

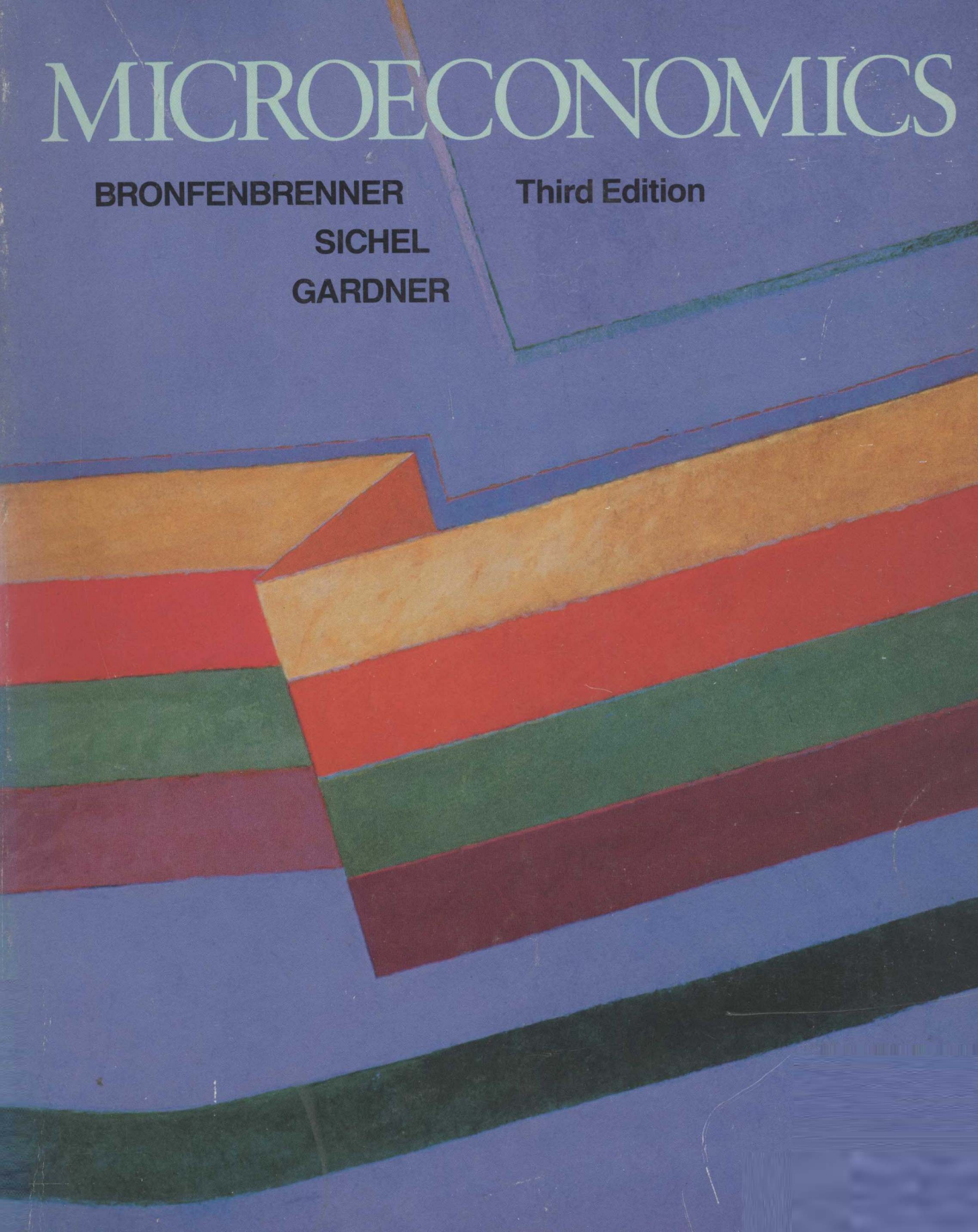
# MICROECONOMICS

**BRONFENBRENNER**

**Third Edition**

**SICHEL**

**GARDNER**



# **MICROECONOMICS**

---

**Third Edition**

**Martin Bronfenbrenner**

---

Aoyama Gakuin University, Japan  
Professor Emeritus, Duke University

**Werner Sichel**

---

Western Michigan University

**Wayland Gardner**

---

Western Michigan University

HOUGHTON MIFFLIN COMPANY BOSTON  
Dallas Geneva, Illinois Palo Alto Princeton, New Jersey

Copyright © 1990 by Houghton Mifflin Company. All rights reserved.

No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system without the prior written permission of Houghton Mifflin Company unless such copying is expressly permitted by federal copyright law. Address inquiries to College Permissions, Houghton Mifflin Company, One Beacon Street, Boston, MA 02108.

Printed in the U.S.A.

Library of Congress Catalog Card Number: 89-80923

ISBN: 0-395-47265-2

ABCDEFGHIJ-VHP-96543210-89

## **CREDITS**

Cover painting by Glenn R. Bradshaw.

Photograph by David Caras.

We gratefully acknowledge the following sources for providing photographs used in this book: Part I essay—Brown Brothers; Culver Pictures. Part II essay—Historical Pictures Service. Part III essay—Wide World; Jeff Albertson/Stock Boston; Daniel Brody/Stock Boston. Part IV essay—UPI/Bettmann Newsphotos; Wide World. Part V essay—Wide World. Part VI essay—Wide World. Part VII essay—Brown Brothers; Bettmann Archive; Wide World.

