PARKIN
MACROECONOMICS

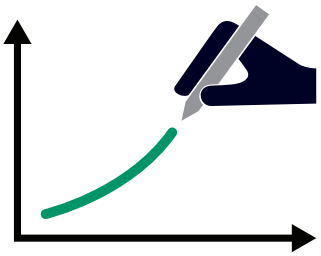
TWELFTH EDITION

MACROECONOMICS

Practice, Engage, and Assess

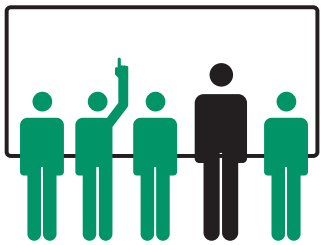
- **Enhanced eText**—Students actively read and learn, and with more engagement than ever before, through embedded and auto-graded practice, real-time data-graph updates, animations, author videos, and more.

- **Practice**—Algorithmically generated homework and study plan exercises with instant feedback ensure varied and productive practice, helping students improve their understanding and prepare for quizzes and tests. Draw-graph exercises encourage students to practice the language of economics.



- **Learning Resources**—Personalized learning aids such as Help Me Solve This problem walkthroughs, Teach Me explanations of the underlying concept, and figure Animations provide on-demand help when students need it most.

- **Adaptive Study Plan**—Monitors each student's progress and offers a continuously personalized study plan based on his or her own homework, quiz, and test results. Includes unlimited practice exercises and the opportunity to prove mastery through quizzes based on recommended learning objectives.



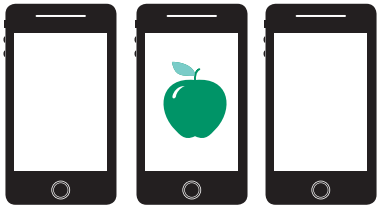
- **Dynamic Study Modules**—With a focus on key topics, these modules work by continuously assessing student performance and activity in real time and, using data and analytics, provide personalized content to reinforce concepts that target each student's particular strengths and weaknesses.

- **Digital Interactives**—Focused on a single core topic and organized in progressive levels, each interactive immerses students in an assignable and auto-graded activity. Digital Interactives are also engaging lecture tools for traditional, online, and hybrid courses, many incorporating real-time data, data displays, and analysis tools for rich classroom discussions.

DI

with MyEconLab®

- **Learning Catalytics**—Generates classroom discussion, guides lectures, and promotes peer-to-peer learning with real-time analytics. Students can use any device to interact in the classroom, engage with content, and even draw and share graphs.

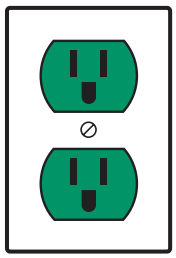


- **Real-Time Data Analysis Exercises**—Using current macro data to help students understand the impact of changes in economic variables, Real-Time Data Analysis Exercises communicate directly with the Federal Reserve Bank of St. Louis's FRED® site and update as new data are available.

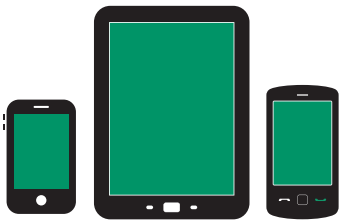
- **Current News Exercises**—Every week, current microeconomic and macroeconomic news stories, with accompanying exercises, are posted to MyEconLab. Assignable and auto-graded, these multi-part exercises ask students to recognize and apply economic concepts to real-world events.

- **Experiments**—Flexible, easy-to-assign, auto-graded, and available in Single and Multiplayer versions, Experiments in MyEconLab make learning fun and engaging.

- **Reporting Dashboard**—View, analyze, and report learning outcomes clearly and easily. Available via the Gradebook and fully mobile-ready, the Reporting Dashboard presents student performance data at the class, section, and program levels in an accessible, visual manner.



- **LMS Integration**—Link from any LMS platform to access assignments, rosters, and resources, and synchronize MyLab grades with your LMS gradebook. For students, new direct, single sign-on provides access to all the personalized learning MyLab resources that make studying more efficient and effective.



- **Mobile Ready**—Students and instructors can access multimedia resources and complete assessments right at their fingertips, on any mobile device.

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MACROECONOMICS

TWELFTH EDITION

MICHAEL PARKIN
University of Western Ontario

PEARSON

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TO ROBIN

ABOUT THE AUTHOR

Michael Parkin is Professor Emeritus in the Department of Economics at the University of Western Ontario, Canada. Professor Parkin has held faculty appointments at Brown University, the University of Manchester, the University of Essex, and Bond University. He is a past president of the Canadian Economics Association and has served on the editorial boards of the *American Economic Review* and the *Journal of Monetary Economics* and as managing editor of the *Canadian Journal of Economics*. Professor Parkin's research on macroeconomics, monetary economics, and international economics has resulted in over 160 publications in journals and edited volumes, including the *American Economic Review,* the *Journal of Political Economy,* the *Review of Economic Studies*, the *Journal of Monetary Economics,* and the *Journal of Money, Credit and Banking*. He became most visible to the public with his work on inflation that discredited the use of wage and price controls. Michael Parkin also spearheaded the movement toward European monetary union. Professor Parkin is an experienced and dedicated teacher of introductory economics.

BRIEF CONTENTS

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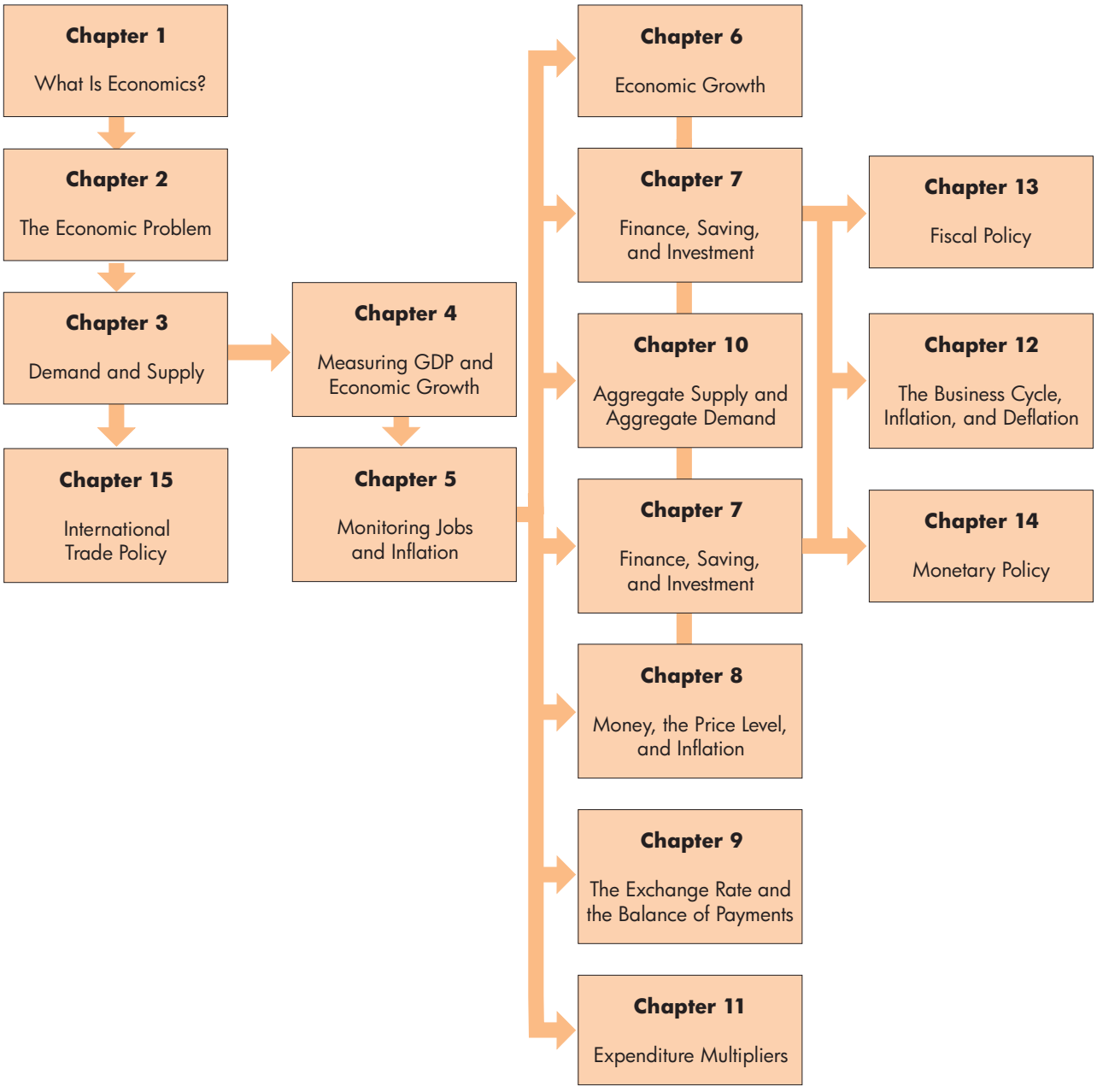
Flexibility



