



Microeconomics

Boyes | Melvin

Microeconomics

SIXTH EDITION

William Boyes

Arizona State University

Michael Melvin

Arizona State University

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To Melissa, Katie, and Lindsey

W. B.

To Bettina, Jason, and Jeremy

M. M.

Publisher: Charles Hartford
Editor in Chief: George Hoffman
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Preface

In the first edition of *Microeconomics* we integrated the global perspective with the traditional economic principles to give students a framework to understand the globally developing economic world. Events since then have made this approach even more imperative. The Soviet Union has disintegrated, newly independent nations have emerged, and markets have been established where none had existed before. Students and instructors embraced the idea that the economies of countries are interrelated and that this should be made clear in the study of economics. *Microeconomics* gives students the tools they need to make connections between the economic principles they learn and the now-global world they live in.

Students often wonder why they need to study economics. The sixth edition begins with a discussion of “Why Study Economics?” and provides information on what economists do and what majoring in economics means.

In this sixth edition, we continue to refine and improve the text as a teaching and learning instrument while expanding its international base by updating and adding examples related to global economics.

Changes in the Sixth Edition

The sixth edition of *Microeconomics* has been thoroughly updated and refined. A detailed account of all the additions, deletions, and modifications can be found in the Transition Guide in the *Instructor's Resource Manual* and on the website at: college.hmco.com. We mention some of the highlights below.

Revised Microeconomic Coverage

The principal objective of the microeconomic material is to enable students to see the forest while wandering around in the trees, to learn the fundamentals while seeing the applicability to current events. “Financial Markets: Institutions and Recent Events” (Chapter 17), has been introduced in the sixth edition for two reasons.

First, it enables discussion of stocks, bonds, mutual funds, and other financial instruments and the markets in which they are traded, including recent developments. Second, it reinforces the applicability of economics to business. Chapter 13, “Antitrust and Regulation” provides the context for the financial markets chapter and includes economic regulation, social regulation, and financial markets regulation. The recent scandals in the stock market and the Sarbanes-Oxley Act are discussed. A new chapter, “Government and Market Failure” (Chapter 14), follows the market structure chapters (“Perfect Competition,” “Monopoly,” “Monopolistic Competition and Oligopoly”). Placing all the arguments regarding market failures in one chapter enables instructors to delve as deeply as they wish into the role of government in the economy. This chapter looks at the circumstances under which markets might fail—externalities, public goods, lack of private property rights, and asymmetric information—and discusses approaches to solving the problems created.

Successful Features Retained from the Fifth Edition

In addition to the considerable updating and revising we've done for the sixth edition, there are several features preserved from the previous edition that we think instructors will find interesting.

Enhanced Student Relevance

With all the demands on today's students, it's no wonder that they resist spending time on a subject unless they see how the material relates to them and how they will benefit from mastering it. We incorporate features throughout the text that show economics as the relevant and necessary subject we know it to be.

Real-World Examples Students are rarely intrigued by unknown manufacturers or service

companies. Our text talks about people and firms that students recognize. We describe business decisions made by McDonald's and Pizza Hut, by Kodak and Fuji, and by the local video store or café. We discuss the policies of George W. Bush and other world leaders. These examples grab students' interest. Reviewers have repeatedly praised the use of novel examples to convey economic concepts.

Economic Insight Boxes These brief boxes bring in contemporary material from current periodicals and journals to illustrate or extend the discussion in the chapter. By reserving interesting but more technical sidelights for boxes, we lessen the likelihood that students will be confused or distracted by issues that are not critical to understanding the chapter. By including excerpts from articles, we help students learn to move from theory to real-world examples. And by including plenty of contemporary issues, we guarantee that students will see how economics relates to their own lives. New topics covered in the fifth edition include features of the new \$20 bill and why wages don't fall in recessions.

Economically Speaking Boxes The objective of the principles course is to teach students how to translate to the real world the predictions that come out of economic models and to translate real-world events into an economic model in order to analyze and understand what lies behind the events. The Economically Speaking boxes present students with examples of this kind of analysis. Students read an article that appears on the left-hand page of a two-page spread at the end of each chapter. The commentary on the right-hand page shows how the facts and events in the article translate into a specific economic model or idea, thereby demonstrating the relevance of theory. Nearly two-thirds of the articles and commentaries are new to the sixth edition, covering such current events as the underground economy, the record U.S. trade deficit, and budget deficits in the European Union.

Global Business Insight Boxes These boxes link business events and developments around the world to the economic concepts discussed in the main text of the chapters. A map is used to highlight the area of the world under discussion and to provide a geographic context for the economic issues examined. Topics include such basic micro- and macroeconomic issues as global competition, resource pricing, and foreign exchange.

An Effective and Proven System of Teaching and Learning Aids

This text is designed to make teaching easier by enhancing student learning. Tested pedagogy motivates students, emphasizes clarity, reinforces relationships, simplifies review, and fosters critical thinking. And, as we have discovered from reviewer and user feedback, this pedagogy works.

In-Text Referencing System Sections are numbered for easy reference and to reinforce hierarchies of ideas. Numbered section heads serve as an outline of the chapter, allowing instructors flexibility in assigning reading, and making it easy for students to find topics to review. Each item in the key terms list and summary at the end of the chapter refers students back to the appropriate section's number.

The section numbering system appears throughout the Boyes/Melvin ancillary package; the *Test Banks*, *Study Guides*, and *Instructor's Resource Manual* are organized according to the same system.

Fundamental Questions These questions help to organize the chapter and highlight those issues that are critical to understanding. Each related fundamental question also appears in the margin by the text discussion and, with brief answers, in the chapter summaries. A fuller discussion and answer to each of these questions may be found in the *Study Guides* available as supplements to this text. The fundamental questions also serve as one of several criteria used to categorize questions in the *Test Banks*.

