

# PRINCIPLES OF MICROECONOMICS



Karl E. Case

Ray C. Fair

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Karl E. Case and Ray C. Fair



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# PRINCIPLES OF MICROECONOMICS



# Preface

This textbook contains the first five introductory chapters, fifteen microeconomics chapters, and selected international chapters from our hardbound *Principles of Economics* textbook. It has been specially prepared for microeconomics courses where professors prefer to assign a paperback “split” rather than a single volume containing coverage of both microeconomics and macroeconomics.

So that users of this book and its companion volume, *Principles of Macroeconomics*, can fully understand our rationale in writing our new principles of economics text, what follows is an adaptation of the preface as it appears in our single hardbound volume.

We hope that this book will have an important impact on the teaching of introductory economics. The main goal of any introductory economics text, we believe, is to get students to “think like economists.” In order to do that, they first need a structure within which economic issues can be discussed and debated. The foundation of such a structure is the set of key concepts that all economists, regardless of ideological bent, understand and use in conversation and analysis. Concepts such as opportunity cost, capital, efficiency, and general equilibrium must be taught almost like a foreign language, with repetition and practice.

In our view, introductory texts have become too detailed. They try to teach *too much*. In this book, we have chosen to pay careful attention to the key concepts of economics and to its basic structure. Without a clear framework, details have nothing to hang on, and they are soon forgotten.

Lack of clear structure seems a particularly acute problem in the macro part of introductory texts. Topics come and go, with few unifying themes. This lack of unity to the macro material runs counter to the trend in macroeconomic research during the last decade or so, which has sought better theoretical foundations for the subject. Although general agreement is still rare in macroeconomics, the field has changed substantially since the 1960s, and it has much more structure now, even after adjusting for differing views.

We also find that much of the basic framework of microeconomics has become obscured by detail in more recent editions of leading texts. We think that the best way to unify the micro material is to begin with a complete development of the competitive model—household and firm behavior in both output *and* input markets. With the competitive model in place, students have seen all the pieces of a complete simple economy, they have derived important welfare conclusions, and they are ready to relax assumptions and deal with critical material.

In the interest of coherence, we put more emphasis on structure and connections in laying out both the micro and macro material than other texts do. The aim is to present the key concepts slowly and carefully. New topics are not introduced until students are ready and until they know where the topic fits in the overall scheme of the book. Each chapter builds on the one before it, and there is a common thread that runs through the entire book.

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## THE PLAN OF THE MICROECONOMICS SPLIT

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As we were writing this text, we spent many hours talking with each other and with our colleagues about our purpose. We feel that the book’s final form will ensure a fulfilling

learning experience for the student. After we introduce basic concepts in the first five chapters (where we hope to capture the student's attention), we lay out the perfectly competitive model in Chapters 6 through 12. Chapter 6 describes household behavior, including both demand for goods and supply of factors (including labor). Chapters 7 through 10 discuss the behavior of perfectly competitive firms. Chapters 10 and 11 emphasize the links between households and firms and between decision making in output and input markets. When we take up capital markets in Chapter 11, we describe the various institutional mechanisms through which household saving is channeled into productive investment projects on the firm side of the market.

Chapter 12 is a transitional chapter that closes out our treatment of perfect competition and analyzes the strengths and weaknesses of market systems. The core of the chapter is a discussion of the efficiency of competition. It focuses on the critical role of prices in input and output markets, prices that determine the tradeoffs facing households and firms. It shows how individual decisions lead to efficient choices from society's viewpoint *when all the assumptions of perfect competition hold*. The chapter then begins the process of relaxing these assumptions and exposing problems, a task that takes the next five chapters. The topics covered in these subsequent chapters include monopoly, monopolistic competition, oligopoly, public goods, externalities, and income distribution.

Three applied chapters follow the microeconomic core: public finance, labor economics, and urban economics. The microeconomics split closes with three chapters on international issues.