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DETAILED CONTENTS

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The future is always uncertain. But at some times, and now is one such time, the range of possible near-future events is unusually large. Political tensions in the Middle East and Eastern Europe are one source of this uncertainty. But economic policy is another source. There is uncertainty about the way in which international trade policy will evolve as bilateral deals reshape the competitive landscape. There is uncertainty about exchange rate policy as currency fluctuations bring changes in international relative prices. There is extraordinary uncertainty about monetary policy with the Fed having quadrupled the quantity of bank reserves and continuing to delay the return of interest rates to levels considered normal. And there is uncertainty about fiscal policy as an ongoing federal budget deficit interacts with an aging population and rising healthcare costs to create a national debt time bomb.

In the years since the subprime mortgage crisis of August 2007 moved economics from the business report to the front page, a justified fall in confidence has gripped producers, consumers, financial institutions, and governments.

Even the idea that the market is an efficient allocation mechanism has come into question. Many thoughtful people worry about rising income inequality, and some political leaders called for the end of capitalism and the dawn of a new economic order in which tighter regulation reins in unfettered greed.

Rarely do teachers of economics have such a rich feast on which to draw. And rarely are the principles of economics more surely needed to provide the solid foundation on which to think about economic events and navigate the turbulence of economic life.

Although thinking like an economist can bring a clearer perspective to and deeper understanding of today's events, students don't find the economic way of thinking easy or natural. *Macroeconomics* seeks to put clarity and understanding in the grasp of the student with a careful and vivid exploration of the tension between self-interest and the social interest, the role and power of incentives—of opportunity cost and marginal benefit—and demonstrating the possibility that markets supplemented by other mechanisms might allocate resources efficiently.

Parkin students begin to think about issues the way real economists do and learn how to explore difficult policy problems and make more informed decisions in their own economic lives.

The Twelfth Edition Revision

Thoroughly updated, intuitive rather than technical, grounded in data and empirical evidence, extensively illustrated with well-chosen examples and photographs, enlivened with applications that focus on issues at play in today's world, focused on learning-by-doing, and seamlessly integrated with MyEconLab: These are the hallmarks of this twelfth edition of *Macroeconomics*.

This revision builds on the foundation of the previous edition and retains a thorough and careful presentation of the principles of economics, an emphasis on real-world examples and applications, the development of critical thinking skills, diagrams renowned for pedagogy and clarity, and path-breaking technology.

Highpoints of the Text Revision

This revision has many detailed changes and responses to reviewers, but its highpoints are a new feature and three content changes.

The new feature is a full-page end-of-chapter **worked problem**. As part of the chapter review, the student has an opportunity to work a multi-part problem that covers the core content of the chapter and consists of questions, solutions, and key figures. This new feature increases the incentive for the student to learn-by-doing and actively, rather than passively, review the chapter.

The three main content changes are in the coverage of

- Financial markets
- The exchange rate
- Cycles, inflation, and deflation

Financial Markets Chapter 7, Finance, Saving, and Investment, has an expanded section on the global financial crisis and its aftermath that describes the≈growth of household debt and house prices. The section on real and nominal interest rates is expanded and illustrated with data. The chapter now contains more on the magnitudes of the sources and uses of loanable funds. The section on loanable funds in the global economy is moved to the chapter on the exchange rate and balance of payments.

The Exchange Rate Chapter 9, The Exchange Rate and the Balance of Payments, contains a heavily revised section entitled Arbitrage, Speculation, and

Market Fundamentals that explains the powerful forces that equilibrate the foreign exchange market in the short run and the long run. This section includes a discussion of the Big Mac index. An *Economics in the News* examines the forces at work leading to a strong dollar in the summer of 2014. The section on the global loanable funds market is now integrated into this chapter in the section on the balance of payments.

Cycles, Inflation, and Deflation Chapter 12, The Business Cycle, Inflation, and Deflation, is re-titled, reorganized, and amended. The business cycle material is moved to the beginning of the chapter and a new final section describes and explains the problem of deflation that has gripped Japan for most of the 1990s and the 2000s and is feared in Europe at the present time. Coverage of the Phillips curve is retained but condensed.

Many other chapters have been thoroughly reworked to achieve even greater clarity and to place greater emphasis on applications to current issues. And every chapter now contains a new opening vignette linked directly to an *Economics in the News*, an end-of-chapter problem, and online practice.

All the end-of-chapter *Economics in the News* articles have been updated, and the analysis of the news and the linked problems and applications have been appropriately revised.

Enhanced Pearson eText and New Interactive Features

MyEconLab with Enhanced eText combines digital resources that illuminate content with accessible self-assessment tools to provide students with a comprehensive learning experience—all in one place.

The Enhanced eText's digital resources include animations of figures that bring learning to life, interactive graph drawing exercises, problem solving tools, and news applications.

The results of all the activities in the Enhanced eText feed into the MyEconLab Adaptive Study Plan, which provides an exceptional adaptive learning experience uniquely tailored to the learning challenges of each individual student.

This powerful digital resource enables students to actively use the concepts they're reading about and, through learning-by-doing, achieve deeper understanding of the key economic principles.

Features to Enhance Teaching and Learning

The changes that I have described are adjustments to an already powerful teaching and learning package. Here, I briefly review the features retained from the previous edition.

Economics in the News

This Parkin hallmark helps students think like economists by connecting chapter tools and concepts to the world around them. In this new edition, *Economics in the News* comes in two formats. One format, as in the previous edition, presents a brief newsclip supplemented by data where needed, and then poses some questions and walks through the answers.

The other format of *Economics in the News* is a rebranding of what I called *Reading Between the Lines* in all the earlier editions. This feature, which appears at the end of every chapter (except the first), shows students how to apply the tools they have learned by analyzing an article from a newspaper or news Web site. The news article connects with the questions first raised in the chapter opener, and the analysis is reinforced with a related end-of-chapter problem.

At Issue

Eleven *At Issue* boxes, three of which are new, engage the student in debate and controversy. An *At Issue* box introduces an issue and then presents two opposing views. It leaves the matter unsettled so that the student and instructor can continue the argument in class and reach their own conclusions.

