

Fifth Edition

Macroeconomics

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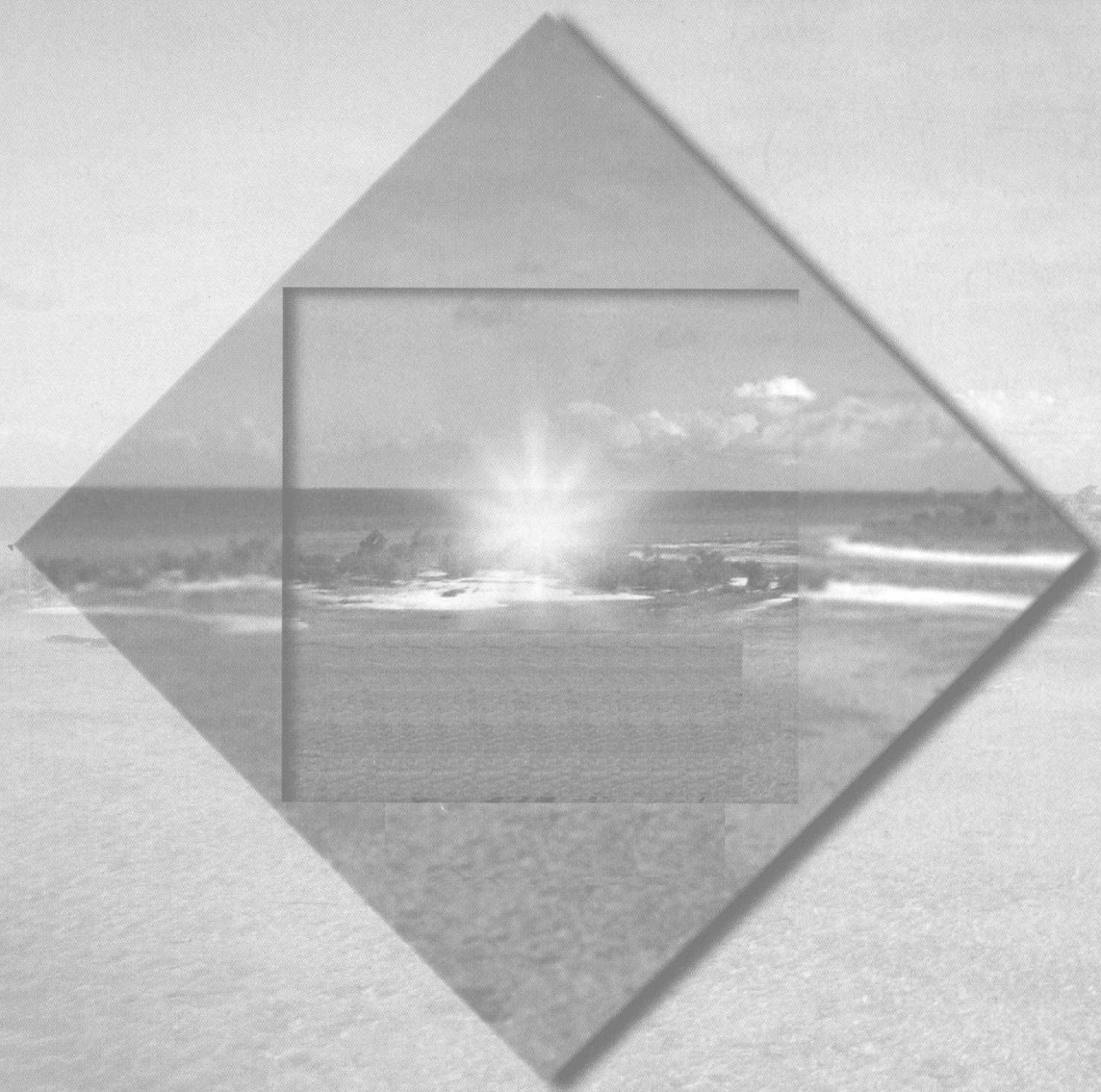
MICHAEL PARKIN