Preview This motivating lead-in sets the stage for the chapter. Much more than a road map, it helps students identify real-world issues that relate to the concepts that will be presented.

RECAP **Recaps** Briefly listing the main points covered, a recap appears at the end of each major section within a chapter. Students are able to quickly review what they have just read before going on to the next section.

Summary The summary at the end of each chapter is organized along two dimensions. The primary organizational device is the list of fundamental questions. A brief synopsis of the discussion that helps students to answer those questions is arranged by section below each of the questions. Students are encouraged to create their own links among topics as they keep in mind

the connections between the big picture and the details that make it up.

Comments Found in the text margins, these comments highlight especially important concepts, point out common mistakes, and warn students of common pitfalls. They alert students to parts of the discussion that they should read with particular care.

Key Terms Key terms appear in bold type in the text. They also appear with their definition in the margin and are listed at the end of the chapter for easy review. All key terms are included in the Glossary at the end of the text.

Friendly Appearance

Economics can be intimidating; this is why we've tried to keep *Microeconomics* looking friendly and inviting. The one-column design and ample white space in this text provide an accessible backdrop. Over 150 figures rely on well-developed pedagogy and consistent use of color to reinforce understanding. Striking colors were chosen to enhance readability and provide visual interest. Specific curves were assigned specific colors, and families of curves were assigned related colors.

Annotations on the art point out areas of particular concern or importance. Students can see exactly which part of a graph illustrates a shortage or a surplus, a change in consumption or consumer surplus. Tables that provide data from which graphs are plotted are paired with their graphs. Where appropriate, color is used to show correlations between the art and the table, and captions clearly explain what is shown in the figures and link them to the text discussion.

The color photographs not only provide visual images but make the text appealing. These vibrant photos tell stories as well as illustrate concepts, and lengthy captions explain what is in the photos, again to draw connections between the images and the text discussion.

Thoroughly International Coverage

Students understand that they live in a global economy; they can hardly shop, watch the news, or read a newspaper without stumbling on this basic fact. International examples are presented in every chapter but are not merely added on, as is the case with many other texts. Because the international content is incorporated from the beginning, students develop a far more realistic picture of the national economy; as a

result they don't have to alter their thinking to allow for international factors later on. The three chapters that focus on international topics at the end of the text allow those instructors who desire to delve much more deeply into international issues to do so.

The global applicability of economics is emphasized by *using traditional economic concepts to explain international economic events and using international events to illustrate economic concepts that have traditionally been illustrated with domestic examples*. Instructors need not know the international institutions to introduce international examples since the topics through which they are addressed are familiar, for example, price ceilings, price discrimination, expenditures on resources, marginal productivity theory, and others.

Unique international elements of microeconomic coverage in the text include:

- The introduction of exchange rates as a determinant of demand and supply in Chapter 3
- Extensive analyses of the effects of trade barriers, tariffs, and quotas
- An examination of strategic trade
- An examination of dumping as a special case of price discrimination
- The identification of problems faced by multinational firms
- A comparison of behavior, results, and institutions among nations with respect to consumption, production, firm size, government policies toward business, labor markets, health care, income distribution, environmental policy, and other issues

Modern Microeconomic Organization and Content

Instructors often face a quandary when teaching microeconomic material. They want students to understand the basic theory of economics and the powerful intuition that thinking like an economist can provide, but they also want to enlist students' attention with real-life, current issues. In *Microeconomics*, Sixth Edition, the theory is never far away from applications. Students can see why environmental issues such as pollution and the razing of rain forests occur and can learn about the costs and benefits of various proposed solutions to these problems. Students can see why incomes are unequal within a country and among countries and can learn about the costs and benefits of attempting to reduce inequality. Students can see why

collusion occurs among competing firms and what the costs and benefits are of minimizing such behavior through antitrust action or regulation.

Part Two presents basic concepts such as elasticity, consumer behavior, and costs of production. Parts Three and Four both begin with overview chapters (Chapter 9 on product markets and Chapter 15 on resource markets). These overviews give students a chance to look at the big picture before delving into details they often find confusing. Chapter 9, for instance, gives students an intuitive overview of the market structures before they explore each type of structure in more detail in succeeding chapters. Chapter 9 lightens the load that the more-detailed chapters have to bear, easing students into the market structure material. The traditional topics are covered in the separate market structure chapters, Chapters 10 to 12, but the coverage is also modern, including such topics as strategic behavior, price discrimination, non-price competition, and the economics of information. Having fought their way first through the cost curves and then the market structures, students often complain that they do not see the relevance of that material to real-world situations. The intuitive overview chapter alleviates some of that frustration.

A Complete Teaching and Learning Package

In today's market no book is complete without a full complement of ancillaries. Those instructors who face huge classes find good PowerPoint slides to be critical instructional tools. Others may find that computer simulations and tutorials are invaluable. Still others use Internet resources and Web-based teaching and learning tools. All of these are available. And to foster the development of consistent teaching and study strategies, the ancillaries pick up pedagogical features of the text—like the fundamental questions—wherever appropriate.

Boyes/Melvin Student Support Package The Boyes/Melvin Student Support Package is bundled with all new texts and is also available for sale separately. The package includes:

- **Interactive Tutorial/Simulation CD-ROM.** The Boyes/Melvin interactive graphing software provides an opportunity for students to review concepts and models for each text chapter and to test themselves on what they have learned. In each tutorial,

students are guided through a series of interactive lessons that allow them to change data and immediately see how curves shift. A glossary and context-sensitive help are always available. The simulation component of the software includes over 70 years of data on more than 20 key economic indicators, allowing students to plot data, compare various measurement instruments, and print out the results in table or graph form.