Economics in Action Boxes

This feature uses boxes within the chapter to provide data and information that links models to real-world economic activity. Some of the issues covered in these boxes include the best affordable choice of recorded music, movies and DVDs; the cost of selling a pair of shoes; how Apple doesn't make the iPhone; opposing trends in air pollution and carbon concentration; structural unemployment in Michigan; how loanable funds fuel a home price bubble; and the size of the fiscal stimulus multipliers.

Chapter Openers

Each chapter opens with a student-friendly vignette that raises questions to motivate the student and focus the chapter. This chapter-opening story is woven into the main body of the chapter and is explored in the *Economics in the News* feature that ends each chapter.

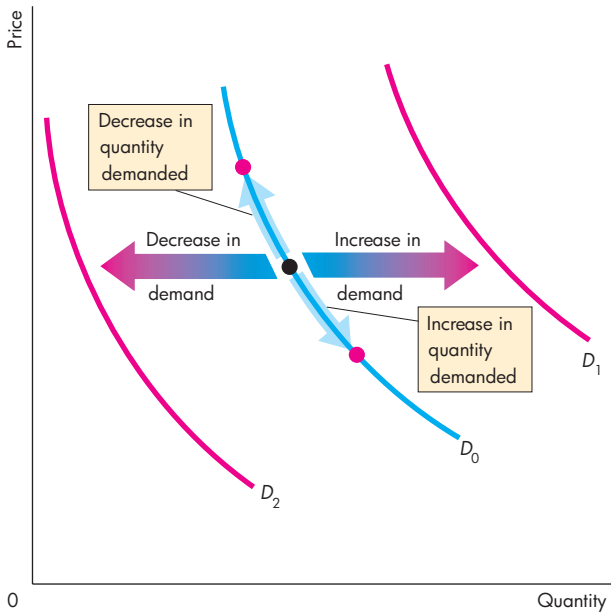
Diagrams That Show the Action

Through the past eleven editions, this book has set the standard of clarity in its diagrams; the twelfth edition continues to uphold this tradition. My goal is to show "where the economic action is." The diagrams in this book continue to generate an enormously positive response, which confirms my view that graphical analysis is the most powerful tool available for teaching and learning economics at the principles level.

Because many students find graphs hard to work with, I have developed the entire art program with the study and review needs of the student in mind.

The diagrams feature

- Original curves consistently shown in blue
- Shifted curves, equilibrium points, and other important features highlighted in red
- Color-blended arrows to suggest movement
- Graphs paired with data tables
- Diagrams labeled with boxed notes
- Extended captions that make each diagram and its caption a self-contained object for study and review



Key Terms

Highlighted terms simplify the student's task of learning the vocabulary of economics. Each highlighted term appears in an end-of-chapter list with its page number, in an end-of-book glossary with its page number, boldfaced in the index, and in MyEconLab in the interactive glossary and the Flash Cards.

In-Text Review Quizzes

A review quiz at the end of each major section enables students to determine whether a topic needs further study before moving on. This feature includes a reference to the appropriate MyEconLab study plan and a new **Key Terms Quiz** to help students further test their understanding.

End-of-Chapter Study Material

Each chapter closes with a concise summary organized by major topics, a list of key terms with page references, a worked problem, and problems and applications. These learning tools provide students with a summary for review and exam preparation.

Interviews with Economists

Each part closes with an overview of the chapters and a teaser of an interview with a leading economist whose work correlates to what the student is learning. These interviews explore the education and research of these prominent economists and their advice for those who want to continue the study of economics. This edition has a new interview with Esther Duflo (MIT). The 65 past and present interviews I have conducted are available in full in MyEconLab.

For the Instructor

This book enables you to focus on the economic way of thinking and choose your own course structure in your principles course.

Focus on the Economic Way of Thinking

As an instructor, you know how hard it is to encourage a student to think like an economist. But that is your goal. Consistent with this goal, the text focuses on and repeatedly uses the central ideas: choice; tradeoff; opportunity cost; the margin; incentives; the gains from voluntary exchange; the forces of demand, supply, and equilibrium; the pursuit of economic rent; the tension between self-interest and the social interest; and the scope and limitations of government actions.

Flexible Structure

You have preferences for how you want to teach your course, and I've organized this book to enable you to choose your teaching path. The chart on p. xi illustrates the book's flexibility. By following the arrows through the chart you can select the path that best

fits your preference for course structure. Whether you want to teach a traditional course that blends theory and policy, or one that takes a fast-track through either theory or policy issues, *Macroeconomics* gives you the choice.

Instructor's Supplemental Resources

The supplements for instructors are

- Test Item Files
- PowerPoint Resources
- Instructor's Manual
- Solutions Manual

Test Item Files Three separate Test Item Files with nearly 6,000 questions, provide multiple-choice, true/false, numerical, fill-in-the-blank, short-answer, and essay questions. Mark Rush reviewed and edited all the questions to ensure their clarity and consistency.

New questions were written by Alexandra Nica of the University of Iowa and Luke Armstrong of Lee College.

Questions follow the style and format of the end-of-chapter text problems. End-of-part tests contain integrative questions that cover all the chapters in the part. News-based application questions are available for each chapter of the text.

Fully networkable and available for Windows® and Macintosh®, TestGen's graphical interface enables instructors to view the Test Item Files; edit and add questions; transfer questions to tests; and print different forms of tests. Tests can be formatted as in any word-processing document with varying fonts, styles, margins, headers, and footers. Search and sort features let the instructor quickly locate questions and arrange them in a preferred order. QuizMaster, working with your school's computer network, automatically grades exams, stores the results, and allows the instructor to view or print a variety of reports.

BlackBoard- and WebCT-ready conversions of the TestGen Test Item Files are available for download from www.pearsonhighered.com/irc.

PowerPoint Resources A set of full-color Microsoft® PowerPoint Presentations, created by Robin Bade, are available. Each chapter contains

- Lecture notes with all the textbook figures animated, tables from the textbook, and speaking notes from the Instructor's Manuals
- Large-scale versions of all the figures and tables in the textbook, animated for instructors to incorporate into their own slide shows
- A student version of the lecture notes with animated textbook figures

The presentations can be used electronically in the classroom or printed to create transparency masters.

Instructor's Manual The Instructor's Manual integrates the teaching and learning resources and serve as a guide to all the supplements. Written by Russ McCullough of Ottawa University, the Instructor's Manual is available electronically from MyEconLab or the Instructor's Resource Center.

Each chapter contains an overview, a list of what's new in the twelfth edition, and ready-to-use lecture notes, which enable a new user of Parkin to walk into a classroom and deliver a polished lecture.

Solutions Manual A comprehensive Solutions Manual provides instructors with solutions to the Review Quizzes and the end-of-chapter Problems and Applications as well as additional problems and the solutions to these problems. Written by Mark Rush of the University of Florida and reviewed for accuracy by Jeannie Gillmore of the University of Western Ontario, the Solutions Manual is available electronically from MyEconLab or the Instructor Resource Center.

Getting Your Instructor's Resources

Instructor's Resource Center Instructors can download supplements from a secure, instructor-only source via the Pearson Higher Education Instructor Resource Center Web page, which is found at (www.pearsonhighered.com/irc).

MyEconLab

MyEconLab has been designed and refined with a single purpose in mind: to create those moments of understanding that transform the difficult into the clear and obvious. With comprehensive homework, quiz, test, activity, and tutorial options, instructors can manage all their assessment in one program.