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Macroeconomics

MICHAEL PARKIN

University of Western Ontario



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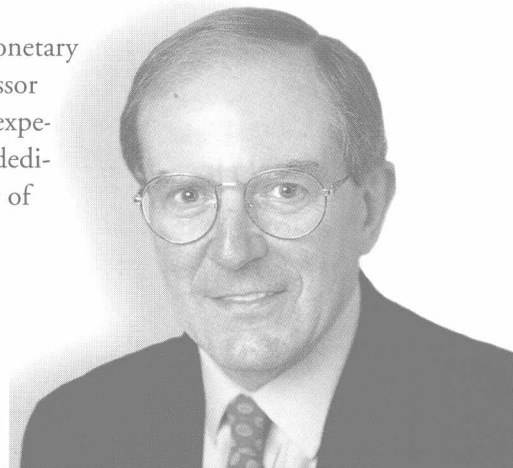
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To Robin

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 help the student to develop the “economic way of thinking” and to gain insights into how the economy works and how it might be made to work better. ♦ My goal is to make economics as accessible as possible yet to provide a thorough and complete coverage of the subject, not a slimmed-down or oversimplified selection. ♦ I am conscious that many students find economics hard, so I place the student at center stage and write for the

student. I use a style and language that don’t intimidate and that allow 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, the East Asian recession, 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 renewed emphasis on long-term fundamentals as they seek to sustain economic growth. This book reflects this emphasis. ♦ To enable students to access the latest information on the national and global economy, I have developed a companion Web site. And to provide active learning opportunities, I have developed the tutorials and quizzes on the accompanying *Economics in Action* CD.

The Fifth Edition Revision

Economics, FIFTH EDITION, RETAINS ALL THE improvements achieved in its predecessor with its emphasis on core principles, coverage of recent economic developments, brief yet accessible explanations, and strong pedagogy. New to this edition are:

- Revised and updated macro content
- In-text review quizzes
- Parallel end-of-chapter problems
- Part wrap-ups

Revised and Updated Macro Content

The four major revisions in the macro chapters are:

1. Measuring Employment and Unemployment (Chapter 24): A new chapter (based on Chapter 25 of the Fourth Edition) that covers the measurement issues in the labor market.
2. The Economy at Full Employment (Chapter 26): A new chapter that begins to build the story of the aggregate supply side of the economy and that explains how changes in population, capital, and technology change potential GDP, employment, and the real wage rate. This chapter provides the foundation for the theory of aggregate supply and is the jumping-off point for two subsequent chapters on capital accumulation and economic growth.
3. Inflation (Chapter 33): An improved explanation and international illustration of the links between inflation and interest rates.
4. Thorough and extensive updating to reflect the U.S. economy and the global economy of 1998 and 1999, including events such as the evolution of the federal budget from deficit to surplus, the

ongoing spectacular performance of the U.S. economy, recession in Asia, and turmoil in global financial markets.

In-Text Review Quizzes

I have replaced the in-text Reviews of the previous editions with Review Quizzes. These brief quizzes invite students to revisit the material they have just studied with a set of questions in mind. I hope that these quizzes will encourage a more critical and thoughtful rereading of any material that proves difficult for the student. The *Instructor's Manual* provides the answers.

Parallel End-of-Chapter Problems

I have reworked the end-of-chapter problems and created pairs of parallel problems. Robin Bade and I have provided the solutions to the odd-numbered problems at the end of the text, and these solutions together with those to the even-numbered problems provided by Melinda Nish appear in the *Instructor's Manual*. This arrangement provides help to students and flexibility to instructors who want to assign problems for credit.

Part Wrap-Ups

A new feature at the *end* of each part:

- Explains how the chapters relate to each other and fit into the larger picture.
- Provides a biographical sketch of the economist who developed the central idea of that part, and places the original contribution in its historical context.
- Presents an interview with a leading contemporary economist.

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 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.

