatest benefit at the least possible cost is a powerful tool. It can help us understand their choices. However, we need to realize that a rational choice is not the same thing as a "right" choice. If we want to understand people's choices, we need to understand their own subjective evaluations of their options *as they see them*. As we have said, different people have different preferences. If Joan prefers $10 worth of chocolate to $10 worth of vegetables, buying the chocolate would be the rational choice for her, even though some outside observer might say that Joan is making a "bad" decision. Similarly, some motorcycle riders choose to ride without a helmet because they believe the enjoyment they get from riding without one is greater than the cost (the risk of injury). When people weigh the benefits they receive from an activity against its cost, they are making a rational choice—even though it might not be the choice you or I would make in the same situation.

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Because consumers respond to incentives, store owners know they can sell off excess inventory by reducing prices.

3. Incentives matter—changes in incentives influence human choices in a predictable way. Both monetary and nonmonetary incentives matter. If the personal cost of an option increases, people will be less likely to choose it. Correspondingly, when an option becomes more attractive, people will be more likely to choose it. This vitally important guidepost, sometimes called the basic postulate of economics, is a powerful tool because it applies to almost everything that we do.

Think about the implications of this proposition. When late for an appointment, a person will be less likely to take time to stop and visit with a friend. Fewer people will go picnicking on a cold and rainy day. Higher prices will reduce the number of units consumers will want to purchase. Attendance in college classes will be below normal the day before spring break. In each case, the explanation is the same: As the option becomes more costly, less is chosen.

Similarly, when the payoff derived from a choice increases, people will be more likely to choose it. A person will be more likely to bend over and pick up a quarter than a penny. Students will attend and pay more attention in class when the material is covered extensively on exams. Customers will buy more from stores that offer low prices, high-quality service, and a convenient location. Senior voters will be more likely to support candidates who favor higher Social Security benefits. All of these outcomes are highly predictable, and they merely reflect the "incentives matter" postulate of economics.

Noneconomists sometimes argue that people respond to incentives only because they are selfish and greedy. This view is false. People are motivated by a variety of goals, some humanitarian and some selfish, and incentives matter equally in both. Even an unselfish individual would be more likely to attempt to rescue a drowning child from a three-foot swimming pool than the rapid currents approaching Niagara Falls. Similarly, people are more likely to give a needy person their hand-me-downs rather than their favorite new clothes.

Just how far can we push the idea that incentives matter? If asked what would happen to the number of funerals performed in your town if the price of funerals rose, how would you respond? The "incentives matter" postulate predicts that the higher cost would reduce the number of funerals. While the same number of people will still die each year, the number of funerals performed will still fall as more people choose to be cremated or buried in cemeteries in other towns. Substitutes are everywhere—even for funerals. Individuals also respond to incentives when committing crimes—precisely the reason why people put signs in their yard saying "This house protected by XYZ security."

4. Individuals make decisions at the margin. When making a choice between two alternatives, individuals generally focus on the *difference* in the costs and benefits between alternatives. Economists describe this process as **marginal** decision-making, or "thinking at the margin." The last time you went to eat fast food, you probably faced a decision that highlights this type of thinking. Will you get the $1.50 cheeseburger and the $1.00 medium drink, or instead get the $3.00 value meal that has the cheeseburger and drink and also comes with a medium order of fries? Naturally, individual decision-making focuses on the difference between the alternatives. The value meal costs 50 cents more (its marginal cost) but will give you one extra food item—the fries (its marginal benefit). Your marginal decision is whether it is worth the extra 50 cents to have the fries. If you pay attention, you'll notice yourself frequently thinking at the margin. Next time you find yourself asking a salesclerk, "How much *more* is this one?" when you are choosing between two items, you are doing a marginal analysis.

Marginal
Term used to describe the effects of a change in the current situation. For example, a producer's marginal cost is the cost of producing an additional unit of a product, given the producer's current facility and production rate.

Marginal choices always involve the effects of net additions to or subtractions from current conditions. In fact, the word *additional* is often used as a substitute for *marginal*. For example, a business decision-maker might ask, "What is the additional (or marginal)