- All of the Review Quiz questions and end-of-chapter Problems and Applications were recreated as assignable auto-graded exercises with targeted feedback and related "Help-me-solve-this" tools by Robin Bade, Jeannie Gillmore of the University of Western Ontario, and Sharmistha Nag of Fairleigh Dickinson University, and were reviewed for accuracy by Trevor Collier of the University of Dayton.
- All of the Review Quiz questions and end-of chapter Problems and Applications are assignable and automatically graded in MyEconLab.
- All of the Review Quiz questions and end-of-chapter Study Plan Problems and Applications are available for students to work in the Adaptive Study Plan.
- All the end-of-chapter Additional Problems and Applications are not available to students in MyEconLab unless assigned by the instructor.
- Many of the problems and applications are algorithmic, draw-graph, and numerical exercises.
- Problems and applications that use real-time data continuously update.
- All *Economics in the News* and Test Item questions are available for instructors to assign as test, quiz, or homework.
- Custom Exercise Builder enables instructors to create their own problems for assignment.
- Gradebook records each student's performance and time spent on the Tests and Study Plan and generates reports by student or by chapter.

Features of the Enhanced eText

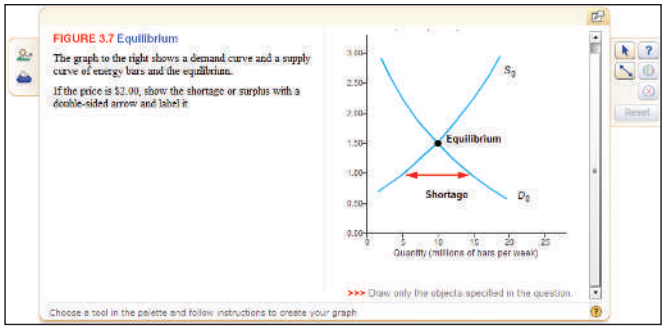
The features of the enhanced eText are

- Embedded MyEconLab study plan and assessment
- Figure animations
- Interactive graph-drawing exercises
- More *Economics in the News*
- Worked problems
- Automatic real-time updating
- Key terms quizzes

Embedded MyEconLab Study Plan and Assessment Every Review Quiz question and Study Plan Problem and Application in the enhanced eText can be worked by the student directly from the eText page on which it occurs and receive instant targeted feedback. These exercises are auto-graded and feed into MyEconLab's Adaptive Study Plan, where students receive recommendations based upon their performance. Study Plan links provide opportunities for more practice with exercises similar to those in the eText and give targeted feedback to guide the student in answering the exercises.

Figure Animations Every textbook figure can be worked through using a step-by-step animation, with audio, to help students learn the intuition behind reading and interpreting graphs. These animations may be used for review, or as an instructional aid in the classroom.

Interactive Graph-Drawing Exercises For each major figure, a graph-drawing exercise accompanies the step-by-step animation. The student builds and interprets the key diagrams and develops understanding by working a multiple-choice question about the figure. Each Draw Graph exercise is auto-graded and feeds into MyEconLab's Adaptive Study Plan.



More Economics in the News Each in-text *Economics in the News* is reinforced through an extended application of the same analysis. More *Economics in the News* problems are auto-graded and feed into MyEconLab's Adaptive Study Plan.

Worked Problems Each chapter concludes with a Worked Problem that consists of questions, solutions, and a key figure. These problems can be worked in the enhanced eText directly from the Worked Problem page. As the student works through each problem, feedback and just-in-time learning aids help the student develop proficiency with the concept.

Automatic Real-Time Updating Figures labeled *MyEconLab Real-Time Data* update using the most recent data available from the FRED database maintained by the Federal Reserve Bank of St. Louis.

Key Terms Quizzes Key Terms Quiz links provide opportunities for students to check their knowledge of the definitions and uses of the key terms.

Other MyEconLab Features

Adaptive Learning Study Plan Adaptive Learning Study Plan is powered by a sophisticated learning engine that tailors assessment material to the unique needs of each student. The Adaptive Learning Study Plan monitors the student's performance on homework, quizzes, and tests and continuously makes recommendations based on that performance.

If a student is struggling with a concept such as supply and demand, or having trouble calculating a price elasticity of demand, the Adaptive Learning Study Plan provides customized remediation activities—a pathway based on personal proficiencies, the number of attempts, or the difficulty of the questions—to get the student back on track. Students will also receive recommendations for additional practice in the form of rich multi-media learning aids such as videos, an interactive eText, Help Me Solve This tutorials, and graphing tools.

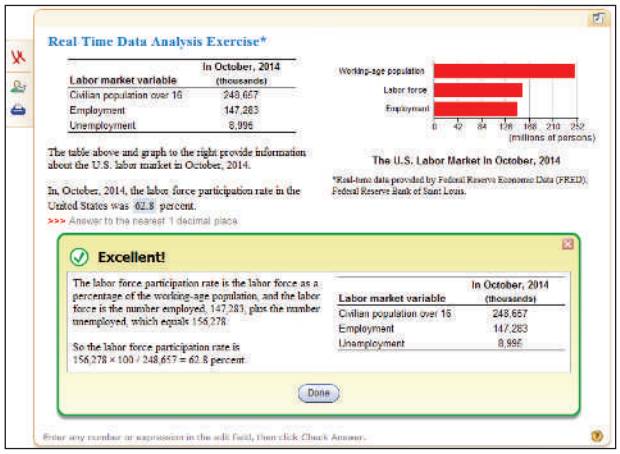
The Adaptive Learning Study Plan can extrapolate a student's future trouble spots and provide learning material and practice to avoid pitfalls. In addition, students who are showing a high degree of success with the assessment material are offered a chance to work on future topics based on the professor's course coverage preferences. This personalized and adaptive feedback and support ensures that your students are optimizing their current and future course work and mastering the concepts, rather than just memorizing and guessing answers.

Dynamic Study Modules The Dynamic Study Modules in MyEconLab engage the student in learning activities, continuously monitor and assess performance in real time, and by analyzing the data, personalize content to reinforce concepts that target each student's strengths and weaknesses. Instructors well-know that not every student learns the same way and at the same rate. And now, thanks to the advances in adaptive learning technology embedded in the Dynamic Study Modules, it is no longer necessary to teach as if they do.

Dynamic Study Modules can be set as homework and the results received right in the gradebook. And, because your students are always on the go, Dynamic Study Modules can be accessed from any computer, tablet, or smartphone.

Real-Time Data Analysis Exercises FRED ECONOMIC DATA | ST. LOUIS FED Easy to assign and automatically graded, Real-Time Data Analysis exercises communicate directly with the Federal Reserve Bank of St. Louis's FRED site, so every time FRED posts new data, students can see the most recent data. As a result, Real-Time Data Analysis exercises offer a no-fuss solution for instructors who want to make the most recent data a central part of their macro course.

End-of-chapter exercises accompanied by the Real-Time Data Analysis icon include Real-Time Data versions in MyEconLab. Select in-text figures, labeled Real-time data, update in the eText using FRED data.



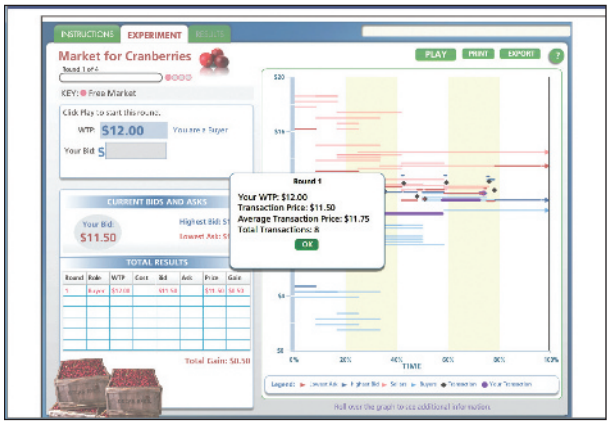
Economics in the News *Economics in the News* is a turn-key solution to bringing daily news into the classroom. Updated daily during the academic year, we upload a relevant article and provide questions that may be assigned for homework or for classroom discussion.

