

# MACROECONOMICS

**SIXTH EDITION**



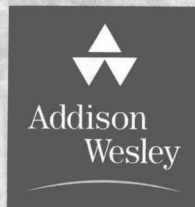
# PARKIN

# MACROECONOMICS

MICHAEL PARKIN

*University of Western Ontario*

**SIXTH EDITION**



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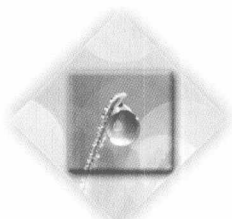
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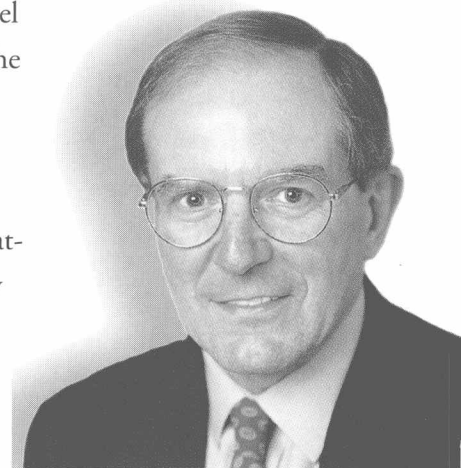
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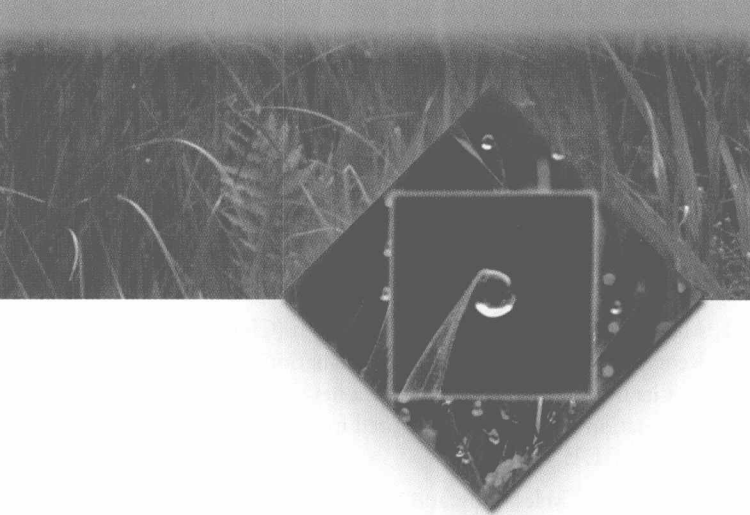
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## ABOUT MICHAEL PARKIN

**MICHAEL PARKIN** received his training as an economist at the Universities of Leicester and Essex in England. Currently 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.





## PREFACE

This book presents economics as a serious, lively, and evolving science. Its goal is to open students' eyes to the "economic way of thinking" and to help them gain insights into how the economy works and how it might be made to work better. ♦ I provide a thorough and complete coverage of the subject, using a straightforward, precise, and clear writing style. ♦ I am conscious that many students find economics hard, so I place the student at center stage and write for the student. I use language that doesn't intimidate and that allows the student to concentrate on the substance. ♦ I open each chapter with a clear statement of learning objectives, a real-world student-friendly vignette to grab attention, and a brief preview. I illustrate principles with examples that are selected to hold the student's interest and to make the subject lively. And I put principles to work by using them to illuminate current real-world problems and issues. ♦ I present some new ideas, such as dynamic comparative advantage, game theory, the modern theory of the firm, public choice theory, rational expectations, new growth theory, and real business cycle theory. But I explain these topics with familiar core ideas and tools. ♦ Today's course springs from today's issues—the information revolution, energy deregulation, the 2001 recession, the stock market bubble, and the expansion of global trade and investment. But the principles that we use to understand these issues remain the core principles of our science. ♦ Governments and international agencies place continued emphasis on long-term fundamentals as they seek to promote economic growth. This book reflects this emphasis. ♦ To help promote a rich, active learning experience, I have developed a comprehensive online learning environment featuring a dynamic e-book, interactive tutorials and quizzes, daily news updates, and more.