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## THE PLAN OF THE MACROECONOMICS SPLIT

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The macroeconomics split is a renumbered version of the macro material found in our combined volume. It, too, begins with the first five chapters found in the combined volume. We then present three additional chapters to introduce macroeconomics. Although inflation and unemployment are covered in the last of these chapters (Chapter 8), we keep the coverage descriptive rather than analytical. At this point, clearly, we are not ready for any analysis. We then build our macro model in Chapters 9 through 17. Chapters 9 and 10 develop a simple model of the goods market (the multiplier model), first without, and then with, a government. This discussion introduces the tools of fiscal policy. Chapters 11 and 12 introduce the Federal Reserve and build a simple model of the money market. This material introduces the tools of monetary policy.

Chapter 13 brings together the lessons of the previous four chapters. It combines the model of the goods market with the model of the money market in a construct we call the "income/interest rate model." (This, in essence, is the *IS-LM* model, but we do *not* use the *IS* and *LM* curves.) At the end of Chapter 13 we introduce the price level and derive the aggregate demand (*AD*) curve. Note that we have spent five chapters (9–13) leading up to the *AD* curve. The reasoning behind the *AD* curve is actually quite complicated, and we have taken particular care not to present it until enough preparatory material, namely the income/interest rate model, has been presented. The *AD* curve must not be confused with market demand curves, a common problem, and we are careful to stress the differences.

Chapter 14 presents a more complete discussion of household behavior as it relates to macroeconomics, and Chapters 15 and 16 present a more complete discussion of firm behavior. In Chapter 16 we derive the aggregate supply (*AS*) curve under the assumption of perfect competition.

Chapter 17 brings everything together. It first takes the *AD* curve from Chapter 13 and the *AS* curve from Chapter 16 (assuming that the *AS* curve exists) and puts them

together. This AS-AD model determines income, the interest rate, and the price level. The analysis is then expanded to include the imperfectly competitive case, where the AS curve does not exist. Then the chapter takes the more realistic discussion of household and firm behavior from Chapters 14 through 16 and incorporates it into the analysis. This is our “complete” macro model. The rest of the chapter analyzes the complete model. Chapters 18 and 19, which are intended to get students thinking like macroeconomists, use the complete model to analyze various macro issues.

The macroeconomics core ends with a chapter on alternative macroeconomic theories (theories that differ from those behind the complete model) and a chapter on growth.

The final four chapters open up the text to the rest of the world. Chapter 22 is on international trade, Chapter 23 on open-economy macroeconomics, Chapter 24 on developing countries, and Chapter 25 on comparative systems.

One important feature of the macroeconomics chapters is that many of them close with a brief section describing the data relevant to the chapter. Various macro time series are plotted quarterly for the period since 1970 and then discussed. We have found it useful to tie the theoretical discussion to real world data.

We do microeconomics first in the combined volume, and we feel strongly that it should come first. Most of the key concepts in economics are microeconomic ones. The structure of the discipline is really its microeconomic structure. One does not see, for example, research whose goal is to build firmer *macroeconomic* foundations for *microeconomics*. We realize, however, that many institutions require or allow macroeconomics to be taken first, and so we have written the combined text and the macro split to allow this to be done. When we take up macroeconomics, we do *not* assume that students have had micro. Where we need to use micro concepts in the macroeconomics, we present them and teach them there. For those who have had micro these sections serve as a good review. Thus anyone can study macroeconomics first using this textbook.

In writing this book, we have made an effort not to expose our own ideological preferences. Although we choose orthodox neoclassical micro theory (with some Keynesian theory in the macro part) as the core model of the book, we use critical material (both from the left and right) to show both the strengths and weaknesses of market allocation. The book presents a number of debates, without resolving them. Many are left for the student to resolve, with the warning that there are no easy answers—just trade-offs.

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## HOW THIS TEXT WAS DEVELOPED

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This text is the culmination of nearly four years of writing, careful market research to confirm our approach, intensive editorial development, in-depth reviewing, and wide-ranging class testing. From the beginning our goal was to develop a principles of economics text that would set the standard for the 1990s and beyond.