- **Smarthinking™ Online Tutoring Service.** This live, online tutoring service provides access to trained, qualified “e-structors” from wherever students are, whenever they need help. Students may interact live online with an experienced Smarthinking “e-structor” (online tutor) between 2:00 and 5:00 P.M. and between 9:00 P.M. and 1:00 A.M. EST, every Sunday through Thursday. Smarthinking provides state-of-the-art communication tools, such as chat technology and virtual whiteboards designed for easy rendering of economic formulas and graphs, to help your students practice key concepts and learn to think like an economist.
- **Detachable Study Card.** This handy review card includes key macroeconomic and microeconomic equations, a key to curve and variable names, and visual reminders to help students study or quickly review material before tests and for class assignments.

Study Guides Janet L. Wolcutt and James E. Clark of the Center for Economic Education at Wichita State University have revised the *Macroeconomics* and *Microeconomics Study Guides* to give students the practice they need to master this course. Initially received by students and instructors with great enthusiasm, the guides maintain their warm and lively style to keep students on the right track. For each chapter:

- Fundamental questions are answered in one or several paragraphs. For students who have trouble formulating their own answers to these questions after reading the text, the *Study Guides* provide an invaluable model.
- Key terms are listed.
- A Quick Check Quiz is organized by section, so any wrong answers send the student directly to the relevant material in the text.
- Practice Questions and Problems, which is also organized by section, includes a variety of question formats—multiple choice, true/false, matching, and fill in the blank. They test understanding of the

concepts and ask students to construct or perform computations.

- Thinking About and Applying . . . uses newspaper headlines or some other real-life applications to test students' ability to reason in economic terms.
- A Homework page at the end of each chapter contains five (two factual, two applied, and one synthesis/analysis) questions that can be answered on the sheet and turned in for grading. Answers are included in the *Instructor's Resource Manual*.
- Sample tests appear at the end of each *Study Guide* part and consist of 25 to 50 questions similar to *Test Bank* questions. Taking the sample tests helps students determine whether they are prepared for exams.
- Answers are provided for all questions except the Homework questions. Students are referred back to the relevant sections in the main text for each question.

Instructor's Resource Manual (IRM) Patricia Diane Nipper has produced a manual that will streamline preparation for both new and experienced faculty. Preliminary sections cover class administration, alternative syllabi, and an introduction to the use of cooperative learning in teaching the principles of economics.

The *IRM* also contains a detailed chapter-by-chapter review of all the changes made in the sixth edition. This Transition Guide should help instructors more easily move from the use of the fifth edition to this new edition.

Each chapter of the *IRM* contains:

- Overview and objectives that (1) describe the content and unique features of the chapter and (2) provide a list of concrete objectives that students will need to master in order to succeed with later chapters.
- The fundamental questions
- The key terms
- A lecture outline with teaching strategies—general techniques and guidelines, essay topics, and other hints to enliven your classes
- Opportunities for discussion
- Answers to every end-of-chapter exercise
- Answers to *Study Guide* homework questions
- Active learning exercises

Test Banks Test Banks for both *Macroeconomics* and *Microeconomics* are available. More than 8,000

test items, approximately 30 percent of which are new to this edition, provide a wealth of material for classroom testing. Features include:

- Multiple choice, true/false, and essay questions in every chapter
- Questions new to this edition are marked for easy identification
- An increased number of analytical, applied, and graphical questions
- The identification of all test items according to topic, question type (factual, interpretive, or applied), level of difficulty, and applicable fundamental question
- A *Study Guide* section of the test that includes five test items taken directly from the *Study Guide* and five test items that parallel *Study Guide* questions, for the instructor who is interested in rewarding students for working through the *Study Guide*

Computerized Test Bank A new sophisticated and user-friendly program called HMTesting is available to help instructors quickly create tests from over 7,000 test bank items according to various selection criteria, including random selection. The program prints graphs as well as the text part of each question. Instructors can scramble the answer choices, edit questions, add their own questions to the pool, and customize their exams in various other ways. HMTesting provides a complete testing solution, including classroom administration and online testing features in addition to test generation. This program is available for Windows and Macintosh users.

HMClassPrep CD-ROM This supplement contains all the resources you need to prepare lessons based on the sixth edition of the text, including lecture outlines and teaching strategies, chapter overviews and objectives, in-class discussion ideas and PowerPoint slides. This wealth of resources is organized by chapter and resource type for easy reference and class planning. The computerized testing program, HMTesting, is also included on this CD (see above description).

PowerPoint Slides Figures, tables, key equations from the text, lecture outlines, and other resources that extend the text are provided on electronic slides created for Microsoft's popular *PowerPoint* presentation software. *PowerPoint* allows instructors to create customized lecture presentations that can be displayed on computer-based projection systems. The slides are

produced as a complete presentation, but using *PowerPoint*, presenters can also insert their own slides into the presentation or use specific slides in sets that they create themselves.

Website The sixth edition website provides an extended learning environment for students and a rich store of teaching resources for instructors. To locate the Boyes text site, go to *college.hmco.com*, choose *Instructor* or *Student*, go to the economics discipline or course area homepage, and then select Boyes 6/e from the Principles of Economics textbook sites. Instructors will need a username and password (available from their Houghton Mifflin sales representative) to get onto the password protected parts of the site. Included are key economic links for every chapter, extended Web-based assignments, and online quizzes—all intended to help students test their mastery of the chapter content. The instructor site contains economic and teaching resource links, teaching tips, links to current economic articles, answers to end-of-chapter exercises, and access to demonstrations of other components of the teaching package.

WebCT e-Pack and Blackboard Course Cartridge These resources provide text-specific student study aids in customizable, Internet-based education platforms. Both platforms provide a full array of content delivery and course management features for instructors who wish to incorporate educational technology in their traditional classrooms or for those who are creating distance learning courses.

EduSpace EduSpace is an online teaching and learning environment that offers the same course management features as Blackboard but is enhanced with the addition of valuable text-specific content for both students and instructors. Instructors will find pre-designed homework assignments and tests as well as a wide array of teaching resources—all designed with Web-based education in mind. Instructors can also create their own tests from pools of questions corresponding to each chapter and section of the sixth-edition textbook. Students will find review content, self-testing quizzes, and other engaging study aids, such as chapter tutorials with interactive graphs.