## The Sixth Edition Revision

*MACROECONOMICS*, SIXTH EDITION, RETAINS ALL of the improvements achieved in its predecessor with its thorough and detailed presentation of modern economics, emphasis on real-world examples and critical thinking skills, diagrams renowned for pedagogy and precision, and path-breaking technology.

New to this edition are

- Rewritten introductory chapter
- All-new chapter on stock markets
- Revised and updated macroeconomics content
- Web-based current policy topics
- Expanded Web-based *Economics in Action*

### Rewritten Introductory Chapter

Chapter 1 has been completely rewritten to emphasize the central role of tradeoffs in economics, setting the tone for the rest of the book.

### All-New Chapter 19 on Global Stock Markets

This exciting addition provides a valuable framework for addressing your students' questions about how the stock market works. *What is a stock? What determines stock prices? Why are stock prices volatile? Why is it rational to diversify? How does the stock market influence the economy, and vice-versa?*

## Revised and Updated Macroeconomics Content

The five major revisions in the macroeconomics chapters are

1. Measuring GDP and Economic Growth (Chapter 4): Reorganized and more focused explanation of GDP and its measurement, along with a new and simplified explanation of the chain-weighted method of calculating real GDP.
2. Monitoring Cycles, Jobs, and the Price Level (Chapter 5): A much reorganized chapter that describes how the NBER defines recession, how the BLS measures the labor market, and how the Census Bureau measures the CPI. The chapter also explains the significance and interpretation of data on the labor market and price level.
3. Economic Growth (Chapter 9): A simplified and mainstreamed explanation and illustration of the classical, neoclassical, and new theories of economic growth.
4. Macroeconomic Policy Challenges (Chapter 16): Explanation of the Taylor rule and comparison of Fed interest rate decisions with such a rule.
5. Thorough and extensive updating to reflect the U.S. economy and the global economy of 2001 and 2002, including events such as the 2001 recession and the response to the September 11 attacks.

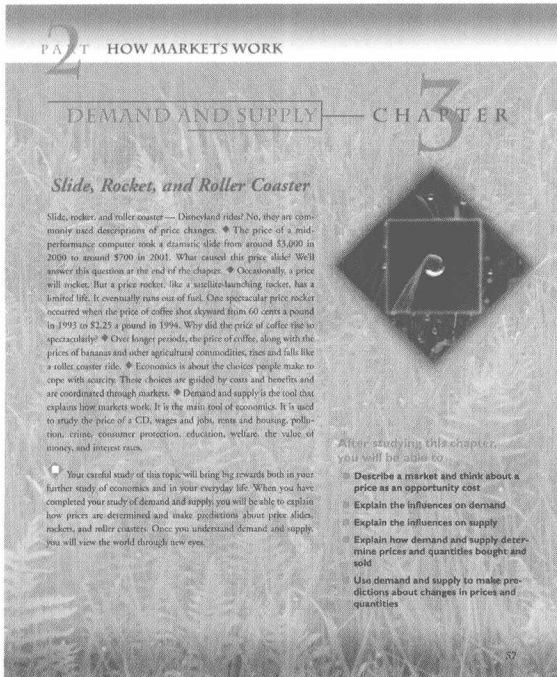
### Web-Based Current Policy Topics

To achieve the most up-to-date coverage possible on current policy issues, *The Economics Place* Web site features short modules on notable policy developments, such as the 2002 Tax Act (stimulus package), which relates to Chapter 11 on Fiscal Policy. Other topics will be added as new developments occur.

## Expanded Web-Based *Economics in Action*

Parkin's market-leading interactive tutorial software program may now be accessed on the Web. This Java-based learning tool has been expanded to cover each and every chapter in the textbook.