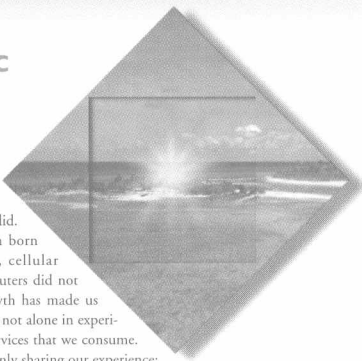
Chapter Opener

A one-page student-friendly, attention-grabbing vignette raises questions that both motivate and focus the chapter.

3

Chapter

The Economic Problem



We live in a style that surprises our grandparents and would have astonished our great-grandparents. Most of us live in more spacious homes than they did. We eat more, grow taller, and are even born larger than they were. Video games, cellular phones, gene splices, and personal computers did not exist even 20 years ago. Economic growth has made us richer than our grandparents. And we are not alone in experiencing an expansion in the goods and services that we consume. Many nations around the world are not only sharing our experience: They are setting the pace. Before the recent Asia crisis, Hong Kong, Taiwan, Singapore, Korea, and China expanded at unheard-of rates. But economic growth does not liberate us from scarcity. Why not? Why, despite our immense wealth, must we still make choices and face costs? Why are there no "free lunches"? ♦ We see an incredible amount of specialization and trade in the world. Each one of us specializes in a particular job—as a lawyer, a car maker, a home maker. We have become so specialized that one farm worker can feed 100 people. Less than one sixth of the U.S. work force is employed in manufacturing. More than half of the work force is employed in wholesale and retail trade, banking and finance, government, and other services. Why do we specialize? How do we benefit from specialization and trade? ♦ Over many centuries, institutions and social arrangements have evolved that we take for granted. One of them is property rights and the political and legal system that protects them. Another is markets. Why have these social arrangements evolved? How do they increase production?

♦ These are the questions that we study in this chapter. We begin with the core economic problem: scarcity and choice and the concept of the production possibility frontier. We then learn about the central idea of economics—efficiency. We also discover how we can expand production by accumulating capital and by specializing and trading. ♦ What you will learn in this chapter is the foundation on which all economics is built. You will receive big dividends from a careful study of this material.

Making the Most of It

After studying this chapter, you will be able to:

- Explain the fundamental economic problem
- Define the production possibility frontier
- Define and calculate opportunity cost
- Explain the conditions in which resources are used efficiently
- Explain how economic growth expands production possibilities
- Explain how specialization and trade expand production possibilities

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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.

R E V I E W Q U I Z

- What is scarcity?
- What is the fundamental economic problem?
- Can you provide a definition of economics?
- What are the resources that can be used to produce goods and services?
- How do we cope with the fact that our wants cannot be satisfied with the available resources?

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, 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 on the surface as well as the water beneath the surface of the earth.

Capital is the goods produced and that we use to produce other goods and services. It includes interstate highways and power projects.

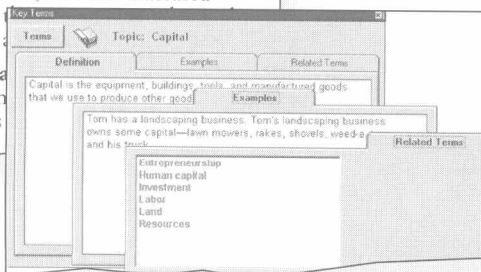
Capacity output The output at which average total cost is a minimum—the output at the bottom of the U-shaped ATC curve.

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

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

KEY TERMS

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



Key Figures and Tables

An icon identifies the most important figures and tables, and the end-of-chapter summary lists them. Instructor's overhead transparencies also contain enlarged and simplified images of most of these key figures.

