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FOURTH EDITION

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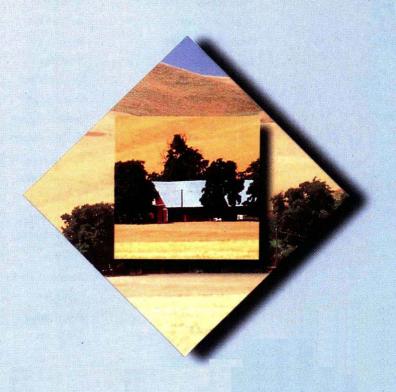
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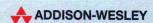
MICROECONOMICS

FOURTH EDITION

MICHAEL PARKIN

UNIVERSITY OF WESTERN ONTARIO





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To Robin

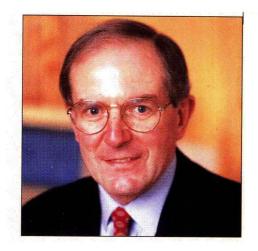
About Michael Parkin

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 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. It 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.



o change the way students see the world—this is my purpose in teaching economics and my goal in preparing the fourth edition of this text. There is no greater satisfaction for a teacher than to share the joy of students who have begun to understand the powerful lessons of the economic approach. But these lessons are hard to learn. Every

relive the challenges of gaining the insights that we call the economist's way of thinking and recall my own early struggles with this discipline. In preparing this edition, I have been privileged to

draw on the experiences not only of my own stu-

day in my classroom, I

dents but also of the many teachers and students who have used the previous editions.

The principles of economics course is constantly

evolving, and the past few years have seen some major shifts of emphasis, especially in macroeconomics. Today's principles course springs from today's concerns about productivity growth, the information revolution, the emerging market economies of Central Europe and Asia, and the expansion of global trade and investment.

Increasingly, we recognize the value of teaching long-run fundamentals as a basis for understanding these issues and as a springboard to understanding short-run economic fluctuations. With a tradition established in my third edition, this book allows you to place an early emphasis on long-run fundamentals and to teach the theory of long-run economic growth using nothing more than the tools of supply and demand.

The Fourth Edition Approach

This book has been crafted to achieve four overriding goals:

- Focus on the core ideas.
- Explain the issues and problems of our time.
- Make modern economics accessible.
- Make efficient use of new information technologies.

Focus on Core Ideas

A flood of new concepts and a new way of thinking can overwhelm students. Our goal as teachers is to help students cut through to the core concepts that a student needs to think like an economist, both during and beyond the principles course. Consistent with this goal, I focus on a few central ideas: choice, tradeoff, opportunity cost, choosing at the margin, incentives, the gains from voluntary exchange, the power of markets, and the role of government. For the economy as a whole, the value of production equals total expenditure and total income. Living standards improve when production per person increases. Prices rise when the quantity of money increases faster than production. Unemployment can result from market failure but can be productive.

The core tool of demand and supply is thoroughly explained and repeatedly used throughout both the micro and macro chapters.

Explain the Issues and Problems of Our Time

The core ideas and tools are used repeatedly to help students understand the issues that confront them 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.

Make Modern Economics Accessible

This book presents economics as a serious, lively, and evolving science that tries to explain the economic world around us. It presents new ideas, such as

dynamic comparative advantage, game theory and its applications, the modern theory of the firm, information, public choice, and economic growth. But it presents these new topics by using the familiar core ideas and tools.

In some areas, economics is relatively settled. In other areas, controversy persists. Where matters are settled, I present what is known; where controversy persists, I present the alternative viewpoints. This positive approach to economics is vital for students who will enter a world in which simple ideologies have become irrelevant and the economic landscape is changing at a rapid pace.

Always recalling my own early struggles with economics, I place the student at center stage and write for the student. I am conscious that many students find economics hard. Consequently, my goal has been to make the material as accessible as possible. I use language that makes for an easy read and that doesn't intimidate.

Each chapter opens with a clear statement of learning objectives, a real-world, student-friendly vignette that grabs attention, and a brief chapter preview. Once in the chapter, I do not reduce economics to a set of recipes to be memorized. Instead, I encourage the student to try to understand each concept. To accomplish this goal, I illustrate every principle with examples that have been selected both to hold the student's interest and to bring the subject to life. And to foster an enthusiasm and confidence in the student, when I present a new principle, I put it to work right away and use it to illuminate a current real-world problem or issue.