*Economics in Action* is a powerful and wide-ranging program. Each *Fast Track* summary gives students a quick review of the topic at hand, while the *Demo* feature provides a more detailed lesson on graph movements. In *Action*, students may manipulate figures from the textbook by changing the conditions that lie behind them and observing how the economy responds to events. Quizzes that use five question types (fill-in-the-blank, true-or-false, multiple-choice, numeric, and complete-the-graph) can be worked with or without detailed feedback.



## Features to Enhance Teaching and Learning

— HERE I DESCRIBE THE CHAPTER FEATURES THAT are designed to enhance the learning process. Each chapter contains the following learning aids.

### Chapter Opener

Each chapter opens with a one-page student-friendly, attention-grabbing vignette. The vignette raises questions that both motivate the student and focus the chapter. The Sixth Edition now carries this story into the main body of the chapter, and relates it to the chapter-ending *Reading Between the Lines* feature.

### Chapter Objectives

A list of learning objectives enables students to see exactly where the chapter is going and to set their goals before they begin the chapter. I link these goals directly to the chapter's major headings.

### After studying this chapter, you will be able to

- Describe a market and think about a price as an opportunity cost
- Explain the influences on demand
- Explain the influences on supply
- Explain how demand and supply determine prices and quantities bought and sold
- Use demand and supply to make predictions about changes in prices and quantities

## In-Text Review Quizzes

A review quiz at end of most major sections enables students to determine whether a topic needs further study before moving on.

### REVIEW QUIZ

- 1 What is scarcity?
- 2 Give some examples of scarcity in today's world.
- 3 Define economics.
- 4 Use the headlines in today's news to illustrate the distinction between microeconomics and macroeconomics.

## Key Terms

Highlighted terms within the text simplify the student's task of learning the vocabulary of economics. Each highlighted term appears in an end-of-chapter list with page numbers, in an end-of-book glossary, boldfaced in the index, in the *Economics in Action* software, and on the Parkin Web site.

**Land** is the gifts of nature that we use to produce goods and services. It includes the air, the water, and the surface as well as the minerals beneath the surface of the earth.

**Capital** is the goods that are produced and that we can now use to produce other goods and services. It includes interstate highways, bridges, dams, and power plants.

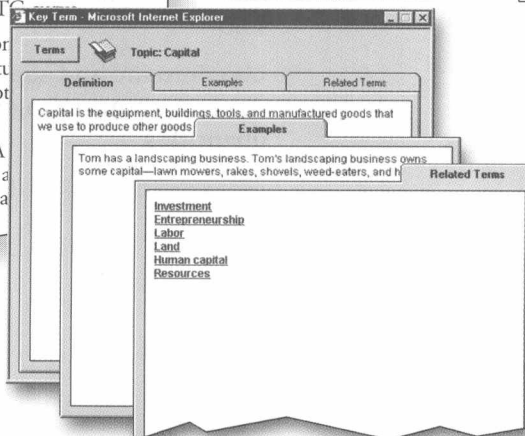
**Capacity output** The output at which average total cost is a minimum—the output at the bottom of the U-shaped ATC curve.

**Capital** The equipment, tools, and manufactured goods that we use to produce other goods and services.

**Capital account** A record of foreign investment in a country and its investment abroad.

### KEY TERMS

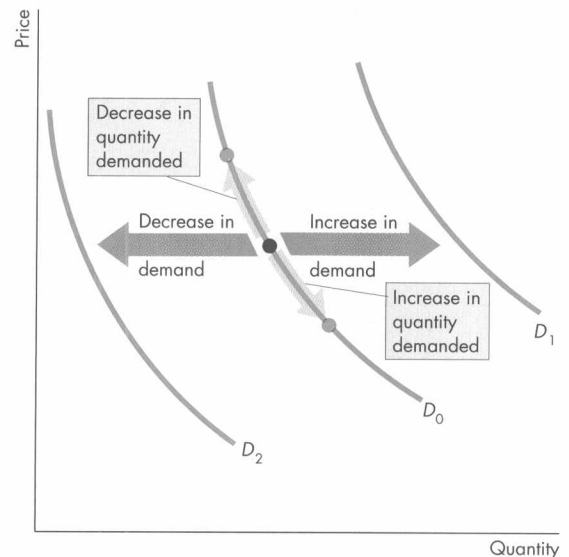
- Absolute advantage, 47
- Capital, 36
- Capital accumulation, 43
- Comparative advantage, 45
- Dynamic comparative advantage, 47
- growth, 43