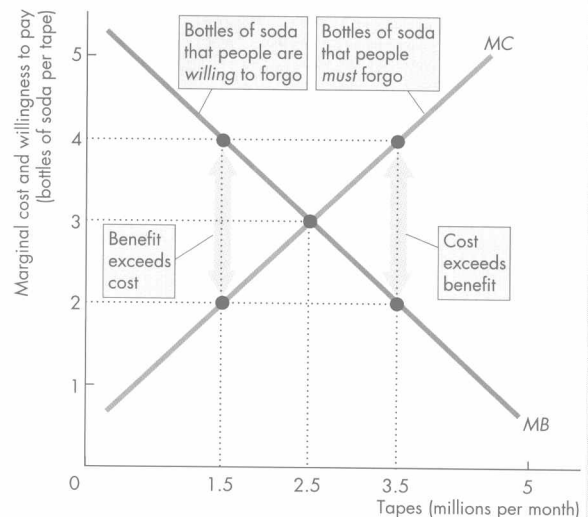
TABLE 10.3

Efficient Use of Resources

Method	Labor	Capital
a Robot production	1	1,000
b Production line	10	10
c Bench production	100	1
d Hand tool production	1000	1

FIGURE 3.4

Efficient Use of Resources

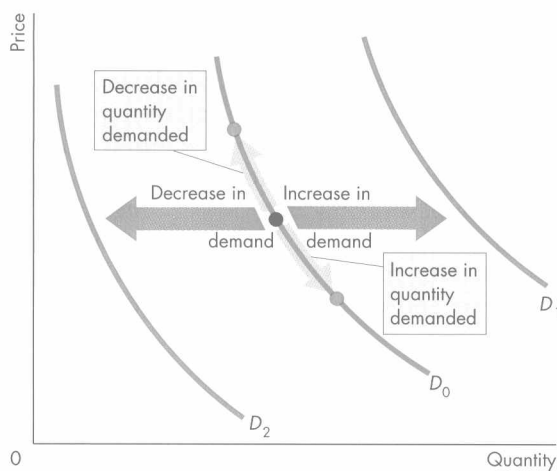


The greater the quantity of tapes produced, the smaller is the marginal benefit (MB) from a tape—the fewer bottles of soda people are willing to give up to get an additional tape. But the greater the quantity of tapes produced, the greater is the marginal cost (MC) of a tape—the more bottles of soda people must give up to get an additional tape. When marginal benefit equals marginal cost, resources are being used efficiently.

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 important 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 contains an economic analysis of a significant news article from the popular press together with a set of critical thinking questions that relate to the issues raised in the article.

Reading
Between
the Lines

POLICY WATCH

Opportunity Cost: The Cost and Benefit of Education

PORTLAND PRESS HERALD, Mar 2, 1996

High Cost Blocks Education

Robin McAlister of South Portland has fallen into a disheartening routine: sit down at the kitchen table, scan the classifieds, apply for a job, get turned down. ... Like thousands of other Mainers, McAlister has learned a fundamental truth: People who don't have the skills needed in today's high-tech, highly competitive environment rarely find good jobs. ... Although a college degree doesn't guarantee a job, the economy is creating work for highly educated people. ... Since 1989, the number of jobs for people with a master's degree has jumped an estimated 21 percent. ... By comparison, jobs that generally don't require a college degree are twice that for occupations that don't, about \$18 an hour vs. \$9 an hour, according to an analysis by The Portland Newspapers of state and federal databases. ... © 1996 Portland Press Herald. Reprinted with permission. Further reproduction prohibited.

THE NEW YORK TIMES, August 2, 1998

A Top MBA Is a Hot Ticket as Pay Climbs

...The typical University of Chicago (business school) graduate turns down so many job offers that the dean's main worry has become "dealing with all the disappointed companies." ... The median offer this year for a new Stanford MBA... was \$120,000, more than double the first-year salary at the peak of the '80s, and more than five times the 1978 figure. Inflation has been 142 percent over that period. ... Half the graduates of the Wharton School of the University of Pennsylvania received offers of more than \$125,000 this year. ... At the top 25 schools, the best compensation packages offered to new MBAs are well above \$200,000. ... © 1998 The New York Times. Reprinted with permission.