### Market Research

Early in the development of the text, we and the publisher prepared a detailed questionnaire that sought to determine what our colleagues wanted in the next generation of economics texts. That survey confirmed our original conception of the book.



## Development Editing

As each chapter of each draft was written, it was extensively analyzed and carefully edited by a skilled development editor. Drawing on a background that included the development of dozens of introductory college textbooks, this editor worked to ensure that, sentence by sentence and paragraph by paragraph, we had laid out for the reader, in the clearest possible way, the fundamental principles of economics. This process was repeated for each new draft, and many chapters went through four drafts.

## Reviewing

As the manuscript was being edited by the development editor, it was simultaneously being reviewed by dozens of academic experts to ensure its technical accuracy and pedagogical effectiveness. While the editor viewed the manuscript from the perspective of the student, the reviewers took the perspective of an instructor using the text.

## Class Testing

Based on the development editor's work and the reviews, we prepared draft after draft until we felt that the manuscript was ready for testing in the classroom. That draft was then used by hundreds of students at six schools.

## Reviewer Conference

When the reviews and the class testing were complete, we met with reviewers, editors, and the Prentice Hall marketing staff for an intensive reviewer conference. There the entire manuscript was gone over line by line in order to create final draft that would be a superior teaching tool for tomorrow's students. Based on the input from the class testing, the final reviews, the reviewer conference, and the editors' suggestions, we made our final revisions.

We feel that the long process of development and the many resources that the publisher provided have helped us to reach our goal of writing an economics text that will meet the needs of today's students and instructors.

## THE TEACHING/LEARNING PACKAGE

Each component of the teaching and learning package has been carefully crafted to ensure that the principles of economics course is a rewarding experience for both instructors and students. A number of innovative supplements have been created by the authors and the publisher. They are available in a comprehensive *Instructor's Resource Package*.

## The Annotated Instructor's Edition

The *Annotated Instructor's Edition*, by Professor Chris Waller of Indiana University and Professor Thomas Beveridge of the University of North Carolina, is a special printing of

the textbook created for instructors. Preceding the student text are chapter outlines, summaries, learning objectives, lecture suggestions, and discussion questions. In the text itself, marginal notes enhance the teaching of economics by providing suggestions for classroom discussion. Sections of the text that might require special attention on the part of the instructor are highlighted. Where possible, the marginal notes make reference to other parts of the teaching and learning package for a comprehensive, integrated teaching and learning experience.

## Testing

Over three thousand questions, written by Professor Joseph Sulock of the University of North Carolina at Asheville, Jay Sultan of Arizona State University, and Dereka Rushbrook of the University of Texas at Austin, are provided in the *Microeconomics Test Item File* and the *Macroeconomics Test Item File*. An average of eighty multiple-choice and true-false questions have been written for each chapter.

Both test item files are available for use on the highly successful DIPLOMA Classroom Management and Testing System, which consists of four computer programs that operate on IBM, Apple IIc and IIe, and compatible microcomputers.

EXAM provides question creation and editing features for use in developing, maintaining, and altering test banks. Unlimited questions can be accommodated in each format: multiple-choice, true/false, matching, and short answer/essay.

GRADEBOOK addresses the task of grade management. It automatically tracks running averages for both students and tests and can display letter grades, percentage averages, GPA, or points earned.

PROCTOR allows students to take tests generated by EXAM at a computer. While testing, students can browse, skip hard questions, alter answers, and review responses, as if the test were being taken on paper. Automatic grading.

CALENDAR is a free-form scheduling tool that allows you to enter up to eleven events or messages for any particular day. A transfer feature permits recurring events to be entered for several dates without retyping. Messages can be easily entered, edited, saved, displayed, or printed.

For those with limited access to computers or secretarial support, Prentice Hall's *Telephone Testing Service* allows professors to order customized tests by calling a toll-free telephone number a few days before a test is to be administered. Additional information about the various forms of testing service can be obtained by contacting your local Prentice Hall representative.