## Diagrams That Show the Action

This book has set new standards of clarity in its diagrams. My goal has always been 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. But many students find graphs hard to work with. For this reason, I have developed the entire art program with the study and review needs of the student in mind. The diagrams feature:

- 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.





## Reading Between the Lines

Each chapter ends with an economic analysis of a significant news article from the popular press together with a thorough economic analysis of the issues raised in the article. The Sixth Edition features all new *Reading Between the Lines* articles. I have chosen each article so that it sheds additional light on the questions first raised in the Chapter Opener.

Special “You’re the Voter” sections in selected chapters invite students to analyze typical campaign topics and to probe their own stances on key public policy issues. Critical Thinking Questions about the article appear with the end-of-chapter questions and problems.

**READING BETWEEN THE LINES**

*Efficiency and Equity in the Market for Drugs*

CNN, October 23, 2008

**U.S. Set on Getting Cipro for Under \$1 a Pill**

The federal government is helping to buy Cipro, the antibiotic used often to combat anthrax, at less than \$1 a pill. Health and Human Services Secretary HHS says...

The highest cost of Cipro, the Gen 325, went for 87¢ a pill. HHS says it will pay 40¢.

**Varyi**  
The HHS says it will pay 40¢ for Cipro. HHS says it will pay 40¢ for Cipro. HHS says it will pay 40¢ for Cipro.

**POLICY WATCH**

**Essence of the Stories**

1. Report holds the patent on Cipro, a drug used to treat anthrax, through 2014.

2. Figure 1 illustrates the market for Cipro before the auction sale of 2008. The demand curve was  $D_1$ , and the marginal cost curve was  $MC$ . If it is an assumption that  $MC$  is constant at 40¢ a pill, the government...

3. Private buyers took a small quantity of Cipro at \$4.50 a pill, and the government bought the rest at \$1.87 a pill. The total quantity bought was 22 million pills a month.

4. Because there were two prices, the two green triangles show consumer surplus — the amount that consumers are willing to pay minus the amount they do pay. The blue area shows producer surplus.

5. Figure 2 illustrates the market for Cipro after the auction sale of 2008. Demand increased, and the demand curve became  $D_2$ . Marginal cost,  $MC$ , remained an assumption at 40¢ a pill.

**Figure 1** Before the auction sale

**Figure 2** After the auction sale

118 CHAPTER 5 EFFICIENCY AND EQUITY

**SUMMARY**

**KEY POINTS**

Efficiency: A Refresher (pp. 102–103)

- The marginal benefit received from a good or service — the benefit of consuming one additional unit — is the value of the good or service to its consumers.
- In a competitive equilibrium, marginal benefit equals marginal cost and resource allocation is efficient.
- Monopolistically competitive production creates dead-weight loss.
- A competitive market provides too small a quantity of public goods because of the free-rider problem.

**PROBLEMS**

1. The figure shows the market for floppy discs.

2. The figure illustrates the market for floppy discs bought.

3. The table gives the demand and supply schedules for sandwiches.

Price (dollars per sandwich)	Quantity demanded (sandwiches per hour)	Quantity supplied (sandwiches per hour)
0	400	0
1	350	50
2	300	100
3	250	150
4	200	200

4. If the market for consumer is efficient, what is the producer surplus?

5. If sunscreen buyers purchase 300 bottles a day, what is the deadweight loss?

6. The table gives the demand schedules for train travel for Ben, Beth, and Bo.

Price (cents per passenger mile)	Quantity demanded (passenger miles)		
	Ben	Beth	Bo
10	500	300	60
20	450	250	50
30	400	200	40
40	350	150	30
50	300	100	20
60	250	50	10
70	200	0	0