Economic Analysis

- The opportunity cost of a college degree is forgone consumption. The payoff is an increase in lifetime production possibilities and in future consumption possibilities.
- Figure 1 shows the choices facing a high school graduate. This person can consume education goods and services such as tuition, books and other supplies, and study time, measured on the y-axis, or other goods and services, measured on the x-axis.
- Working full time, this person has an income of \$16,000 a year. She can consume along the blue PPF. To get a college degree, a high school graduate selects point *a* on the blue PPF; forgoes current consumption, and increases the use of educational goods and services to \$12,000.
- Working full time, the college graduate earns twice as much as the high school graduate at \$32,000 a year. With a college degree, production possibilities expand to the red PPF in Fig. 1.
- A college graduate can choose to quit school or spend even more time and other resources on education to get a professional degree. If the quits school, consumption remains at \$32,000 a year.



- Figure 2 shows the choices facing a college graduate. To get a professional degree, a college graduate selects point *a* on the blue PPF; forgoes current consumption, and increases the use of educational goods and services to \$24,000.
- With a professional degree, income rises to \$128,000 a year. Production possibilities expand to the red PPF in Fig. 2.
- The greater the resources devoted to education, the greater are the future production possibilities. For people who have the required ability, the future benefits of education exceed the costs by a significant amount.


You're The Voter

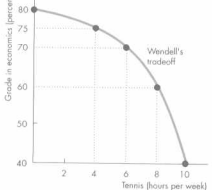
- Political leaders of all parties say that they want every American to have a college education.
- Why do you think political leaders need to worry about college education?
- With such huge returns from education, why don't more people remain in school for longer?

- What is the opportunity cost of providing a college education for every American?
- Would you vote for or against a tax increase to enable everyone to attend college? Why or why not?

End-of-Chapter Study Material

Each chapter closes with a concise summary organized by major topics; lists of key terms, figures, and tables (all with page references); problems; and critical thinking questions. Items identified by the  icon link to the *Economics in Action* software CD included with the text. Items identified by the  icon link to the Parkin Web site at <http://www.economicsplace.com>. My hope is to encourage students to keep up to date and to become comfortable and efficient in their use of the Internet to access information.

SUMMARY	KEY FIGURES 
KEY POINTS	Figure 3.1 Production Possibility Frontier, 37
Resources and Wants (p. 36)	Figure 3.4 Efficient Use of Resources, 42
<ul style="list-style-type: none"> Economic activity arises from scarcity—resources are insufficient to satisfy people's wants. Resources are labor, land, capital (including human capital), and entrepreneurship. We choose how to use our resources and try to get the most out of them. 	Figure 3.8 The Gains from Trade, 46
Resources, Production Possibilities, and Opportunity Cost (pp. 37–39)	Figure 3.9 Circular Flows in the Market Economy, 49
	KEY TERMS
	Absolute advantage, 47
	Capital, 36
	Capital accumulation, 43
	Comparative advantage, 45
	Dynamic comparative advantage, 47
	Economic growth, 43
	Economics, 36
	Efficient, 42
	Entrepreneurship, 36

PROBLEMS	CRITICAL THINKING
<p>*1. Use the figure to calculate Wendell's opportunity cost of an hour of tennis when he increases the time he plays tennis from:</p> <ol style="list-style-type: none"> 4 to 6 hours a week. 6 to 8 hours a week.  <p>2. Use the figure to calculate Mary's opportunity cost of an hour of skating when she increases her time spent skating from:</p> <ol style="list-style-type: none"> 2 to 4 hours a week. 4 to 6 hours a week. 	<ol style="list-style-type: none"> After you have studied <i>Reading Between the Lines</i> on pp. 50–51, answer the following questions: <ol style="list-style-type: none"> Why does the PPF for education goods and services and consumption goods and services bow outward? At what point on the blue PPF in Fig. 1 on p. 51 is the combination of education goods and services and consumption goods and services efficient? Explain your answer. Students face rising tuition. Does higher tuition change the opportunity cost of education? Who receives the benefits from education? Is the marginal cost of education equal to marginal benefit? Is resource use in the market for education efficient? Use the links on the Parkin Web site and obtain data on the tuition and other costs of enrolling in the MBA program of a school that interests you. If an MBA graduate can earn as much as the amounts reported in the news article in <i>Reading Between the Lines</i> on pp. 50–51, does the marginal benefit of an MBA exceed its marginal cost? Why doesn't everyone study for an MBA?