Make Efficient Use of New Information Technologies

The supplements that accompany this text, and the text itself, make carefully thought-out and efficient use of the new information age technologies. We have worked hard to avoid the hype that often surrounds software and Web-based supplements and create true value for students and teachers. Our *Economics in Action* tutorial and quizzing software has been thoroughly redesigned and revised in the light of the lessons we've learned from its earlier versions. And new to this edition, we have created a World Wide Web site that provides features and content that is timely and constantly updated. The text has extensive links both to *Economics in Action* and the Internet.

Key Revisions in the Fourth Edition

ECONOMICS, FOURTH EDITION, HAS BEEN CAREfully revised on the basis of extensive reviews to:

- Place stronger emphasis on core economic principles
- Reflect the most modern and recent economic developments
- Shorten and make the material even more accessible, and
- Strengthen the pedagogical features.

To achieve these goals, I have added new chapters and topics, reorganized and streamlined existing chapters, and created three new pedagogical features.

New Chapters

Chapter 1, "What is Economics?" uses a photo essay approach to lay out the key questions and big ideas of economics. The photos were carefully selected to motivate students and show them that economics is truly a part of their lives.

Chapter 6, "Efficiency," and a new early introduction of efficiency in Chapter 3, gives a new unity to the micro chapters and provides a stronger framework and preparation for Chapter 7, "Markets in Action."

New Coverage

Chapter 7, "Markets in Action," now includes a discussion of the inefficiency of rent ceilings, minimum wages, and taxes. Chapter 15, "Demand and Supply in Resource Markets," includes a new section on exhaustible natural resources. Chapter 16, "Labor Markets," includes a new section on immigration.

Streamlined

Using new technology to deliver information, I have removed selected material from the text and made it available in electronic form over the Internet. You can access at the Parkin Web site material on producing at least cost, formerly an appendix to the cost curves chapter, old Chapter 16 on capital and natural resource markets, and old Chapter 23 on emerging economies.

Updated

The text, graphics, and examples have been updated to reflect the most current available data.

Three New Pedagogical Features

The three new pedagogical features are:

- Reading Between the Lines with Policy Watch
- Web and Critical Thinking Exercises
- Part Openers

Policy Watch I have added an element to many of the *Reading Between the Lines* features that asks the student to think about the policy issues raised by a news article and to participate in the public policy debate through "You're the Voter" questions. All the old Reading Between the Lines features have been replaced by new articles from *The Wall Street Journal*, *The Economist, The New York Times*, and from many regional newspapers.

Web and Critical Thinking Exercises The pedagogy of the fourth edition has been carefully developed to encourage students to learn more about economics and to use technology as a means of researching and analyzing current events.

New to the fourth edition are end-of-chapter Internet based exercises that ask students to access real-world data from Web sites such as those the Bureau of Labor Statistics, the U.S. Census Bureau, and the U.S. Department of Justice. An icon in the margin identifies these questions.

Also new to this edition are a set of Critical Thinking exercises that further test and build students' analytical skills.

Selected end-of-chapter questions are linked to *Economics in Action* Version 3.0 and coverage will expand with subsequent releases of the software.

Part Openers Economic Legends Past & Present is a new part opener that traces the evolution of economic thought and connects the ideas of economics with the events that shaped those ideas. This new feature unites the past and the present with interviews with key economists of today including Nobel Prize winner Gary Becker, game theorist Avinash Dixit, and labor economist Claudia Goldin.

Features that Enhance the Learning Process

This fourth edition, like its predecessors, is packed with special features designed to enhance the learning process.

The Art Program: Showing the Economic Action

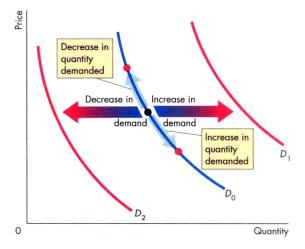
Earlier editions of this book set new standards with their highly successful and innovative art programs. My goal has always been to show "where the economic action is." The figures and diagrams in this book continue to generate an enormously positive response, confirming my view that graphical analysis is the most important tool for teaching and learning economics. But it is a tool that gives many students much difficulty. Because many students find graphs hard to work with, the art has been designed to communicate economic principles unambiguously and clearly. The data-based art clearly reveals the data and trends. In addition, diagrams that illustrate economic processes consistently distinguish among key economic players (firms, households, governments, and markets).