Current News Each week during the academic year, we upload multi-part macroeconomic exercises, with links to relevant articles, into the MyEconLab assignment manager. These enable instructors to bring current issues and events into the course with easy-to-assign and auto-graded exercises.

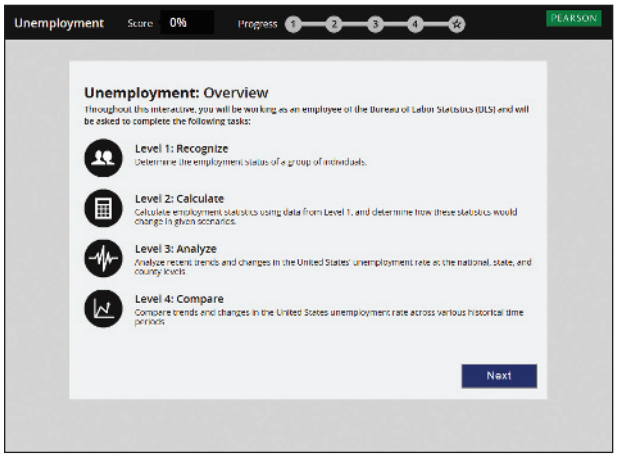
Experiments in MyEconLab Experiments are a fun and engaging way to promote active learning and mastery of major economic concepts. Pearson's Experiments program is flexible and easy for instructors to assign and students to use.

- Available experiments include a competitive market, price floors, and price controls.
- Single-player experiments, available to assign, allow your students to play against virtual players from anywhere at any time as long as they have an Internet connection.
- Multi-player experiments allow you to assign and manage a real-time experiment with your class.

- Experiments can be assigned in MyEconLab as homework integrated with pre-questions and post-questions.
- Experiments are auto-graded using algorithms that objectively evaluate a student's economic gain and performance during the experiment.



Digital Interactives Digital Interactives immerse the student in an activity that leads to the discovery of a fundamental economic idea or principle. Digital Interactives are designed for use in traditional, online, and hybrid courses, and many incorporate real-time data, as well as data display and analysis tools. A Digital Interactive can be presented in class as a visually stimulating, engaging lecture tool, and can be assigned with assessment questions for grading.



Learning Catalytics MyLab & Mastering with eText now provides Learning Catalytics, a web-based system for managing the interactive classroom that uses students' smartphones, tablets, or laptops to support the peer-instruction teaching method. Instructors can pose a variety of open-ended questions that help students develop critical thinking skills. Real-time monitoring of responses provides data on what students are struggling with and enables instructors to adjust their strategy and try other ways of engaging the students during class. Instructors can also manage student interactions and automatically group students for discussion and teamwork.

AACSB and Learning Outcomes All end-of-chapter and Test Item File questions are tagged in two ways: to AACSB standards and to discipline-specific Learning Outcomes. These two separate tagging systems allow professors to build assessments around desired departmental and course outcomes and track results in MyEconLab's gradebook.

Office Hours Students and instructors can consult the authors using the "Office Hours" links in MyEconLab. The link for students is in Chapter Resources and for Instructors it is in Instructor Resources/Instructor Tools.

Reporting Dashboard View, analyze, and report learning outcomes clearly and easily, and get the information you need to keep your students on track throughout the course, with the new Reporting Dashboard. Available via the Gradebook and fully mobile-ready, the Reporting Dashboard presents student performance data at the class, section, and program levels in an accessible, visual manner.

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Classroom experience will test the value of this book. I would appreciate hearing from instructors and students about how I can continue to improve it in future editions.

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PART ONE INTRODUCTION

1 WHAT IS ECONOMICS?

After studying this chapter, you will be able to:

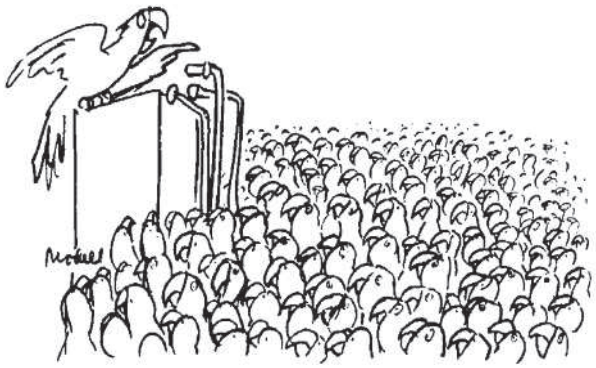
- Define economics and distinguish between microeconomics and macroeconomics
- Explain the two big questions of economics
- Explain the key ideas that define the economic way of thinking
- Explain how economists go about their work as social scientists and policy advisers

Is economics about money: How people make it and spend it? Is it about business, government, and jobs? Is it about why some people and some nations are rich and others poor? Economics is about all these things. But its core is the study of *choices* and their *consequences*.

Your life will be shaped by the choices that you make and the challenges that you face. To face those challenges and seize the opportunities they present, you must understand the powerful forces at play. The economics that you're about to learn will become your most reliable guide. This chapter gets you started by describing the questions that economists try to answer and looking at how economists think as they search for the answers.

Definition of Economics

A fundamental fact dominates our lives: We want more than we can get. Our inability to get everything we want is called **scarcity**. Scarcity is universal. It confronts all living things. Even parrots face scarcity!



Not only do I want a cracker—we all want a cracker!

Think about the things that *you* want and the scarcity that *you* face. You want to go to a good school, college, or university. You want to live in a well-equipped, spacious, and comfortable home. You want the latest smartphone and the fastest Internet connection for your laptop or iPad. You want some sports and recreational gear—perhaps some new running shoes, or a new bike. You want much more time than is available to go to class, do your homework, play sports and games, read novels, go to the movies, listen to music, travel, and hang out with your friends. And you want to live a long and healthy life.

What you can afford to buy is limited by your income and by the prices you must pay. And your time is limited by the fact that your day has 24 hours.

You want some other things that only governments provide. You want to live in a safe neighborhood in a peaceful and secure world, and enjoy the benefits of clean air, lakes, rivers, and oceans.

What governments can afford is limited by the taxes they collect. Taxes lower people's incomes and compete with the other things they want to buy.

What *everyone* can get—what *society* can get—is limited by the productive resources available. These resources are the gifts of nature, human labor and ingenuity, and all the previously produced tools and equipment.

Because we can't get everything we want, we must make *choices*. You can't afford *both* a laptop *and* an iPhone, so you must *choose* which one to buy. You can't spend tonight *both* studying for your next test *and* going to the movies, so again, you must *choose* which one to do. Governments can't spend a tax dollar on *both* national defense *and* environmental protection, so they must *choose* how to spend that dollar.

Your choices must somehow be made consistent with the choices of *others*. If you choose to buy a laptop, someone else must choose to sell it. Incentives reconcile choices. An **incentive** is a reward that encourages an action or a penalty that discourages one. Prices act as incentives. If the price of a laptop is too high, more will be offered for sale than people want to buy. And if the price is too low, fewer will be offered for sale than people want to buy. But there is a price at which choices to buy and sell are consistent.

> **Economics** is the social science that studies the *choices* that individuals, businesses, governments, and entire societies make as they cope with *scarcity* and the *incentives* that influence and reconcile those choices.

The subject has two parts:

- Microeconomics
- Macroeconomics

Microeconomics is the study of the choices that individuals and businesses make, the way these choices interact in markets, and the influence of governments. Some examples of microeconomic questions are: Why are people downloading more movies? How would a tax on e-commerce affect eBay?

Macroeconomics is the study of the performance of the national economy and the global economy. Some examples of macroeconomic questions are: Why does the U.S. unemployment rate fluctuate? Can the Federal Reserve make the unemployment rate fall by keeping interest rates low?