For the Instructor

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

- Focus on the core ideas.
- Explain the issues and problems of our time.
- Choose your own course structure.

Focus on the Core Ideas

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 core 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 students in today's world. These issues include the environment, immigration, widening income gaps, the productivity growth slowdown, budget deficits, restraining inflation, watching for the next recession, 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–xxv. 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.

Flexibility Chart

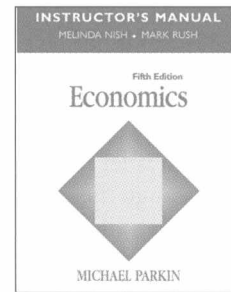
Care	Policy	Optional
1. What Is Economics?		2. Making and Using Graphs A good chapter to assign to the student with a fear of graphs.
3. The Economic Problem		
4. Demand and Supply		
5. Elasticity		
6. Efficiency and Equity A chapter that provides a non-technical explanation of efficiency and equity that unifies the micro coverage and permits early coverage of policy issues.	7. Markets in Action A unique chapter that gives extensive applications of demand and supply.	8. Utility and Demand Although this chapter is optional, it may be covered if desired before demand in Chapter 4. 9. Possibilities, Preferences, and Choices A full chapter on this strictly optional topic to ensure that it is covered clearly with intuitive explanations and illustrations. The standard short appendix treatment of this topic makes it

Four Alternative Micro Sequences

Traditional Theory and Policy Mix	Challenging Theory Emphasis	Public Choice Emphasis	Policy Emphasis (shorter)
3. The Economic Problem	3. The Economic Problem	1. What Is Economics?	1. What Is Economics?
4. Demand and Supply	4. Demand and Supply	3. The Economic Problem	2. Making and Using Graphs
5. Elasticity	5. Elasticity	4. Demand and Supply	3. The Economic Problem
6. Efficiency and Equity	6. Efficiency and Equity	5. Elasticity	4. Demand and Supply
7. Markets in Action	7. Markets in Action	6. Efficiency and Equity	5. Elasticity
8. Utility and Demand or	9. Possibilities, Preferences, and Choices	7. Markets in Action	6. Efficiency and Equity
9. Possibilities, Preferences, and Choices	10. Organizing Production	8. Utility and Demand	7. Markets in Action
10. Organizing Production	11. Output and Costs	10. Organizing Production	15. Demand and Supply in Resource Markets
11. Output and Costs	12. Perfect Competition	11. Output and Costs	16. Labor Markets (optional)
12. Perfect Competition	13. Monopoly	12. Perfect Competition	17. Inequality, Redistribution, and Health Care
13. Monopoly	14. Monopolistic Competition and Oligopoly	13. Monopoly	18. Market Failure and Public Choice
14. Monopolistic Competition and Oligopoly	15. Demand and Supply in Resource Markets	14. Monopolistic Competition and Oligopoly	20. Externalities, the Environment, and Knowledge
15. Demand and Supply in Resource Markets	21. Uncertainty and Information	15. Demand and Supply in Resource Markets	36. Trading with the World
17. Inequality, Redistribution, and Health Care	19. Regulation and Antitrust Law	19. Regulation and Antitrust Law	
36. Trading with the World	20. Externalities, the Environment, and Knowledge	20. Externalities, the Environment, and Knowledge	

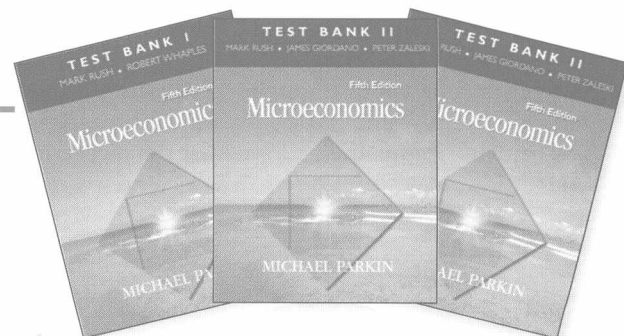
Instructor's Manual

The Instructor's Manual by Melinda Nish of Salt Lake Community College integrates the teaching and learning package and is a guide to all the supplements. An essay by Dennis Hoffman of Arizona State University explains how to use the *Economics in Action* software as a teaching tool.