Acknowledgments

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friends and colleagues who have so generously given their time, creativity, and insight to help us create a text that best meets the needs of today's students.

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We want to thank the many people at Houghton Mifflin Company who devoted countless hours to making this text the best it could be, including Ann West, Julie Hassel, Paula Kmetz, Carol Merrigan, Marie Barnes, and Tonya Lobato. We are grateful for their enthusiasm, expertise, and energy.

Finally, we wish to thank our families and friends. The inspiration they provided through the conception and development of this book cannot be measured but certainly was essential.

Our students at Arizona State University continue to help us improve the text through each edition;

their many questions have given us invaluable insight into how best to present this intriguing subject. It is our hope that this textbook will bring a clear understanding of economic thought to many other

students as well. We welcome any feedback for improvements.

W. B. M. M.

Reviewers

Okechukwu Dennis Anyamele

Jackson State University
Jackson, MS

David Black

University of Toledo
Toledo, OH

Gary Bogner

Baker College-Muskegon
Muskegon, MI

Rick Boulware

University of South Carolina,
Beaufort
Beaufort, SC

Bradley Braun

University of Central Florida
Orlando, FL

William S. Brewer

Genesee Community College
Batavia, NY

Gregory Brown

Martin Community College
Williamston, NC

Kristin Carrico

Umpqua Community College
Roseburg, OR

Jill L. Caviglia

Salisbury State University
Salisbury, MD

Mitch Charkiewicz

Central Connecticut State University
New Britain, CT

Kenny Christianson

Binghamton University
Binghamton, NY

Valerie A. Collins

Colorado Mountain College
Glenwood Springs, CO

Wilfrid W. Csaplar, Jr.