## Color Transparencies and Transparency/Handout Masters

There are over four hundred charts, graphs, and tables in this textbook. One hundred and fifty graphs have been carefully selected and reproduced as 8 1/2 x 11 color transparencies for classroom use. These color transparencies are available from the publisher upon adoption of the textbook. In addition, every chart, table, and graph in the textbook has been reproduced in 8 1/2 x 11" format in a special booklet called *Transparency and Handout Masters*, which is intended for use in classroom demonstration and discussion.

## Electronic Transparencies

Some instructors have found it helpful to use the personal computer to demonstrate economic graphing. A series of electronic simulations designed for classroom use has been developed by Darryl Ward and is available to professors who adopt this text. These simulations can be previewed on a special demonstration diskette, which is included in the *Instructor's Resource Package*.

## Study Guide with Practice Tests

A special *Study Guide* containing practice tests has been prepared by Professors David Hoaas and Harold Christensen of Centenary College. This study aid reinforces the textbook and provides motivated students with applications and exercises. Each chapter of the *Study Guide* contains the following features:

**Learning Objectives** The first section of each chapter provides an overview of the important ideas and issues discussed in the textbook.

**Chapter Review** This section provides a written summary of the important issues in the chapter. It is intended as a review for students who have already read the appropriate chapter and wish to remind themselves of the key ideas.

**Glossary** This section helps the student learn the new terms and phrases used in economics. Together with the "Key Concepts" section found at the end of each chapter of the textbook, the glossary helps students to look up and review major ideas.

**Study Tips** Tips are provided to make the student's study time more efficient. This section also points out common errors or potential sources of confusion that often arise as students attempt to learn and remember important economic principles.

**"Where We've Been/Where We're Going"** This section of the *Study Guide* has a two-fold purpose. First, it relates the material presented in the current text chapter to the material presented in previous chapters. It describes how the new theory being explained grows out of ideas already developed. Second, it foreshadows lessons to come, describing where and how ideas presented in the current chapter will reappear for development in later chapters. This underscores the importance, relevance, and "fit" of the models and diagrams under current consideration.

**Multiple-Choice Questions** This section provides the first testing of the concepts learned. Eight to 20 multiple-choice questions are designed to test a student's knowledge of the terms and concepts presented in the chapter. The level of difficulty of these questions is comparable to the Test Item File.

**Analytic Exercises** The tools of mathematical analysis have become increasingly useful in the study of economics. This portion of the study guide contains exercises that often require the use of algebra or geometry to solve for a specific economic value. As the student will quickly learn, graphs are one of the primary tools used by economists to convey information.

**Essay Questions** These questions require time and thought by the student to determine an answer. We suggest that students write out answers to these problems and compare these answers with those of their fellow students. In many cases, these questions have more than one answer and no single right or wrong one.

**Answers** This section provides correct answers to the multiple-choice questions as well as abbreviated answers to several of the analytic exercises. Students should consult this

portion of the chapter only after they have attempted to work the questions and exercises.

It should be clear by now that the development of the supplements was considered as important as the development of the text itself, and this promises an unparalleled teaching package.

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## ACKNOWLEDGMENTS

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No textbook can be written without the help of many people. One of our greatest debts is to Peter Siegelman, who made numerous contributions to the early drafts of the macro chapters. Kathryn Dominguez also played an important role at the same stage of development. Robert Moore was an especially helpful reviewer of the early drafts of the micro chapters. Sharon Oster read most of the chapters, many more than once, and made invaluable comments. David Lindauer wrote the first draft of Chapter 39, and Sanford Sloan wrote the first draft of the accounting appendix in Chapter 3. Ann Royalty read and corrected the entire manuscript in galleys.

Chris Waller encouraged us to keep the micro foundations correct and clear in the macro discussion, in particular regarding the nonexistence of the AS curve in imperfect competition. Lynn Gillette and Rick McIntyre were instrumental in helping us to keep a balanced ideological view. Chris Waller, Lynn Gillette, and Rick McIntyre, along with Jean Shackleford and James Aylesworth, commented on the entire manuscript at the reviewers' conference. We cannot overstate the importance of this conference to the final development of the book.