REVIEW QUIZ

1. List some examples of the scarcity that you face.
2. Find examples of scarcity in today's headlines.
3. Find an example of the distinction between microeconomics and macroeconomics in today's headlines.

Work these questions in Study Plan 1.1 and get instant feedback. Do a Key Terms Quiz. MyEconLab

Two Big Economic Questions

Two big questions summarize the scope of economics:

- How do choices end up determining *what, how*, and *for whom* goods and services are produced?
- Do choices made in the pursuit of *self-interest* also promote the *social interest*?

What, How, and For Whom?

Goods and services are the objects that people value and produce to satisfy wants. *Goods* are physical objects such as cellphones and automobiles. *Services* are tasks performed for people such as cellphone service and auto-repair service.

What? *What* we produce varies across countries and changes over time. In the United States today, agriculture accounts for 1 percent of total production, manufactured goods for 20 percent, and services (retail and wholesale trade, healthcare, and education are the biggest ones) for 79 percent. In contrast, in China today, agriculture accounts for 10 percent of total production, manufactured goods for 45 percent, and services for 45 percent.

Figure 1.1 shows these numbers and also the percentages for Brazil, which fall between those for the United States and China.

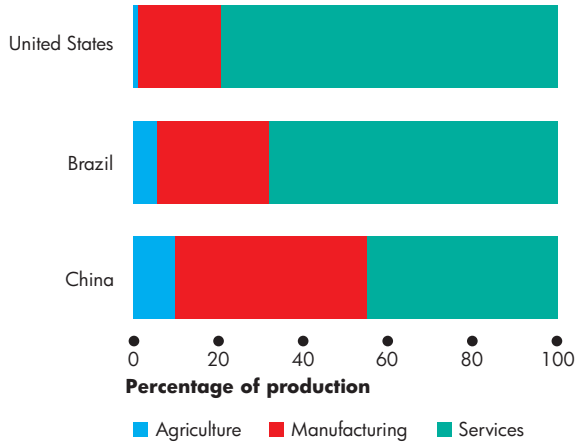
What determines these patterns of production? How do choices end up determining the quantities of cellphones, automobiles, cellphone service, auto-repair service, and the millions of other items that are produced in the United States and around the world?

How? *How* we produce is described by the technologies and resources that we use. The resources used to produce goods and services are called **factors of production**, which are grouped into four categories:

- Land
- Labor
- Capital
- Entrepreneurship

Land The "gifts of nature" that we use to produce goods and services are called **land**. In economics, *land* is what in everyday language we call *natural resources*. It includes land in the everyday sense

FIGURE 1.1 What Three Countries Produce



Agriculture and manufacturing are small percentages of production in rich countries such as the United States and large percentages of production in poorer countries such as China. Most of what is produced in the United States is services.

Source of data: CIA Factbook 2014, Central Intelligence Agency.

MyEconLab Animation

together with minerals, oil, gas, coal, water, air, forests, and fish.

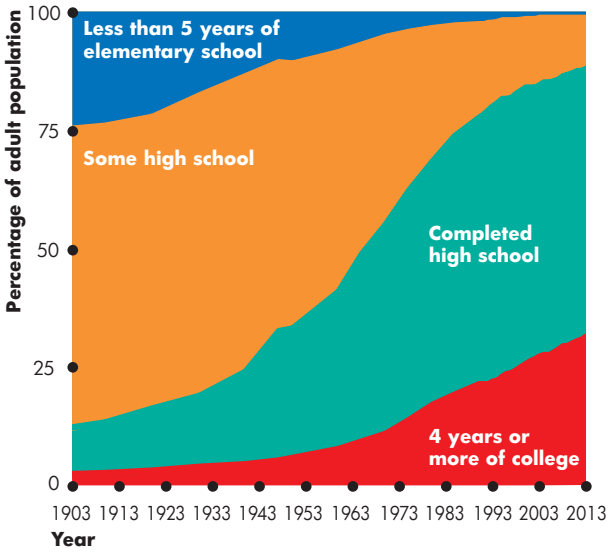
Our land surface and water resources are renewable and some of our mineral resources can be recycled. But the resources that we use to create energy are nonrenewable—they can be used only once.

Labor The work time and work effort that people devote to producing goods and services is called **labor**. Labor includes the physical and mental efforts of all the people who work on farms and construction sites and in factories, shops, and offices.

The *quality* of labor depends on **human capital**, which is the knowledge and skill that people obtain from education, on-the-job training, and work experience. You are building your own human capital right now as you work on your economics course, and your human capital will continue to grow as you gain work experience.

Human capital expands over time. Today, 88 percent of the adult population of the United States have completed high school and 32 percent have a college or university degree. Figure 1.2 shows these measures of human capital in the United States and its growth over the past 110 years.

FIGURE 1.2 A Measure of Human Capital



In 2013, 32 percent of the population aged 25 and older had 4 years or more of college, up from 2 percent in 1903. A further 56 percent had completed high school, up from 10 percent in 1903.

Source of data: U.S. Census Bureau, 2014.

MyEconLab Animation

Capital The tools, instruments, machines, buildings, and other constructions that businesses use to produce goods and services are called **capital**.

In everyday language, we talk about money, stocks, and bonds as being "capital." These items are *financial capital*. Financial capital plays an important role in enabling businesses to borrow the funds that they use to buy physical capital. But financial capital is not used to produce goods and services and it is not a factor of production.

Entrepreneurship The human resource that organizes labor, land, and capital is called **entrepreneurship**. Entrepreneurs are the drivers of economic progress. They develop new ideas about what and how to produce, make business decisions, and bear the risks that arise from these decisions.

What determines how the factors of production are used to produce each good and service?

For Whom? *Who* consumes the goods and services that are produced depends on the incomes that people earn. People with large incomes can buy a wide range of goods and services. People with small incomes have fewer options and can afford a smaller range of goods and services.

People earn their incomes by selling the services of the factors of production they own:

- Land earns **rent**.
- Labor earns **wages**.
- Capital earns **interest**.
- Entrepreneurship earns **profit**.

Which factor of production earns the most income? The answer is labor. In 2011, wages were 68 percent of total income and the incomes from land, capital, and entrepreneurship totaled 32 percent. These shares remain remarkably constant over time.

Knowing how income is shared among the factors of production doesn't tell us how it is shared among individuals. And the distribution of income among individuals is extremely unequal. You know of some people who earn very large incomes: Dwayne "The Rock" Johnson (Hercules) earned $46 million in 2013; and Clayton Kershaw has a $215 million 7-year deal with the LA Dodgers.

You know of even more people who earn very small incomes. Servers at McDonald's average around $7.25 an hour; checkout clerks, cleaners, and textile and leather workers all earn less than $10 an hour.

You probably know about other persistent differences in incomes. Men, on average, earn more than women; whites earn more than minorities; college graduates earn more than high-school graduates.

We can get a good sense of who consumes the goods and services produced by looking at the percentages of total income earned by different groups of people. The 20 percent of people with the lowest incomes earn about 5 percent of total income, while the richest 20 percent earn close to 50 percent of total income. So on average, people in the richest 20 percent earn more than 10 times the incomes of those in the poorest 20 percent. There is even huge inequality within the richest 20 percent and the top 1 percent earns almost 15 percent of total income.

Why is the distribution of income so unequal?

Economics provides some answers to all these questions about *what*, *how*, and *for whom* goods and services are produced and much of the rest of this book will help you to understand those answers.

We're now going to look at the second big question of economics: Do choices made in the pursuit of self-interest also promote the social interest?

Do Choices Made in the Pursuit of Self-Interest also Promote the Social Interest?