Southside Virginia Community
College
Keysville, VA

Bob Cunningham

Alma College
Alma, MI

Steven R. Cunningham

University of Connecticut
Storrs, CT

Stephen B. Davis

Valley City State University
Valley City, ND

Lynne Pierson Doti

Chapman University
Orange, CA

Raymond J. Egan

WA
(Retired formerly at Pierce
College), Lakewood, WA

Martha Field

Greenfield Community College
Greenfield, MA

Fred Fisher

Colorado Mountain College
Glenwood Springs, CO

Davis Folsom

University of South Carolina,
Beaufort
Beaufort, SC

Kaya V. P. Ford

Northern Virginia Community
College
Alexandria, VA

Bradley Garton

Laramie County Community
College
Laramie, Wyoming

Omer Gokcekus

North Carolina Central University
Durham, NC

R.W. Hafer

Southern Illinois University
Edwardsville, IL

Michael Harsh

Randolph-Macon College
Ashland, VA

Arleen Hoag

Owens Community College
Toledo, OH

Calvin Hoy

County College of Morris
Randolph, NJ

James Johnson

Black Hawk College
Moline, IL

Jeff Keil

J. Sargeant Reynolds Community
College
Richmond, VA

Donna Kish-Goodling

Muhlenberg College
Allentown, PA

Ali Kutan

Southern Illinois University
Edwardsville, IL

Nikiforos Laopodis

Villa Julie College
Stevenson, MD

John D. Lathrop

New Mexico Junior College
Hobbs, NM

Paul Lockard

Black Hawk College
Moline, IL

Glenna Lunday
Western Oklahoma State College
Altus, OK

Leslie Manns
Doane College
Crete, NE

Dan Marburger
Arkansas State University
Jonesboro, AR

Buddy Miller
Carteret Community College
Morehead City, NC

Stan Mitchell
McLennan Community College
Waco, TX

Charles Okeke
Community College of Southern
Nevada
Las Vegas, NV

Robert Payne
Baker College
Port Huron, MI

John C. Pharr
Cedar Valley College
Lancaster, TX

Dick Risinit
Reading Area Community College
Reading, PA

Rose M. Rubin
University of Memphis
Memphis, TN

Robert S. Rycroft
Mary Washington College
Fredericksburg, VA

Charles Saccardo
Bentley College
Waltham, MA

Charles Sackrey
Bucknell University
Lewisburg, PA

Karen Rapp Schultes
University of Michigan
Dearborn, MI

Gerald Scott
Florida Atlantic University
Boca Raton, FL

J. Richard Sealscott
Northwest State Community
College
Archbold, OH

Steve Seteroff
Chapman University College
Silverdale, WA

James R. Shemwell
Mississippi County Community
College
Blytheville, AR

Richard Skolnik
SUNY-Oswego
Oswego, NY

Scott F. Smith
University at Albany
State University of New York
Albany, NY

Thom Smith
Hill College
Hillsboro, TX

John Somers
Portland Community College,
Sylvania
Portland, Oregon

John P. Speir Jr.
The University of Hartford
West Hartford, CT

John J. Spitzer
State University of New York
College at Brockport
Brockport, NY

Chin-Chyuan Tai
Averett University
Danville, VA

Rob Verner
Ursuline College
Pepper Pike, OH

Michele T. Villinski
DePauw University
Greencastle, IN

Mark E. Wohar
University of Nebraska
Omaha, NE

Edward M. Wolfe
Piedmont College
Athens, GA

Darrel A. Young
University of Texas
Austin, TX

Girma Zelleke
Kutztown University of
Pennsylvania
Kutztown, PA

- absolute advantage** an advantage derived from one country having a lower absolute input cost of producing a particular good than another country (23)
- accounting profit** total revenue less total costs except for the opportunity cost of capital (9)
- adverse selection** the problem that occurs when higher-quality consumers or producers are driven out of the market because unobservable qualities are misvalued (14)
- American Depositary Receipt (ADR)** a stock that trades in the United States but represents shares of a foreign corporation (17)
- antitrust policy** government policies and programs designed to control the growth of monopoly and enhance competition (13)
- appreciate** when the value of a currency increases under floating exchange rates—that is, exchange rates determined by supply and demand (23)
- association as causation** the mistaken assumption that because two events seem to occur together, one causes the other (1)
- average physical product (APP)** output per unit of resource (8)
- average total cost (ATC)** per unit cost; total cost divided by the total output (8)
- back-end load** a fee that you pay if you sell a mutual fund within a certain time frame (17)
- backward-bending labor supply curve** a labor supply curve indicating that a person is willing and able to work more hours as the wage rate increases until, at some sufficiently high wage rate, the person chooses to work fewer hours (16)
- barrier to entry** anything that impedes the ability of firms to begin a new business in an industry in which existing firms are earning positive economic profits (11)
- barter** the direct exchange of goods and services without the use of money (3)
- behavioral economics** a field of study that blends psychology and economics (17)
- bond** an IOU issued by a borrower to a lender (17)
- break-even price** a price that is equal to the minimum point of the average-total-cost curve (10)
- budget line** a line showing all the combinations of goods that can be purchased with a given level of income (7 App.)
- budget deficit** the shortage that results when government spending is greater than revenue (5)
- budget surplus** the excess that results when government spending is less than revenue (5)
- business cycle** fluctuations in the economy between growth (expressed in rising real GDP) followed by stagnation (expressed in falling real GDP) (5)
- business firm** a business organization controlled by a single management (4)
- capital** products such as machinery and equipment that are used in production (1)
- cartel** an organization of independent firms whose purpose is to control and limit production and maintain or increase prices and profits (12)
- cash transfers** money allocated away from one group in society to another (20)
- centrally planned economy** an economic system in which the government determines what goods and services are produced and the prices at which they are sold (5)
- ceteris paribus** Latin for “everything else held constant” (9)
- circular flow diagram** a model showing the flow of output and income from one sector of the economy to another (4)
- Coase theorem** the idea that if people can negotiate with one another at no cost over the right to perform activities that cause externalities, they will always arrive at an efficient solution (14)
- commercial policy** government policy that influences international trade flows (22)
- common and preferred stock** the two main types of stock (17)
- comparable investment** a stock that has the same features, such as risk and liquidity, as the one that buyers and sellers are evaluating (17)
- comparable worth** the idea that pay ought to be determined by job characteristics rather than by supply and demand and that jobs with comparable requirements should receive comparable wages (16)
- comparative advantage** the ability to produce a good or service at a lower opportunity cost than someone else (2, 21)
- compensating wage differentials** wage differences that make up for the higher risk or poorer working conditions of one job over another (16)
- complementary goods** goods that are used together; as the price of one rises, the demand for the other falls (3)
- concentration** the degree to which a few firms control the output and pricing decisions in a market (13)
- constant returns to scale** unit costs remain constant as the quantity of production is increased and all resources are variable (8)

consumer equilibrium or **equimarginal principle** to maximize utility, consumers must allocate their scarce incomes among goods so as to equate the marginal utilities per dollar of expenditure on the last unit of each good purchased (7)

consumer sovereignty the authority of consumers to determine what is produced through their purchases of goods and services (4)

consumer surplus the difference between what the consumer is willing and able to pay for a unit of a good and the price that the consumer actually has to pay (7)

consumption household spending (4)

contracting out the process of enlisting a private firm to provide a product or service for a government entity (13)

corporation a legal entity owned by shareholders whose liability for the firm's losses is limited to the value of the stock they own (4)

cost-plus markup pricing a pricing policy whereby a firm computes its average costs of producing a product and then sets the price at some percentage above this cost (12)

coupon the fixed amount that the issuer of a bond agrees to pay the bondholder each year (17)

cross-price elasticity of demand the percentage change in the quantity demanded for one good divided by the percentage change in the price of a related good, everything else held constant (6)

crowding forcing a group into certain kinds of occupations (16)

customs union an organization of nations whose members have no trade barriers among themselves but impose common trade barriers on nonmembers (22)

deadweight loss the reduction of consumer surplus without a corresponding increase in profit when a perfectly competitive firm is monopolized (11)

debt loans (9)

demand the amount of a product that consumers are willing and able to buy at each possible price during a given period of time, everything else held constant (3)

demand curve a graph of a demand schedule that measures price on the vertical axis and quantity demanded on the horizontal axis (3)

demand schedule a table or list of the prices and the corresponding quantities demanded of a particular good or service (3)

dependent variable a variable whose value depends on the value of the independent variable (1 App.)

depreciate (a currency) when the value of a currency decreases under floating exchange rates (23)

derived demand demand stemming from what a resource can produce, not demand for the resource itself (15)

determinants of demand factors other than the price of the good that influence demand—income, tastes, prices of related goods and services, expectations, and number of buyers (3)

determinants of supply factors other than the price of the good that influence supply—prices of resources, technology and productivity, expectations of producers, number of producers, and the prices of related goods and services (3)

devaluation a deliberate decrease in the official value of a currency (23)

diminishing marginal utility the principle that the more of a good that one obtains in a specific period of time, the less is the additional utility yielded by each additional unit of that good (7)

direct, or positive, relationship the relationship that exists when the values of related variables move in the same direction (1 App.)