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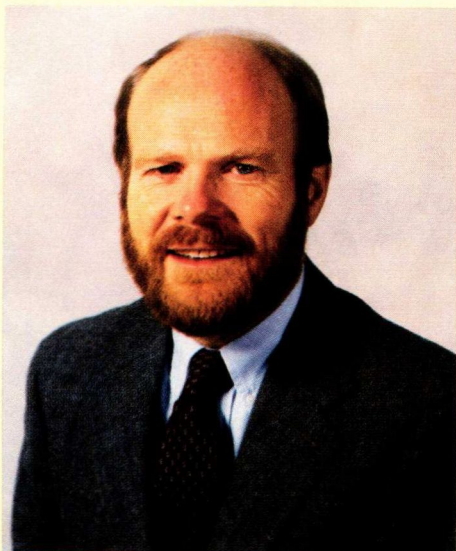
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**Karl E. Case**  
**Ray C. Fair**

# About the Authors

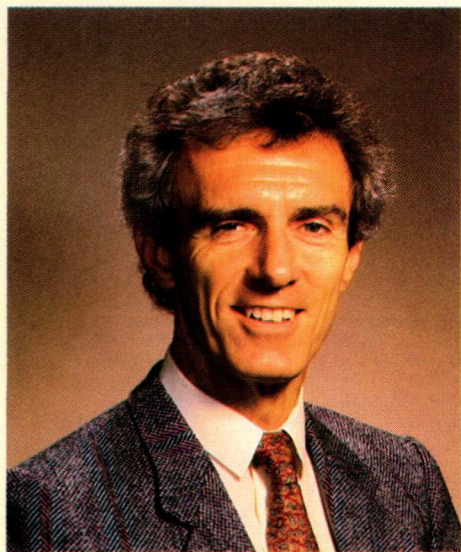
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**Karl E. Case** is Professor of Economics at Wellesley College. He also lectures on Economics and Tax Policy in the International Tax Program at Harvard Law School and is a Visiting Scholar at the Federal Reserve Bank of Boston. He received his B.A. from Miami University in 1968, spent three years in the Army and received the M.A. and Ph.D. from Harvard University. In 1980-81 he was a Liberal Arts Fellow in Law and Economics at Harvard Law School.

Professor Case's research has been in the areas of public finance, taxation and housing. He is the author of four other books including *Economics and Tax Policy* and *Property Taxation: The Need for Reform* as well as numerous articles in professional journals.

Undergraduate teaching has always been one focal point of Professor Case's professional life. For the past 12 years he has taught at Wellesley where he was Department Chair from 1982-85. Before coming to Wellesley, he spent two years as Head Tutor (director of undergraduate studies) at Harvard where he won the Allyn Young Teaching Prize. He has been a member of the AEA's Committee on Economic Education and was Associate Editor of the *Journal of Economic Education* responsible for the section on innovations in teaching. Professor Case has taught at least one section of the Principles course every year since 1972.



**Ray C. Fair** is Professor of Economics at Yale University. He is a member of the Cowles Foundation at Yale, a Research Associate of the National Bureau of Economic Research, and a Fellow of the Econometric Society. He received a B.A. in economics from Fresno State College in 1964 and a Ph.D. in economics from M.I.T. in 1968. He taught at Princeton University from 1968 to 1974 and has been at Yale since 1974.

Professor Fair's research has primarily been in the areas of macroeconomics and econometrics, with particular emphasis on macroeconomic model building. He is the author of five other books, including *Specification, Estimation, and Analysis of Macroeconometric Models*, Harvard University Press, 1984, and numerous journal articles.

Professor Fair has taught introductory and intermediate economics at Yale. He has also taught graduate courses in macroeconomic theory and macroeconometrics.