A consistent protocol in style, notation, and use of color, includes:

- Highlighting shifted curves, points of equilibrium, and the most important features in red
- Using arrows in conjunction with color to lend directional movement to what are usually static presentations
- Pairing graphs with data tables from which the curves have been plotted
- Using color consistently to underscore the content and referring to such use of color in the text and captions
- Labeling key pieces of information in graphs with boxed notes

The entire art program has been developed with the study and review needs of the student in mind. It has the following features:

Marking the most important figures and tables with a red icon and listing them at the end of the chapter underthe head "Key Figures and Tables" Using complete, informative captions that encapsulate major points in the graph so that students can preview or review the chapter by skimming through the art



Learning Aids: Pedagogy that Leads to Active Learning

The careful pedagogical plan has been refined to ensure that this book complements and reinforces classroom learning. Each chapter contains the following pedagogical elements:

Objectives A list of learning objectives that enable students to see exactly where the chapter is going and to set their goals before they begin the chapter. The goals are linked directly to the chapter's major heads.

Chapter Openers Intriguing puzzles, paradoxes, or metaphors frame questions that are unraveled and resolved as the chapter progresses.

Highlighted In-Text Reviews Frequent, succinct summaries in list format are included for review.

Key Terms Highlighted terms within the text form the first part of a three-tiered review of vocabulary. These terms are repeated with page references in the chapter summary and in the end-of-book glossary.

Key Figures and Tables The most important figures and tables are identified with the ϕ and listed in the summary at the end of each chapter.

End-of-Chapter Study Material Chapters close with a summary; that includes lists of key terms, figures and tables (with page references); and questions, problems, and critical thinking exercises.

New to this edition, the end-of-chapter summaries are in a concise list form.

End-of-chapter problems have been revised to include many new problems and many that use diagrams. Problems identified by an icon are linked to my *Economics in Action* software package or the Parkin Web site. New to this edition, each chapter has a set of *critical thinking* questions based on *Reading Between the Lines* and on current policy topics. In many problems and critical thinking questions, identified by an icon , I send the student to *Internet sites* such as the Bureau of Labor Statistics, the U.S. Census Bureau, and the Parkin site. My hope is to encourage the student to stay up to date and gain confidence using the Internet to access information.

The Learning and Teaching Package

Addison-Wesley's editors, the supplements authors, and I have worked closely together to ensure that our integrated text and supplements package provides students and teachers with a seamless learning and teaching experience.* The authors of the supplements are outstanding economists and teachers who have brought their own human capital (and that of their students) to the job of ensuring that the supplements are of the highest quality and value. The package contains three broad components:

- Tools to enhance learning
- Tools to enhance teaching
- Tools for the electronic classroom

Tools to Enhance Learning

Study Guide Available in microeconomics and macroeconomics split versions, the fourth edition Study Guide was prepared by Mark Rush of the University of Florida. 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
- You're the Teacher, which lets the student explain common questions or misconceptions.
- New to this edition, end-of-chapter quizzes and practice final exams

Several elements of the Study Guide are geared to building critical thinking skills: True/false/uncertain questions; multiple-choice answers that include explanations of why the answer is correct; You're the Teacher sections; and Reading Between the Lines exercises. Other elements are geared to make studying economics a bit easier. The key concepts are a study aid. The helpful hints focus on ways to better understand the principles or to avoid common pitfalls. The multiple-choice questions are plentiful and their answers contain detailed explanations; the part overview midterm examination allow the student to simulate an exam.

The study guide includes an essay, "Should the Study of Economics Be Part of Your Future?," written by Robert Whaples of Wake Forest University. This essay describes the value of studying economics for both majors and non-majors. It includes information on career options for those with an economics degree, what the study of economics entails, what graduate school is like, and references for further reading.

Economics in Action Interactive Software

Students across the nation and around the world have used the path-breaking *Economics in Action*, a widely acclaimed computer learning tool, to increase their success in the principles course.

With *Economics in Action* Release 3.0, which accompanies the fourth edition, students will have fun working the tutorials, answering questions that give instant explanations, and testing themselves ahead of their mid-term exams. One of my students told me that using *EIA* is like having a private professor in your dorm room! The new release of the software has the following features:

■ Step-by-step, graph-based tutorials

^{*}Some supplement items might not be available to adopters outside the United States.

- A graph making tool with data for the United State, Canada, twelve European countries, Japan, and Australia
- A quiz tool that generates drag-and-drop, true/false, multiple-choice, and numeric questions
- A self-testing tool that simulates tests and gathers results
- A problem-solving tool that allows students to solve homework problems from the text
- A figure gallery that builds text figures and captions.

The Parkin Web Site The Parkin web site provides a rich array of learning tools that are carefully integrated with the text and other components of the package. A weekly electronic Reading Between the Lines provides an effective way of motivating students and keeping them up to date on economics in the news. A periodic electronic Point-Counterpoint feature encourages students to participate in the contemporary policy debate. A weekly quiz that uses completely new questions (not found in the study guide, test banks, or Economics in Action) provides students with frequent review and testing material. On-line office hours enable students to consult me directly with their learning problems. And carefully selected links provide students with a guide to economic resources on the Internet.