Every day, you and 320 million other Americans, along with 7.2 billion people in the rest of the world, make economic choices that result in *what, how*, and *for whom* goods and services are produced. These choices are made by people who are pursuing their self-interest.

Self-Interest You make a choice in your **self-interest** if you think that choice is the best one available for you. All the choices that people make about how to use their time and other resources are made in the pursuit of self-interest. When you allocate your time or your budget, you do what makes the most sense to you. You might think about how your choices affect other people and take into account how you feel about that, but it is how *you* feel that influences your choice. You order a home-delivery pizza because you're hungry, not because the delivery person needs a job. And when the pizza delivery person shows up at your door, he's not doing you a favor. He's pursuing *his* self-interest and hoping for a tip and another call next week.

The big question is: Is it possible that all the choices that each one of us makes in the pursuit of self-interest could end up achieving an outcome that is best for everyone?

Social Interest An outcome is in the **social interest** if it is best for society as a whole. It is easy to see how you decide what is in *your* self-interest. But how do we decide if something is in the social interest? To help you answer this question, imagine a scene like that in *Economics in the News* on the next page.

Ted, an entrepreneur, creates a new business. He hires a thousand workers and pays them $20 an hour, $1 an hour more than they earned in their old jobs. Ted's business is extremely profitable and his own earnings increase by $1 million per week.

You can see that Ted's decision to create the business is in his self-interest—he gains $1 million a week. You can also see that for Ted's employees, their decisions to work for Ted are in their self-interest—they gain $1 an hour (say $40 a week). And the decisions of Ted's customers must be in their self-interest, otherwise they wouldn't buy from him. But is this outcome in the social interest?

The economist's answer is "Yes." It is in the social interest because it makes everyone better off. There are no losers.

Efficiency and the Social Interest Economists use the everyday word "efficient" to describe a situation that can't be improved upon. Resource use is **efficient** if it is *not* possible to make someone better off without making someone else worse off. If it *is* possible to make someone better off without making anyone worse off, society can be made better off and the situation is not efficient.

In the Ted story everyone is better off, so it improves efficiency and the outcome is in the social interest. But notice that it would also have been efficient if the workers and customers had gained nothing and Ted had gained even more than $1 million a week. But would that efficient outcome be in the social interest?

Many people have trouble seeing the outcome in which Ted is the only winner as being in the social interest. They say that the social interest requires Ted to share some of his gain either with his workers in higher wages or with his customers in lower prices, or with both groups.

Fair Shares and the Social Interest The idea that the social interest requires "fair shares" is a deeply held one. Think about what you regard as a fair share. To help you, imagine the following game.

I put $100 on the table and tell someone you don't know and who doesn't know you to *propose* a share of the money between the two of you. If you *accept* the proposed share, you each get the agreed upon shares. If you don't accept the proposed share, you both get nothing.

It would be efficient—you would both be better off—if the proposer offered to take $99 and leave you with $1 and you accepted that offer.

But would you accept the $1? If you are like most people, the idea that the other person gets 99 times as much as you is just too much to stomach. "No way," you say and the $100 disappears. That outcome is inefficient. You have both given up something.

When the game I've just described is played in a classroom experiment, about half of the players reject offers of below $30.

So fair shares matter. But what is *fair*? There isn't a crisp definition of fairness to match that of efficiency. Reasonable people have a variety of views about it. Almost everyone agrees that too much inequality is unfair. But how much is too much? And inequality of what: income, wealth, or the *opportunity* to work, earn an income, and accumulate wealth?

You will examine efficiency again in Chapter 2 and efficiency and fairness in Chapter 5.

Questions about the social interest are hard ones to answer and they generate discussion, debate, and disagreement. Four issues in today's world put some flesh on these questions. The issues are:

- Globalization
- Information-age monopolies
- Climate change
- Financial instability

Globalization The term *globalization* means the expansion of international trade, borrowing and lending, and investment.

When Nike produces sports shoes, people in Malaysia get work; and when China Airlines buys new airplanes, Americans who work at Boeing in Seattle build them. While globalization brings expanded production and job opportunities for some workers, it destroys many American jobs. Workers across the manufacturing industries must learn new skills, take service jobs, which are often lower-paid, or retire earlier than previously planned.

Globalization is in the self-interest of those consumers who buy low-cost goods and services produced in other countries; and it is in the self-interest of the multinational firms that produce in low-cost regions and sell in high-price regions. But is globalization in the self-interest of the low-wage worker in Malaysia who sews your new running shoes and the displaced shoemaker in Atlanta? Is it in the social interest?

ECONOMICS IN THE NEWS

The Invisible Hand

From Brewer to Bio-Tech Entrepreneur

Kiran Mazumdar-Shaw trained to become a master brewer and learned about enzymes, the stuff from which bio-pharmaceuticals are made. Discovering it was impossible for a woman in India to become a master brewer, the 25-year-old Kiran decided to create a bio-pharmaceutical business.

Kiran's firm, Biocom, employed uneducated workers who loved their jobs and the living conditions made possible by their high wages. But when a labor union entered the scene and unionized the workers, a furious Kiran fired the workers, automated their jobs, and hired a smaller number of educated workers. Biocom continued to grow and today, Kiran's wealth exceeds $1 billion.

Kiran has become wealthy by developing and producing bio-pharmaceuticals that improve people's lives. But Kiran is sharing her wealth in creative ways. She has opened a cancer treatment center to help thousands of patients who are too poor to pay and created a health insurance scheme.

Source: Ariel Levy, "Drug Test," *The New Yorker*, January 2, 2012

MyEconLab More Economics in the News

THE QUESTIONS

- Whose decisions in the story were taken in self-interest?
- Whose decisions turned out to be in the social interest?
- Did any of the decisions harm the social interest?

THE ANSWERS

- All the decisions—Kiran's, the workers', the union's, and the firm's customers'—are taken in the pursuit of self-interest.
- Kiran's decisions serve the social interest: She creates jobs that benefit her workers and products that benefit her customers. And her charitable work brings yet further social benefits.
- The labor union's decision might have harmed the social interest because it destroyed the jobs of uneducated workers.

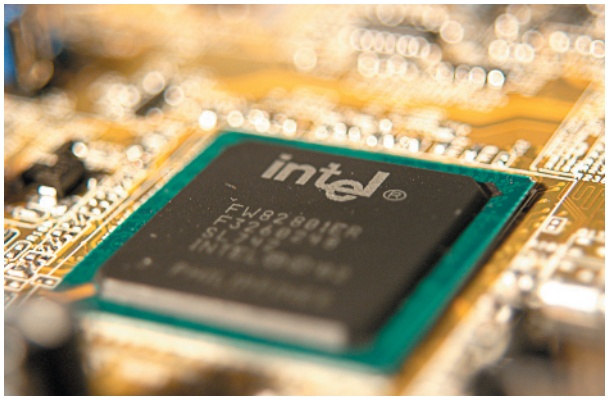
Kiran Mazumdar-Shaw, founder and CEO of Biocom

Information-Age Monopolies The technological change of the past forty years has been called the *Information Revolution*. Bill Gates, a co-founder of Microsoft, held a privileged position in this revolution. For many years, Windows was the only available operating system for the PC. The PC and Mac competed, but the PC had a huge market share.

An absence of competition gave Microsoft the power to sell Windows at prices far above the cost of production. With lower prices, many more people would have been able to afford and buy a computer.

The information revolution has clearly served your self-interest: It has provided your cellphone, laptop, loads of handy applications, and the Internet. It has also served the self-interest of Bill Gates who has seen his wealth soar.

But did the information revolution best serve the social interest? Did Microsoft produce the best possible Windows operating system and sell it at a price that was in the social interest? Or was the quality too low and the price too high?