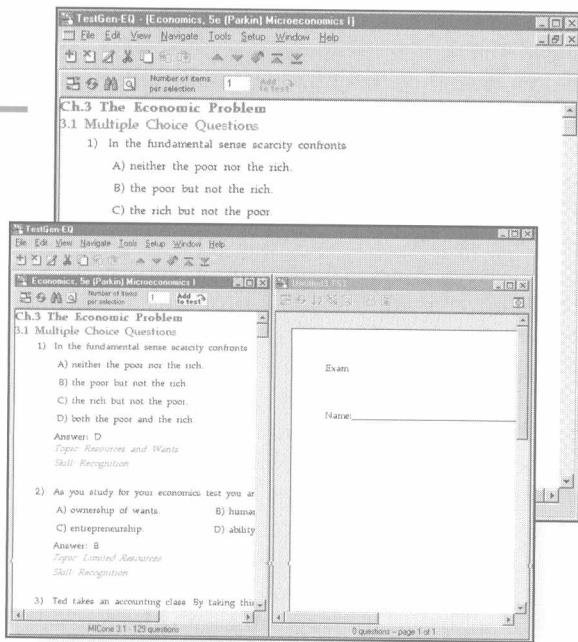
Printed Test Banks

We now have three major test banks. Mark Rush of the University of Florida has thoroughly revised the earlier test banks and has coordinated the development of a new 3,000-question test bank written by fifteen outstanding and dedicated principles instructors. They are Sue Bartlett (University of South Florida), Kevin Carey (American University), Leo Chan (University of Kansas), Carol Dole (University of North Carolina, Charlotte), Donald Dutkowsky (Syracuse University), Andrew Foshee (McNeese State University), Jill H. Boylston Herndon (Hamline University), Veronica Kalich (Baldwin-Wallace College), Melinda Nish (Salt Lake Community College), Terry Olson (Truman State University), Rochelle Ruffer (Youngstown State University), Virginia Shingleton (Valparaiso University), Nora Underwood (University of California, Davis), Peter von Allmen (Moravian College), and Peter Zaleski (Villanova University).



Computerized Test Banks

The test banks are also available in Test Generator Software (TestGen-EQ with QuizMaster-EQ). Version 3.0 of the program, with a wealth of improved features, is now available. This software includes all the questions in the printed test banks. Fully networkable, it is available for Windows and Macintosh. TestGen-EQ's new graphical interface enables instructors easily to view, edit, and add questions; transfer questions to tests; and print different forms of tests. Tests can be formatted by 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.

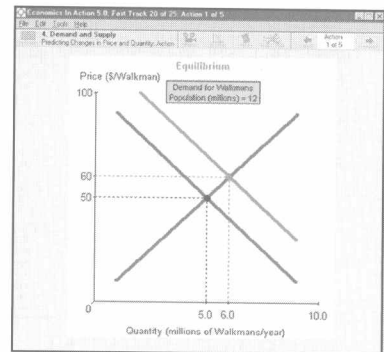


PowerPoint Lecture Presentations

Charles Pflanz of Scottsdale Community College has developed a full-color Microsoft PowerPoint Lecture Presentation that breaks the chapters into lecture-size bites and includes key figures from the text, animated graphs, and speaking notes. The presentation can be used electronically in the classroom or can be printed to create hard-copy transparency masters. The lecture presentation is available for Macintosh and Windows to qualified adopters of the text (contact your Addison Wesley Longman sales representative).