The Parkin Web site will become a must-visit site for all teachers and students of the principles of economics. Whether you are a teacher or a student, you can reach all my Internet services at http://hepg.awl.com/parkin/econ100.

Tools to Enhance Teaching

Test Bank Revised test items in **Volume I** were prepared by Robert Whaples of Wake Forest University and Carol Dole of the University of North Carolina to thoroughly reflect the content and terminology of the fourth edition. The file includes 5,000 multiple-choice questions, of which about one third are new to this edition. Each chapter includes a section of questions that parallel questions in the study guide.

New to the fourth edition, **Volume II** Test Bank contains 5,000 new questions comprising multiple-choice, true/false, and short answers. These test items were prepared by Carol Dole of the University of North Carolina and James Giordano and Peter Zaleski of Villanova University.

Computerized Test Bank Testing software is available for DOS, Windows, and Macintosh. It includes all questions in the printed test banks. This software gives instructors the ability to view graphs on the screen, add questions, edit questions, scramble question order and answer options, and more. An online quiz component is also provided with the Computerized Test Bank

Instructor's Manual A revised instructor's manual has been prepared by Mark Rush of the University of Florida. The instructor's manual is designed to integrate the teaching and learning package, serving as a guide to all supplements. Each chapter includes a chapter outline, changes in the fourth edition, teaching suggestions, the big picture (how the chapter relates to what has come before and what comes later), cross-references to the acetates, software units, additional discussion questions, answers to the review questions, and answers to the problems.

An introductory section written by Byron Brown of Michigan State University and Dennis Hoffman of Arizona State University presents technology ideas for professors who are just getting started with electronic teaching tools. This section talks about teaching in a multimedia classroom, how to use electronic tools in the lecture, and how to integrate *Economics in Action* into the course.

Acetates and Overlays Key figures from the text are rendered in full color on the acetates. Several figures include overlays that make it easy to walk through the figure as you lecture. The acetates are enlarged and simplified to be more legible in large classrooms. They are available to qualified adopters of the textbook (contact your Addison-Wesley sales representative).

Tools for the Electronic Classroom

PowerPoint Electronic Lectures A complete lecture framework in Microsoft PowerPoint is available for Macintosh and Windows. Prepared by Jeffrey Caldwell of Rose State College, this presentation support system breaks chapters down into lecture-size bites and includes key figures from the text, animated graphs, and speaking notes.

Economics in Action Software Instructors can use *Economics in Action* interactive software in the classroom. Its full-screen display option makes it

possible to use its many analytical graphs as "electronic transparencies" and to do live graph manipulation and curve-shifting in lectures. Its figure gallery of animated slides from the text provides high quality graphics for the classroom. Its real-world data sets and graphing utility enable time-series graphs and scatter diagrams to be made and displayed in the classroom. Additionally, *Economics in Action* is a helpful review tool for instructors to use with their students or assign to their students to help reinforce economic principles before tests or exams.

Parkin on the World Wide Web Instructors can use the Parkin Web site in a suitably equipped classroom. The weekly electronic *Reading Between the Lines* provides an effective way of motivating and organizing a lecture. And the electronic *Point-Counterpoint* feature provides a handy way of organizing a classroom debate. The weekly quiz can also be used for in-class review.

The Parkin Internet Exchange This medium of on-line support includes mailing list discussion groups, access to information through ftp, and a World Wide Web home page. You can share teaching tips and ideas for using the book and supplements and discuss current economic events. To subscribe to the Parkin mailing list, send an e-mail to majordomo@aw.com and write Subscribe ParkinPr in the body of the message. An internet discussion group is also available for students. They can talk with other students about the course, the book, and economics. To subscribe to the Parkin student mailing list, send a e-mail to majordomo@aw.com and write Subscribe ParkinSt in the body of the message.

Acknowledgments

WHILE THE EXTENT OF MY DEBTS CANNOT BE fully acknowledged, it is a joy to record my gratitude to the many people who have helped me to produce this book, some without realizing just how helpful they were.

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Laidler, Phil Reny, Chris Robinson, John Whalley, and Ron Wonnacott. I also thank Doug McTaggart of Bond University and Christopher Findlay of the University of Adelaide, co-authors of the Australian edition. Their suggestions arising from their adaptation of earlier editions have been extremely helpful in preparing this edition.

It is a special pleasure to acknowledge my debt and express my thanks to 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, more than anything else, how to teach economics.