7. If the price of train travel is 40 cents a passenger mile, what is the consumer surplus of each traveler?

8. Which traveler has the largest consumer surplus? Explain why.

9. If the price rises to 50 cents a passenger mile, what is the change in consumer surplus of each traveler?

10. The table gives the demand schedules for airline travel for Ann, Arthur, and Abby.

Price (dollars per passenger mile)	Quantity demanded (passenger miles)		
	Ann	Arthur	Abby
16.00	500	600	300
12.50	450	500	250
15.00	400	400	200
17.50	350	300	150
20.00	300	200	100
22.50	250	100	50
25.00	200	0	0

11. If the price is \$20 a passenger mile, what is the consumer surplus of each traveler?

12. Which consumer has the largest consumer surplus? Explain why.

## End-of-Chapter Study Material

Each chapter closes with a concise summary organized by major topics, lists of key terms (all with page references), problems, and critical thinking questions. In the Sixth Edition, I have added a new set of Web Exercises to the end of each chapter. In addition, I have replaced most of the even-numbered problems throughout the entire text.

The end-of-chapter problems are organized in pairs. The solution to the odd-numbered problem in each pair may be found at the end of the text; the parallel even-numbered problem is left for students to solve on their own. This arrangement offers help to students and flexibility to instructors who want to assign problems for credit.

## For the Instructor

THIS BOOK ENABLES YOU TO ACHIEVE THREE objectives in your principles course:

- Focus on the economic way of thinking.
- Explain the issues and problems of our time.
- Choose your own course structure.

### Focus on the Economic Way of Thinking

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; and the effects of government actions on the economy.

### Explain the Issues and Problems of Our Time

Students must use the central ideas and tools if they are to begin to understand them. There is no better way to motivate students than by using the tools of economics to explain the issues that confront them in today's world. These issues include the 2001 recession and what lies beyond, environment, immigration, widening income gaps, energy deregulation, budget deficits or surpluses, restraining inflation, understanding the stock market, avoiding protectionism, and the long-term growth of output and incomes.

## Choose Your Own Course Structure

You want to teach your own course. I have organized this book to enable you to do so. I demonstrate the book's flexibility in the flexibility chart and alternative sequences table that appear on pp. xxii–xxiii. You can use this book to teach a traditional course that blends theory and policy or a current policy issues course. Your micro course can emphasize theory or policy. You can structure your macro course to emphasize long-term growth and supply-side fundamentals. Or you can follow a traditional macro sequence and emphasize short-term fluctuations. The choices are yours.

The image shows two tables from the preface. The top table is the 'Flexibility Chart' and the bottom table is 'Four Alternative Sequences'.

**Flexibility Chart:** This chart shows the organization of the book into three categories: Core, Policy, and Optional. The Core section includes chapters 1 through 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, and 34. The Policy section includes chapters 11, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, and 34. The Optional section includes chapters 11, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, and 34. A note indicates that chapters 23, 24, and 34 may be delayed or omitted after any or all of chapters 25 through 31.

**Four Alternative Sequences:** This table provides four alternative sequences for the course. The sequences are: Traditional Theory and Policy Mix, Challenging Theory Emphasis, Public Choice Emphasis, and Policy Emphasis. Each sequence lists the chapters in a specific order, with some chapters being optional or delayed.

### Instructor's Manual

The Instructor's Manual, written by me, Michael Stroup of Stephen F. Austin State University, and James Cobbe of Florida State University, integrates the teaching and learning package and is a guide to all the supplements. Each chapter contains a chapter outline, what's new in the Sixth Edition, teaching suggestions, a look at where we have been and where we are going, lists of available overhead transparencies, descriptions of the electronic supplements, additional discussion questions, answers to the Review Quizzes, solutions to end-of-chapter problems, additional problems, and solutions to the additional problems. The chapter outline and teaching suggestions sections are keyed to the PowerPoint lecture notes.