Climate Change Burning fossil fuels to generate electricity and to power airplanes, automobiles, and trucks pours a staggering 28 billion tons—4 tons per person—of carbon dioxide into the atmosphere each year. These carbon emissions, two thirds of which comes from the United States, China, the European Union, Russia, and India, bring global warming and climate change.

Every day, when you make self-interested choices to use electricity and gasoline, you leave your carbon footprint. You can lessen this footprint by walking, riding a bike, taking a cold shower, or planting a tree.

But can each one of us be relied upon to make decisions that affect the Earth's carbon-dioxide concentration in the social interest? Must governments change the incentives we face so that our self-interested choices are also in the social interest? How can governments change incentives? How can we encourage the use of wind and solar power to replace the burning of fossil fuels that brings climate change?

Financial Instability In 2008, banks were in trouble. They had made loans that borrowers couldn't repay and they were holding securities the values of which had crashed.

Banks' choices to take deposits and make loans are made in self-interest, but does this lending and borrowing serve the social interest? Do banks lend too much in the pursuit of profit?

When banks got into trouble in 2008, the Federal Reserve (the Fed) bailed them out with big loans backed by taxpayer dollars. Did the Fed's bailout of troubled banks serve the social interest? Or might the Fed's rescue action encourage banks to repeat their dangerous lending in the future?

We've looked at four topics and asked many questions that illustrate the potential conflict between the pursuit of self-interest and the social interest. We've asked questions but not answered them because we've not yet explained the economic principles needed to do so. We will answer these questions in future chapters.

REVIEW QUIZ

1. Describe the broad facts about *what, how*, and *for whom* goods and services are produced.
2. Use headlines from the recent news to illustrate the potential for conflict between self-interest and the social interest.

Work these questions in Study Plan 1.2 and get instant feedback. Do a Key Terms Quiz. MyEconLab

AT ISSUE

The Protest Against Market Capitalism

Market capitalism is an economic system in which individuals own land and capital and are free to buy and sell land, capital, and goods and services in markets. Markets for goods and services, along with markets for land and capital, coordinate billions of self-interested choices, which determine what, how, and for whom goods and services are produced. A few people earn enormous incomes, many times the average income. There is no supreme planner guiding the use of scarce resources and the outcome is unintended and unforeseeable.

Centrally planned socialism is an economic system in which the government owns all the land and capital, directs workers to jobs, and decides what, how, and for whom to produce. The Soviet Union, several Eastern European countries, and China have used this system in the past but have now abandoned it. Only Cuba and North Korea use this system today. A few bureaucrats in positions of great power receive huge incomes, many times that of an average person.

Our economy today is a **mixed economy**, which is market capitalism with government regulation.

The Protest

The protest against market capitalism takes many forms. Historically, **Karl Marx** and other communist and socialist thinkers wanted to replace it with *socialism* and *central planning*. Today, thousands of people who feel let down by the economic system want less market capitalism and more government regulation. The **Occupy Wall Street** movement, with its focus on the large incomes of the top 1 percent, is a visible example of today's protest. Protesters say:

- Big corporations (especially big banks) have too much power and influence on governments.
- Democratically elected governments can do a better job of allocating resources and distributing income than uncoordinated markets.
- More regulation in the social interest is needed—to serve "human need, not corporate greed."
- In a market, for every winner, there is a loser.
- Big corporations are the winners. Workers and unemployed people are the losers.

An Occupy Wall Street protester

The Economist's Response

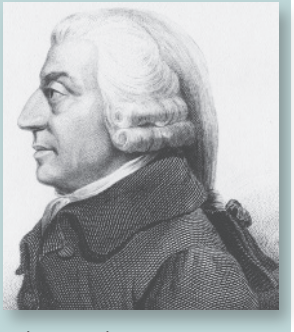
Economists agree that market capitalism isn't perfect. But they argue that it is the best system available and while some government intervention and regulation can help, government attempts to serve the social interest often end up harming it.

Adam Smith (see p. 53), who gave the first systematic account of how market capitalism works, says:

- The self-interest of big corporations is *maximum profit*.
- But an *invisible hand* leads production decisions made in pursuit of self-interest to *unintentionally* promote the social interest.
- Politicians are ill-equipped to regulate corporations or to intervene in markets, and those who think they can improve on the market outcome are most likely wrong.
- In a market, buyers get what they want for less than they would be willing to pay and sellers earn a profit. Both buyers and sellers gain. A market transaction is a "win-win" event.

"It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest."

The Wealth of Nations, 1776



Adam Smith

The Economic Way of Thinking

The questions that economics tries to answer tell us about the *scope of economics,* but they don't tell us how economists *think* and go about seeking answers to these questions. You're now going to see how economists go about their work.

We're going to look at six key ideas that define the *economic way of thinking*. These ideas are

- A choice is a *tradeoff.*
- People make *rational choices* by comparing *benefits* and *costs.*
- *Benefit* is what you gain from something.
- *Cost* is what you *must give up* to get something.
- Most choices are "*how-much*" choices made at the *margin.*
- Choices respond to *incentives.*

A Choice Is a Tradeoff

Because we face scarcity, we must make choices. And when we make a choice, we select from the available alternatives. For example, you can spend Saturday night studying for your next economics test or having fun with your friends, but you can't do both of these activities at the same time. You must choose how much time to devote to each. Whatever choice you make, you could have chosen something else.

You can think about your choices as tradeoffs. A **tradeoff** is an exchange—giving up one thing to get something else. When you choose how to spend your Saturday night, you face a tradeoff between studying and hanging out with your friends.

Making a Rational Choice

Economists view the choices that people make as rational. A **rational choice** is one that compares costs and benefits and achieves the greatest benefit over cost for the person making the choice.

Only the wants of the person making a choice are relevant to determine its rationality. For example, you might like your coffee black and strong but your friend prefers his milky and sweet. So it is rational for you to choose espresso and for your friend to choose cappuccino.

The idea of rational choice provides an answer to the first question: *What* goods and services will be produced and in what quantities? The answer is those that people rationally choose to buy!

But how do people choose rationally? Why do more people choose an iPad rather than a Microsoft Surface? Why has the U.S. government chosen to build an interstate highway system and not an interstate high-speed railroad system? The answers turn on comparing benefits and costs.

Benefit: What You Gain

The **benefit** of something is the gain or pleasure that it brings and is determined by **preferences**—by what a person likes and dislikes and the intensity of those feelings. If you get a huge kick out of "League of Legends," that video game brings you a large benefit. If you have little interest in listening to Yo-Yo Ma playing a Vivaldi cello concerto, that activity brings you a small benefit.

Some benefits are large and easy to identify, such as the benefit that you get from being in school. A big piece of that benefit is the goods and services that you will be able to enjoy with the boost to your earning power when you graduate. Some benefits are small, such as the benefit you get from a slice of pizza.

Economists measure benefit as the most that a person is *willing to give up* to get something. You are willing to give up a lot to be in school. But you would give up only an iTunes download for a slice of pizza.

Cost: What You *Must* Give Up

The **opportunity cost** of something is the highest-valued alternative that must be given up to get it.

To make the idea of opportunity cost concrete, think about *your* opportunity cost of being in school. It has two components: the things you can't afford to buy and the things you can't do with your time.

Start with the things you can't afford to buy. You've spent all your income on tuition, residence fees, books, and a laptop. If you weren't in school, you would have spent this money on tickets to ball games and movies and all the other things that you enjoy. But that's only the start of your opportunity cost. You've also given up the opportunity to get a job. Suppose that the best job you could get if you weren't in school is working at Citibank as a teller earning $25,000 a year. Another part of your opportunity cost of being in school is all the things that you could buy with the extra $25,000 you would have.