discrimination prejudice that occurs when factors unrelated to marginal revenue product affect the wages or jobs that are obtained (16)

diseconomies of scale the increases in per unit costs as the quantity of production increases and all resources are variable (8)

disequilibrium a point at which quantity demanded and quantity supplied are not equal at a particular price (3)

disparate impact an impact that differs according to race, sex, color, religion, or national origin, regardless of the motivation (16)

disparate treatment different treatment of individuals because of their race, sex, color, religion, or national origin (16)

disutility dissatisfaction (7)

dividend the amount paid to shareholders on each share of stock owned (17)

dominant strategy a strategy that produces better results no matter what strategy the opposing firm follows (12)

double coincidence of wants the situation that exists when A has what B wants and B has what A wants (3)

economic bad any item for which we would pay to have less (1)

economic efficiency a situation where no one in society can be made better off without making someone else worse off (5, 10)

economic good any item that is scarce (1)

economic profit total revenue less total costs, including all opportunity costs (9)

economic regulation the prescription of price and output for a specific industry (13)

economic rent the portion of earnings above transfer earnings (15, 18)

economies of scale the decrease in per unit costs as the quantity of production increases and all resources are variable (8)

equilibrium the price and quantity at which quantity demanded and quantity supplied are equal (3)

equilibrium exchange rates the exchange rates that are established in the absence of government foreign exchange market intervention (23)

equimarginal principle or **consumer equilibrium** to maximize utility, consumers must allocate their scarce incomes among goods so as to equate the marginal utilities per dollar of expenditure on the last unit of each good purchased (7)

equity shares of stock; ownership of a piece of a company (9, 17)

- exchange rate** the rate at which monies of different countries are exchanged (3)
- export supply curve** a curve showing the relationship between the world price of a good and the amount that a country will export (21)
- exports** products that a country sells to other countries (4)
- externality** the cost or benefit of an action that is borne by someone who is not directly involved in the transaction (5, 14)
- face or par value** the amount that the lender will be repaid once a bond matures (17)
- facilitating practices** actions by oligopolistic firms that can contribute to cooperation and collusion even though the firms do not formally agree to cooperate (12)
- factors of production** goods used to produce other goods, i.e., land, labor, capital, and entrepreneurial ability (1)
- fair rate of return** a price that allows a monopoly firm to earn a normal profit (13)
- fallacy of composition** the mistaken assumption that what applies in the case of one applies to the case of many (1)
- Federal Reserve** the central bank of the United States (5)
- financial intermediaries** institutions that accept deposits from savers and make loans to borrowers (4)
- fiscal policy** the policy directed toward government spending and taxation (5)
- foreign exchange market intervention** the buying and selling of currencies by a central bank to achieve a specified exchange rate (23)
- free good** a good for which there is no scarcity (1)
- free ride** the enjoyment of the benefits of a good by a producer or consumer without having to pay for the good (5)
- free rider** a consumer or producer who enjoys the benefits of a good or service without paying for that good or service (14)
- free trade area** an organization of nations whose members have no trade barriers among themselves but are free to fashion their own trade policies toward nonmembers (22)
- front-end load** a fee that you pay when you purchase a mutual fund (17)
- fundamental disequilibrium** a permanent shift in the foreign exchange market supply and demand curves such that the fixed exchange rate is no longer an equilibrium rate (23)
- game theory** a description of oligopolistic behavior as a series of strategic moves and countermoves (12)
- Gini ratio** a measure of the dispersion of income ranging between 0 and 1: 0 means that all families have the same income; 1 means that one family has all of the income (20)
- global fund** a mutual fund that includes international investments (17)
- gold exchange standard** an exchange-rate system in which each nation fixes the value of its currency in terms of gold, but buys and sells the U.S. dollar rather than gold to maintain fixed exchange rates (23)
- gold standard** a system whereby national currencies are fixed in terms of their value in gold, thus creating fixed exchange rates between currencies (23)
- health maintenance organization (HMO)** an organization that provides comprehensive medical care to a voluntarily enrolled consumer population in return for a fixed, prepaid amount of money (19)
- Herfindahl index** a measure of concentration calculated as the sum of the squares of the market share of each firm in an industry (13)
- household** one or more persons who occupy a unit of housing (4)
- human capital** skills and training acquired through education and on-the-job training (16)
- import demand curve** a curve showing the relationship between the world price of a good and the amount that a country will import (21)
- imports** products that a country buys from other countries (4)
- income elasticity of demand** the percentage change in the quantity demanded for a good divided by the percentage change in income, everything else held constant (6)
- increasing-returns-to-scale industry** an industry in which the costs of producing a unit of output fall as more output is produced (22)
- independent variable** a variable whose value does not depend on the values of other variables (1 App.)
- index fund** a mutual fund that tries to match the performance of a broad market index (17)
- indifference curve** a curve showing all combinations of two goods that the consumer is indifferent among (7 App.)
- indifference map** a complete set of indifference curves (7 App.)
- indifferent** lacking any preference (7 App.)
- inferior goods** goods for which demand decreases as income increases (3, 6)
- in-kind transfers** the allocations of goods and services from one group in society to another (20)
- inputs** goods used to produce other goods (1)
- interest rate parity (IRP)** the condition under which similar financial assets have the same interest rate when measured in the same currency (23)
- International Monetary Fund (IMF)** an international organization that supervises exchange-rate arrangements and lends money to member countries that are experiencing problems meeting their external financial obligations (23)
- intraindustry trade** the simultaneous import and export of goods in the same industry by a particular country (21)
- inverse, or negative, relationship** the relationship that exists when the values of related variables move in opposite directions (1 App.)
- investment** spending on capital goods to be used in producing goods and services (4)
- labor** the physical and intellectual services of people, including the training, education, and abilities of the individuals in a society (1)
- labor force participation** entering the work force (16)