### Three Test Banks

Three separate Test Banks, with nearly 13,000 questions, provide multiple-choice, true-false, numerical, fill-in-the-blank, short-answer, and essay questions. Mark Rush of the University of Florida reviewed and edited all existing questions to ensure their clarity and consistency with the Sixth Edition and incorporated over 2,000 new questions written by Della Lee Sue of Marist College, Carol Dole of the State University of West Georgia, Ed Price of Oklahoma State University, John Graham of Rutgers University, and Sang Lee of Southeastern Louisiana University.

### PowerPoint Resources

Robin Bade and I have developed a full-color Microsoft PowerPoint Lecture Presentation for each chapter that includes all the figures from the text, animated graphs, and speaking notes. The slide outlines are based on the chapter outlines in the Instructor's Manual, and the

speaking notes are based on the Instructor's Manual teaching suggestions. The presentations can be used electronically in the classroom or can be printed to create hard-copy transparency masters. This item is available for Macintosh and Windows.

### Overhead Transparencies

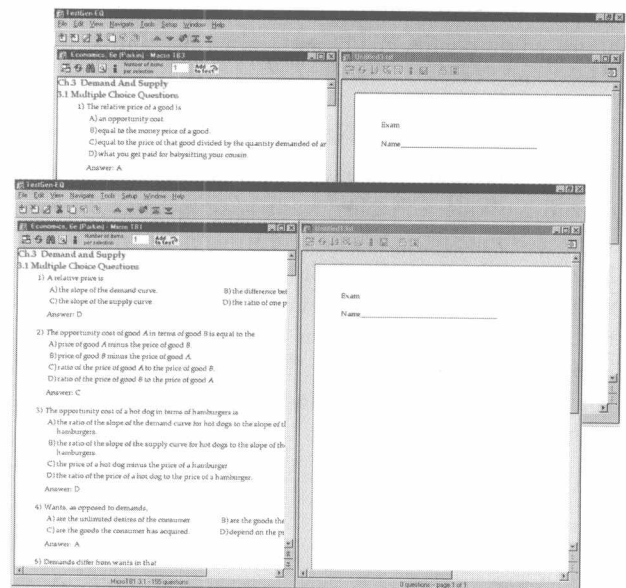
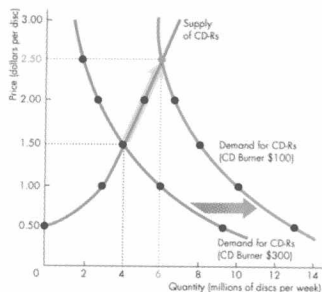
Full-color transparencies of over 200 figures from the text will improve the clarity of your lectures. They are available to qualified adopters of the text (contact your Addison-Wesley sales representative).

### Instructor's CD-ROM with Computerized Test Banks

This CD-ROM contains Computerized Test Bank files, Test Bank and Instructor's Manual files in Microsoft Word, and PowerPoint files. All three test banks are available in Test Generator Software (TestGen-EQ with QuizMaster-EQ). Fully networkable, it is available for Windows and Macintosh. TestGen-EQ's new graphical interface enables instructors to view, edit, and add questions; transfer questions to tests; and print different forms of tests. Tests can be formatted with varying fonts and styles, margins, and headers and footers, as in any word-processing document. Search and sort features let the instructor quickly locate questions and arrange them in a preferred order. QuizMaster-EQ, working with your school's computer network, automatically grades the exams, stores the results on disk, and allows the instructor to view or print a variety of reports.