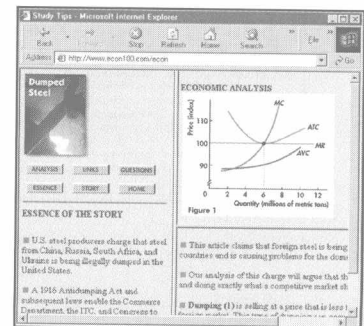
Economics in Action Software

Instructors can use *Economics in Action* interactive software in the classroom. Its full-screen display option turns its many analytical graphs into "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

With the Fifth Edition of the textbook comes the debut of *The Economics Place* at www.economicsplace.com. This Internet-based learning environment contains tools for organizing students' grades from online quizzes, frequent updates of data in the text figures, and news you can use in the classroom. Use the Web site to motivate and organize lectures with electronic *Reading Between the Lines* and *Point-Counterpoint* or to create an online quiz for an in-class review.



Overhead Transparencies and Overlays

Full-color overhead transparencies (several with overlays) of enlarged and simplified key figures from the text will improve the clarity of your lectures. They are available to qualified adopters of the text (contact your Addison Wesley Longman sales representative).

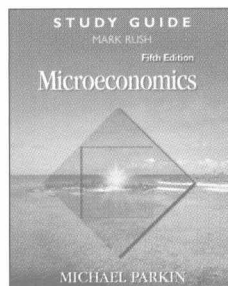
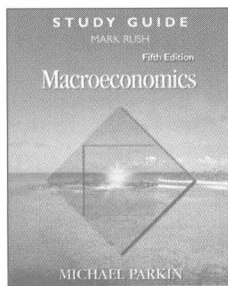
For the Student

Study Guide

The Fifth Edition *Study Guide* by Mark Rush of the University of Florida is carefully coordinated with the main text and the test bank. Each chapter of the Study Guide contains:

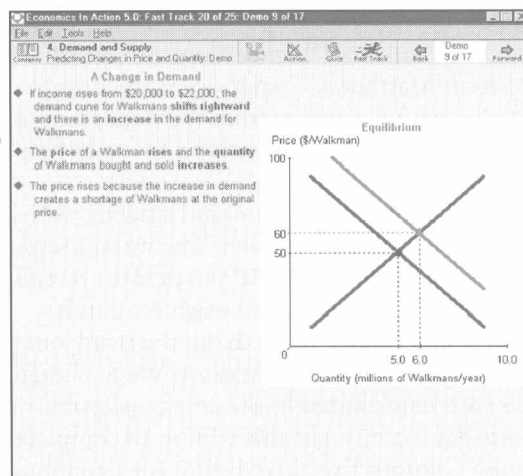
- Key concepts
- Helpful hints
- True/false/uncertain questions that ask students to explain their answers
- Multiple-choice questions
- Short-answer questions
- Common questions or misconceptions that the student explains as if he or she were the teacher

Each part allows students to test their cumulative understanding with *Reading Between the Lines* exercises and sample midterm tests.



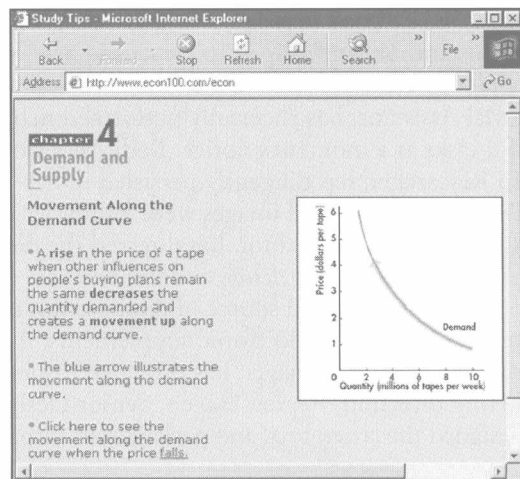
Economics in Action Interactive Software

With *Economics in Action* Release 5.0, which accompanies the Fifth Edition, 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!



The Parkin Web Site

New for the Fifth Edition, *The Economics Place* Web site provides online quizzes, study tips, office hours, links, electronic *Reading Between the Lines*, a *Point-Counterpoint* feature that encourages students to participate in contemporary policy debates, and much more. You can reach the site at <http://www.economicsplace.com>.



Acknowledgments

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