- land** all natural resources, such as minerals, timber, and water, as well as the land itself (1)
- law of demand** the quantity of a well-defined good or service that people are willing and able to purchase during a particular period of time decreases as the price of that good or service rises and increases as the price falls, everything else held constant (3)
- law of diminishing marginal returns** when successive equal amounts of a variable resource are combined with a fixed amount of another resource, marginal increases in output that can be attributed to each additional unit of the variable resource will eventually decline (8)
- law of supply** the quantity of a well-defined good or service that producers are willing and able to offer for sale during a particular period of time increases as the price of the good or service increases and decreases as the price decreases, everything else held constant (3)
- load** the fees paid to the manager of a mutual fund (17)
- logrolling** an inefficiency in the political process in which legislators support one another's projects in order to ensure support for their own (7)
- local monopoly** a monopoly that exists in a limited geographic area (11)
- long run** a period of time long enough that the quantities of all resources can be varied (6)
- long-run average total cost (LRATC)** the lowest-cost combination of resources with which each level of output is produced when all resources are variable (8)
- Lorenz curve** a curve measuring the degree of inequality of income distribution within a society (20)
- luxury goods** goods or services that will be purchased only when income is high (6)
- macroeconomics** the study of the economy as a whole (1)
- marginal benefit** additional benefit (2, 18)
- marginal cost (MC)** the additional cost of producing one more unit of output (2, 8)
- marginal factor cost (MFC)** the additional cost of an additional unit of a resource (15)
- marginal opportunity cost** the amount of one good or service that must be given up to obtain one additional unit of another good or service, no matter how many units are being produced (2)
- marginal physical product (MPP)** the additional quantity that is produced when one additional unit of a resource is used in combination with the same quantities of all other resources (8)
- marginal revenue product (MRP)** the value of the additional output that an extra unit of a resource can produce, $MPP \times MR$; the value to the firm of an additional resource (15)
- marginal utility** the extra utility derived from consuming one more unit of a good or service (7)
- market** a place or service that enables buyers and sellers to exchange goods and services (3)
- market capitalization (market cap)** the stock price multiplied by the number of shares of stock that are outstanding (17)
- market failure** a situation in which resources are not allocated to their highest-valued use (14)
- market imperfection** a lack of efficiency that results from imperfect information in the marketplace (5)
- maturity date** the specified time at which the issuer of a bond will repay the loan (17)
- Medicaid** a joint federal-state program that pays for health care for poor families, the neediest elderly, and disabled persons (19)
- Medicare** a federal health-care program for the elderly and the disabled (19)
- microeconomics** the study of economics at the level of the individual (1)
- minimum efficient scale (MES)** the minimum point of the long-run average-cost curve; the output level at which the cost per unit of output is the lowest (8)
- monetary policy** policy directed toward control of money and credit (5)
- monopolization** an attempt by a firm to dominate a market or become a monopoly (11)
- monopoly** a market structure in which there is a single supplier of a product (5, 11)
- monopoly firm (monopolist)** a single supplier of a product for which there are no close substitutes (11)
- monopoly power** market power, the ability to set prices (11)
- monopsonist** a firm that is the only buyer of a resource (15)
- moral hazard** the problem that arises when people change their behavior from what was expected of them when they engaged in a trade or contract (14)
- most-favored customer (MFC)** a customer who receives a guarantee of the lowest price and all product features for a certain period of time (12)
- multinational business** a firm that owns and operates producing units in foreign countries (4)
- mutual fund** an entity that invests money in stocks and bonds for groups of people (17)
- natural monopoly** a monopoly that arises because of economies of scale (11)
- negative economic profit** total revenue that is less than total costs when total costs include all opportunity costs (9)
- negative income tax (NIT)** a tax system that transfers increasing amounts of income to households earning incomes below some specified level as their income declines (20)
- net exports** the difference between the value of exports and the value of imports (4)
- no-load fund** a mutual fund that sells its shares without a commission or sales charge (17)
- nonrenewable (exhaustible) natural resources** natural resources whose supply is fixed (18)
- normal accounting profit** zero economic profit (9)
- normal goods** goods for which demand increases as income increases (3, 6)
- normative analysis** analysis of what ought to be (1)
- occupational segregation** the separation of jobs by sex (16)
- opportunity costs** the highest-valued alternative that must be forgone when a choice is made (2)

- partnership** a business with two or more owners who share the firm's profits and losses (4)
- per se rule** actions that could be anticompetitive are intrinsically illegal (13)
- perfectly elastic demand curve** a horizontal demand curve indicating that consumers can and will purchase all they want at one price (6)
- perfectly inelastic demand curve** a vertical demand curve indicating that there is no change in the quantity demanded as the price changes (6)
- positive analysis** analysis of what is (1)
- positive economic profit** total revenue is greater than total costs when total costs include all opportunity costs (9)
- preferred provider organization (PPO)** a group of physicians who contract to provide services at a price discount (19)
- price ceiling** a situation in which the price is not allowed to rise above a certain level (3)
- price discrimination** charging different customers different prices for the same product (6, 11)
- price elasticity of demand** the percentage change in the quantity demanded of a product divided by the percentage change in the price of that product (6)
- price elasticity of supply** the percentage change in the quantity supplied divided by the percentage change in price, everything else held constant (6)
- price floor** a situation in which the price is not allowed to decrease below a certain level (3)
- price maker** a firm that sets the price of the product it sells (9)
- price searcher** a firm that sets the price of the product it sells (9)
- price setter** a firm that sets the price of the product it sells (9)
- principle of mutual exclusivity** the rule that an owner of private property is entitled to enjoy the consumption of that property privately (14)
- private costs** costs that are borne solely by the individuals involved in the transaction that created the costs (14)
- private property right** the limitation of ownership to an individual (5)
- private sector** households, businesses, and the international sector (4)
- privatization** transferring a publicly owned enterprise to private ownership (13)
- producer surplus** the difference between the price firms would have been willing to accept for their products and the price they actually receive (10)
- production possibilities curve (PPC)** a graphical representation showing the maximum quantity of goods and services that can be produced using limited resources to the fullest extent possible (2)
- productivity** the quantity of output produced per unit of resource (3)
- progressive tax (progressive income tax)** a tax whose rate rises as income rises (20)
- proportional tax** a tax whose rate does not change as the tax base changes (20)
- public choice** the study of how government actions result from the self-interested behaviors of voters and politicians (5)
- public good** a good whose consumption by one person does not diminish the quantity or quality available for others (5, 14)
- public interest theory** the theory that government should intervene in business actions to improve the well-being of the general public (14)
- public sector** the government (4)
- purchasing power parity (PPP)** the condition under which monies have the same purchasing power in different markets (23)
- quantity demanded** the amount of a product that people are willing and able to purchase at a specific price (3)
- quantity quota** a limit on the amount of a good that may be imported (22)
- quantity supplied** the amount sellers are willing and able to offer at a given price during a given period of time, everything else held constant (3)
- rational self-interest** the means by which people choose the options that give them the greatest amount of satisfaction (1)
- regressive tax** a tax whose rate decreases as the tax base changes (20)
- regulated monopoly** a monopoly firm whose behavior is monitored and prescribed by a government entity (11)
- relative price** the price of one good expressed in terms of the price of another good (3)
- renewable (nonexhaustible) natural resources** natural resources whose supply can be replenished (18)
- rent seeking** the use of resources simply to transfer wealth from one group to another without increasing production or total wealth (5, 14)
- reserve currency** a currency that is used to settle international debts and is held by governments to use in foreign exchange market interventions (23)
- resource market** a market that provides one of the resources for producing goods and services: labor, capital, and land (15)
- resources** goods used to produce other goods, i.e., land, labor, capital, and entrepreneurial ability (1)
- rule of reason** the rule that to be illegal, an action must be unreasonable in a competitive sense and the anticompetitive effects must be demonstrated (13)
- scale** size; all resources change when scale changes (8)
- scarcity** the shortage that exists when less of something is available than is wanted at a zero price (1)
- shares** ownership of a piece of a company (17)
- short run** a period of time short enough that the quantities of at least one of the resources cannot be varied (6)
- short-run average total cost (SRATC)** the lowest-cost combination of resources with which each level of output is produced when the quantity of at least one resource is fixed (8)
- shortage** a quantity supplied that is smaller than the quantity demanded at a given price; it occurs whenever the price is less than the equilibrium price (3)