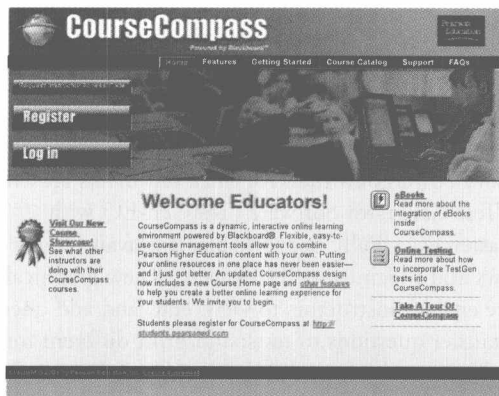
#### Predicting Changes in Price and Quantity

**A Change in Demand**  
When demand increases, the demand curve shifts rightward. The price rises, which brings an increase in the quantity supplied and a movement along the supply curve.



## CourseCompass

A dynamic, interactive online learning environment powered by Blackboard, CourseCompass provides flexible tools and rich content resources that enable instructors to easily and effectively customize online course materials to suit their needs. Now instructors can track and analyze student performance on an array of Internet activities. Please contact your Addison-Wesley representative for more details.



## Economics in Action Software

Instructors can use *Economics in Action* interactive software in the classroom. Its many analytical graphs can be used as “electronic transparencies” for live graph manipulation in lectures. Its real-world data sets and graphing utility bring animated time-series graphs and scatter diagrams to the classroom.

## The Parkin Web Site

The Sixth Edition of the textbook continues the tradition of path-breaking technology with *The Economics Place* at [www.economicplace.com](http://www.economicplace.com). The instructor side of *The Economics Place* includes all of the same resources as the student side, but with the addition of PowerPoint lecture notes, easy access to Instructor’s Manual files, and an online “Consult the Author” feature: Ask your questions and make your suggestions via e-mail, and I will answer you within 24 hours.

## For the Student

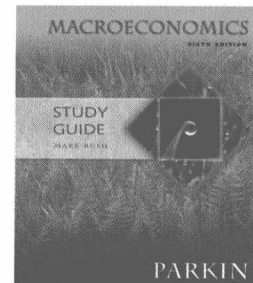
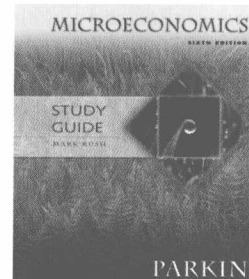
### Study Guide

The Sixth Edition Study Guide by Mark Rush of the University of Florida is carefully coordinated with the main text and the Test Banks. For the first time, each copy of the textbook comes bundled with a CD-ROM containing a color, electronic version of the Study Guide. Print copies are also available as an option.

Each chapter of the Study Guide contains:

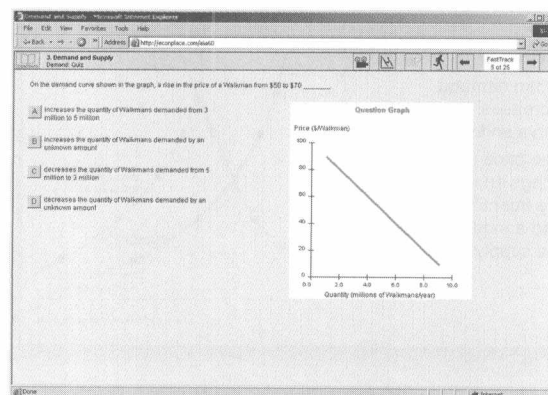
- Key concepts
- Helpful hints
- True/false/uncertain questions that ask students to explain their answers
- Multiple-choice questions
- Short-answer questions
- Common questions or misconceptions that the student explains as if he or she were the teacher

Each part allows students to test their cumulative understanding with sample midterm tests.



## Economics in Action Interactive Software

With *Economics in Action* Release 6.0, which is now available on the Web, students will have fun working the tutorials, answering questions that give instant explanations, and testing themselves ahead of their midterm tests. One

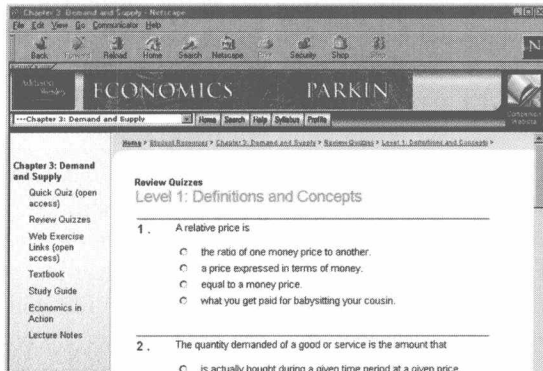


of my students told me that using EIA is like having a private professor in your dorm room! New modules now cover each and every chapter in the text.