# Brief Table of Contents

---

## Part One INTRODUCTION

---

- 1 The Scope and Method of Economics 3
- 2 Scarcity and Choice: The Economic Problem 29
- 3 The Basic Structure of the U.S. Economy: The Private and Public Sectors 49
- 4 Markets and Prices: The Basic Forces of Supply and Demand 77
- 5 Supply and Demand: The Nature of the System, Applications, and Elasticity 105

---

## Part Two MICROECONOMICS

---

- 6 Household Behavior and Consumer Choice 133
- 7 The Firm: Organization, Profits, and Production 163
- 8 The Firm: Short-Run Costs and Competitive Output Decisions 181
- 9 The Firm: Costs and Competitive Supply in the Long Run 203
- 10 The Firm: Demand in Competitive Input Markets 227
- 11 Capital Markets and Land Markets: Profit, Interest, and Rent 253
- 12 General Equilibrium, the Efficiency of Competition, and Sources of Market Failure 279
- 13 Imperfect Competition: Monopoly Markets 303
- 14 Imperfect Competition: Monopolistic Competition and Oligopoly 333
- 15 Imperfect Markets and Public Policy: Antitrust and Regulation 357
- 16 Government in the Economy: Externalities, Public Goods, and Public Choice 379
- 17 Income Distribution and Poverty 407
- 18 Public Finance: The Economics of Taxation 433
- 19 The Economics of Labor Markets and Unions 463
- 20 The Location of Economic Activity: Cities and Regions 489

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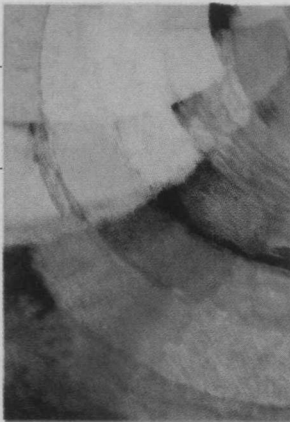
## Part Three INTERNATIONAL ECONOMICS

---

- 21 International Trade and the Theory of Comparative Advantage 515
  - 22 Economic Growth in Developing Nations 541
  - 23 Alternative Economic Systems 563
-

# Contents

## Preface xxi



---

## PART ONE INTRODUCTION

---

# 1

---

Why Study Economics?	4
<i>To Learn a Way of Thinking</i>	4
<i>To Understand Society</i>	7
<i>To Understand World Affairs</i>	8
<i>To Be an Informed Voter</i>	9
A Surprisingly Broad Subject	10
<i>Microeconomics and Macroeconomics</i>	10
<i>The Special Fields of Economics</i>	12
The Method of Economics	13
<i>Positive and Normative Economics</i>	13
<i>Theories and Models</i>	15
<i>Economic Policy</i>	19
An Invitation	21
Summary	22
Appendix to Chapter 1: How to Read and Understand Graphs	23



## 2

### **Scarcity and Choice: The Economic Problem 29**

---

Three Fundamental Questions	30
<i>Scarcity, Choice, and Opportunity Cost</i>	31
<i>The Production Possibility Frontier</i>	33
The Three Fundamental Questions in More Complex Economies	41
<i>Many Possible Systems</i>	42
A Look Ahead	46
Summary	47

## 3

### **The Basic Structure of the U.S. Economy: The Private and Public Sectors 49**

---

The Private Sector: Business and Industrial Organization in the United States	50
<i>The Legal Organization of Firms</i>	50
<i>The Organization of Industries</i>	53
The Public Sector: Taxes and Government Spending in the United States	59
<i>The Size of the Public Sector</i>	59
<i>What the Government Spends Money On</i>	62
<i>Sources of Government Revenue</i>	63
From Institutions to Theory	65
Summary	65
Appendix to Chapter 3: Concepts of Financial Accounting	67
<i>Basic Accounting Concepts</i>	67
<i>The Balance Sheet</i>	68
<i>The Income Statement</i>	70
<i>The Balance Sheet Revisited</i>	72
<i>Book Value versus Economic Book Value</i>	73
<i>Accounting and the Manager</i>	74

## 4

### **Markets and Prices: The Basic Forces of Supply and Demand 77**

---

<i>The Economic Problem Revisited</i>	78
Firms and Households: The Basic Decision-Making Units	78
Input Markets and Output Markets	79