My sponsoring editor, Denise Clinton, has been a constant source of inspiration and encouragement. I want to place on record her crucial role in developing our new approach to macroeconomics. I could not have undertaken the transformation of macro without her clear-headed vision and tough empirical approach. I am enormously impressed by and grateful to her.

It has been a pleasure to work day by day with Lena Buonanno, my development editor. Lena even went so far as to enrol in a principles of economics course (using a competing text!) in order to be well prepared for her task. She organized conference calls focus groups, and reviewers. She also took care of the interviews and helped the interviewees and me to make our conversations accessible to our student readers. Lena has brought a personal and professional commitment to this project that is rare and impressive. I am deeply grateful to her.

Joan Twining, Supplements Editor, has planned, organized, and managed the task of creating a large and high-quality supplements package. All of the supplements authors and I thank Joan for her extroadinary editorial and personal skills and for the energy and commitment she has given us.

Our Senior Development Manager, Sylvia Mallory, has been a steady source of support and it is she who proposed that we revise Chapter 1 as a photo essay. I am excited about the way this suggestion evolved, and I thank Sylvia for her inspiring idea. I thank Marjorie Singer Anderson for her development support on the macro chapters. Billie Porter and Sandy Schneider did the photo research. Nancy Fenton has been my levelheaded, no-nonsense, I-cando-anything, senior production editor for two editions and I renew my thanks to her for directing the design and production effort. Barbara Willette has again been copyeditor and I thank her for continuing to coax yet better English from my keyboard. I also

thank Ed Moura, Vice President and General Manager of Addison-Wesley's Higher Education Publishing Group, for his support of this project and for ensuring that it is directed by the most talented editors in the business.

I thank the supplements authors: Mark Rush, Jeffrey Caldwell, Carol Dole, Robert Whaples, James Giordano, Peter Zaleski, Byron Brown, and Dennis Hoffman. Mark has played a crucial role in the creation of this edition and has been a constant source of good advice and good humor. Robert Whaples is another extraordinary helper who went well beyond the call of duty or the scope of the checkbook in his manuscript, accuracy, and study guide reviews; his participation in conference call; and his writing of an essay for the study guide. I am deeply grateful to him. I also thank Carol Dole and Robert Whaples for their accuracy reviews of page proof. Byron Brown and Dennis Hoffman have written excellent essays for the instructor's manual.

I thank my research assistants. Jeannie Gillmore helped me to find good news articles and wrote useful outlines and first drafts of each *Reading Between the Lines* feature. She also provided other general research assistance, along with Christine Bies, Jane McAndrew, and Tom Adam.

I thank Richard Parkin, who created the electronic art manuscript and final art files and has contributed many ideas that have improved the figures in this book.

As with the previous editions, this one owes an enormous debt to Robin Bade. I dedicate this book to her and again thank her for her work. She has read every word that I have written, commented in detail on every draft, created many of the end-of-chapter review questions and problems, inspired me when I have been flagging, and managed the entire project from its initial conception through its three editions and through seven editions published in other countries. I could not have written this book without the unselfish help she has given me. My thanks to her are unbounded.

The empirical test of this book's value continues to be made in the classroom. I would appreciate hearing from instructors and students about how I can continue to improve it in future editions.

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5. Elasticity		
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Part 2: Alfred Marshall (p. 62), Stock Montage. Scene along the railroad route (p. 63) The Bettmann Archive. Newark Airport (p. 63), Steve Proehl/The Image Bank. Paul R. Milgrom (pp. 64, 66), Jenny Thomas. The data (p. 83) are from the World Wide Web site of the FAO (Food and Agricultural Organization of the United Nations) in Rome.

Part 3: Jeremy Bentham (p. 150), The Bettmann Archive. Women in cannery (p. 151), California Museum of Photography, University of California, Riverside. All rights reserved. Modern business woman and man (p. 151), Richard Wood/The Picture Cube. Gary S. Becker (p. 152), Loren Santow. Institute for International Education, *Open Doors* 1995/96, New York, December 1996 (p. 169).

Part 4: John Von Neumann (p. 234), Stock Montage. Cartoon of the power of monopoly (p. 235), Culver Pictures. Cable television worker (p. 235), From the George J. Stigler Personal Collection, courtesy of Irving Norton Fisher. Avinash K. Dixit (p. 236), Peter Murphy.

Part 5: Thomas Robert Malthus (p. 312), The Bettmann Archive. Chicago traffic jam, 1892 (p. 313), The Bettmann Archive. Cartoon of stacked cars (p. 313), *The Economist*, 9/14/91: reprinted by permission of Robert Hunt. Claudia Goldin, (pp. 314, 316), Stuart Cohen.

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