### The Parkin Web Site

*The Economics Place* is the market-leading Web site for Parkin. On the Web site, students will find:

- The textbook—the *entire textbook in Adobe Acrobat and PDF* with hyperlinks and animated figures with step-by-step audio explanations.
- *Economics in Action*—tutorials, quizzes, and graph tools that with a click of the mouse make curves shift and graphs come to life
- The Study Guide—the entire Study Guide, free, online
- Economics in the News updated daily during the school year
- Online “Office Hours”: Ask your question via e-mail, and I will answer within 24 hours!
- Economic links—links to sites that keep you up-to-date with what’s going on in the economy and that enable you to work end-of-chapter Web-based exercises



The power of *The Economics Place* lies not just in the breadth and depth of learning tools available, but also in the way that we have linked the tools together. For example, suppose that a student logs onto *The Economics Place* to take a multiple-choice quiz. When the quiz is submitted for a grade, the student receives a scorecard with an explanation of why answers are correct or incorrect *and a hyperlink to the part of the e-book that the student should read to better understand the concept*. The student is thus able to navigate easily through the site and to maximize the payoff from her or his study efforts.

### Economist.com Edition

The premier online source of economic news analysis, Economist.com provides your students with insight and opinion on current economic events. Through an agreement between Addison-Wesley and *The Economist*, your students can receive a low-cost subscription to this premium Web site for 12 weeks, including the complete text of the current issue of *The Economist* and access to *The Economist's* searchable archives. Other features include Web-only weekly articles, news feeds with current world and business news, and stock market and currency data. Professors who adopt this special edition will receive a complimentary one-year subscription.

### The Wall Street Journal Edition

Addison-Wesley is also pleased to provide your students with access to *The Wall Street Journal*, the most respected and trusted daily source for information on business and economics. For a small additional charge, Addison-Wesley offers your students a 10-week subscription to *The Wall Street Journal* and WSJ.com. Adopting professors will receive a complimentary one-year subscription to *The Wall Street Journal* as well as access to WSJ.com.

### Financial Times Edition

Featuring international news and analysis from FT journalists in more than 50 countries, the *Financial Times* will provide your students with insights and perspectives on economic developments around the world. The *Financial Times Edition* provides your students with a 15-week subscription to one of the world's leading business publications. Adopting professors will receive a complimentary one-year subscription to the *Financial Times* as well as access to FT.com.

### The Econ Tutor Center

Staffed by qualified, experienced college economics instructors, the Econ Tutor Center is open five days a week, seven hours a day. Tutors can be reached by phone, fax, e-mail or White Board technology. The Econ Tutor Center hours are designed to meet your students' study schedules, with evening hours Sunday through Thursday. Students receive one-on-one tutoring on examples, related exercises, and problems. Please contact your Addison-Wesley representative for information on how to make this service available to your students.

## Acknowledgments

I THANK MY CURRENT AND FORMER COLLEAGUES and friends at the University of Western Ontario who have taught me so much. They are Jim Davies, Jeremy Greenwood, Ig Horstmann, Peter Howitt, Greg Huffman, David Laidler, Phil Reny, Chris Robinson, John Whalley, and Ron Wonnacott. I also thank Doug McTaggart and Christopher Findlay, co-authors of the Australian edition, and Melanie Powell and Kent Matthews, co-authors of the European edition. Suggestions arising from their adaptations of earlier editions have been helpful to me in preparing this edition.

I thank the several thousand students whom I have been privileged to teach. The instant response that comes from the look of puzzlement or enlightenment has taught me how to teach economics.

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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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