- shutdown price** the minimum point of the average-variable-cost curve (10)
- slope** the steepness of a curve, measured as the ratio of the rise to the run (1 App.)
- social cost** the total cost of a transaction, the private plus the external cost (14)
- social regulation** the prescribing of health, safety, performance, and environmental standards that apply across several industries (13)
- socially responsible fund** a group of stocks or bonds of companies that meet the requirements of ethical behavior or environmental behavior (17)
- sole proprietorship** a business owned by one person, who receives all the profits and is responsible for all the debts incurred by the business (4)
- specific fund** a mutual fund that focuses on a particular industry or a particular part of the world (17)
- speculators** people who seek to profit from an expected shift in an exchange rate by selling the currency that is expected to depreciate and buying the currency that is expected to appreciate, then exchanging the appreciated currency for the depreciated currency after the exchange rate adjustment (23)
- statistical discrimination** discrimination that results when an indicator of group performance is incorrectly applied to an individual member of the group (16)
- stock** ownership of a piece of a company (17)
- stranded assets** assets acquired by a firm when regulated that have little value when deregulated (13)
- strategic behavior** the behavior that occurs when what is best for A depends on what B does, and what is best for B depends on what A does (12)
- strategic trade policy** the use of trade restrictions or subsidies to allow domestic firms with decreasing costs to gain a greater share of the world market (22)
- subsidies** payments made by government to domestic firms to encourage exports (22)
- substitute goods** goods that can be used in place of each other; as the price of one rises, the demand for the other rises (3)
- superstar effect** the situation in which people with small differences in abilities or productivity receive vastly different levels of compensation (16)
- supply** the amount of a good or service that producers are willing and able to offer for sale at each possible price during a period of time, everything else held constant (3)
- supply curve** a graph of a supply schedule that measures price on the vertical axis and quantity supplied on the horizontal axis (3)
- supply schedule** a table or list of prices and corresponding quantities supplied of a particular good or service (3)
- surplus** a quantity supplied that is larger than the quantity demanded at a given price; it occurs whenever the price is greater than the equilibrium price (3)
- tariff** a tax on imports or exports (22)
- tax incidence** a measure of who pays a tax (6)
- technical efficiency** producing at a point on the PPC (5)
- terms of trade** the amount of an exported good that must be given up to obtain an imported good (21)
- total costs (TC)** the sum of total variable and total fixed costs (8)
- total fixed costs (TFC)** costs that must be paid whether a firm produces or not (8)
- total physical product (TPP)** the maximum output that can be produced when successive units of a variable resource are added to fixed amounts of other resources (8)
- total revenue (TR)** $TR = P \times Q$ (6)
- total utility** a measure of the total satisfaction derived from consuming a quantity of some good or service (7)
- total variable costs (TVC)** costs that rise or fall as production rises or falls (8)
- trade creation** an effect of a preferential trade agreement, allowing a country to obtain goods at a lower cost than is available at home (22)
- trade deficit** the situation that exists when imports exceed exports (4)
- trade diversion** an effect of a preferential trade agreement, reducing economic efficiency by shifting production to a higher-cost producer (22)
- tradeoff** the giving up of one good or activity in order to obtain some other good or activity (2)
- trade surplus** the situation that exists when imports are less than exports (4)
- trading post** a location on the floor of the NYSE where firms' stock is auctioned (17)
- transaction costs** the costs involved in making an exchange (3)
- transfer earnings** the amount that must be paid to a resource owner to get him or her to allocate the resource to another use (15)
- transfer payment** the income transferred by the government from one citizen, who is earning income, to another citizen; a payment to one person that is funded by taxing others. (5)
- utility** a measure of the satisfaction received from possessing or consuming goods and services (7)
- value quota** a limit on the monetary value of a good that may be imported (22)
- World Bank** an international organization that makes loans and provides technical expertise to developing countries (23)
- zero-coupon bond** a bond that provides no interest payments but is issued at a value lower than its face value (17)
- zero economic profit** total revenue is equal to total costs when total costs include all opportunity costs (9)