# Preface

As in the first two editions, our goal in this third edition was to write a textbook that will fulfill the needs of students and instructors concerned with the well-established as well as the controversial topics in economics. We believe that a beginning text should (1) be open-minded and strive to present the best in all schools of thought especially where there is disagreement, (2) be thorough and realistic in the presentation of material that is generally accepted, (3) be flexible and be oriented to a broad view in matters such as international trade, economic development, and comparative economic systems, and (4) above all, be as accessible to introductory economics students as possible.

We believe that the characteristics of our book are as appropriate in the 1990s as they were in the 1980s. We also believe that they form the foundation for the type of "economic literacy" that will allow students to understand the *applicability* of economic principles beyond the specific applications in any one topic or any one period of time.

We feel this edition is a substantial enhancement of the previous edition. The changes are not minor, cosmetic, tune-ups of a few parts. In some key areas the changes amount to a significant overhaul.

## MICROECONOMICS

Our material on microeconomics continues to be thorough, interesting, and timely. In this edition we have added some important new material. We have increased our focus on transactions costs, uncertainty, and the role of information in our discussion of business firm choice. In addition, in analyzing oligopoly, we have added new material on leveraged buy-outs that have gained so much attention in recent years.

Several new topics appear in our section on applied microeconomics. Homelessness, panhandling, gender discrimination, and the issues surrounding compulsory labor as a condition for receipt of government assistance have been added to our discussion of poverty and income redistribution. Similarly, our chapter on "International Microeconomics: Free Trade versus Protection" now includes material on administrative protection ("dirty tricks") and market-opening strategies that countries use to combat such actions. These market-opening strategies are called "protection against protection." Our chapter on agriculture goes into greater detail than before on the farm debt crisis. In that chapter, we also have added a



discussion of the implications of a drought, such as the one experienced in 1988, and of the “greenhouse effect.”

## INTERNATIONAL ECONOMICS

We have received much praise for our innovative international coverage and, if emulation is a form of flattery, we have been amply flattered. Our treatment of international economics is even stronger in our third edition.

We have added new material on both the macro and the micro dimensions of international economics. We present a set of macroeconomic identities that show the inherent relationships between the U.S. trade deficit, government budget deficits, and the relatively low saving rate in the U.S. economy. In the microeconomics context, we show that the U.S. trade deficit extends to most of our trading partners and cannot be blamed solely on Japanese “dirty tricks.”

## COMPARATIVE-SYSTEMS COVERAGE

Gorbachev and *perestroika* provide new material for our chapter on comparative economic systems. We also have new material on “Taking Japan Seriously,” showing the Japanese economic system as a modern version of a *corporate society* described as “in the neighborhood of capitalism.” In our chapter on radical economics, we have added new material on the present status and future prospects of the New Left.

## TOPICAL ESSAYS

We continue to offer thought-provoking essays at the close of each of the seven parts of the book. Three (\*) of the seven are new or substantially re-

vised for the third edition:

- Classical Economics: The Dismal Science?
- Neoclassical Economics: The Complacent Science
- Living with Oligopoly
- \* “Fairness” in Industrial Relations—and Beyond
- \* Regulation, Deregulation, Reregulation: The S&L Case
- \* Japanese-American Economic Warfare?
- From Karl Marx to the New Left

These essays lead the student beyond the regular text material and show a broader perspective to the subject covered.

## “ECONOMICS IN FOCUS” APPLICATIONS OF ECONOMIC PRINCIPLES

As an entirely new feature of our third edition, we close each chapter with a brief, real-world application of some topic covered in the chapter. For example, following our initial chapter on “What Economics Is” the *Economics in Focus* application compares contrasting contemporary reports on the question “Is Socialism Dying?” In the “Government and Taxation” chapter, the *Economics in Focus* application describes the 1986 tax reforms and questions the achievement of a simplified tax code. These new additions to our text put economics “in focus.” They are designed to help the student bridge the gap between textbook explanations and real-world applications of economic models.

## INSTRUCTIONAL USE OF COLOR

With a virtually unlimited array of colors available for our third edition, we have carefully developed a consistent color-coding system for our art program. Rather than using color, as do most economics books, as a decorative or highlighting tool, our

color system promotes the understanding of economic concepts and relationships. This is true for both our graphs and tables.

First, the consistent color-coding system helps students recognize economic relationships in the graphs and follow the logic of the analysis. For example, a particular curve—such as supply, demand, marginal cost, marginal revenue, average cost, average revenue, and so on—is printed in the same color every time it appears. When a curve is shifted, it retains its original color, but with less intensity.

Second, to further clarify the underlying economic meaning, tables are consistently color-coded to appropriate graphs. We believe that our efforts result in a dramatic improvement over the art in other texts because our colors are purposeful. Color mobilizes an additional dimension of the human senses and puts it to work in the learning process.

## INNOVATIVE LEARNING AIDS

We, and the people at Houghton Mifflin, have made concerted efforts to make our text material ultimately accessible to students. We have retained the well-received glossary, index, end-of-chapter summaries, and end-of-chapter discussion questions (some of them new) from the earlier editions. We have added two innovative learning aids—easy reference text notes and key terms at chapter ends. Therefore, we now offer:

1. **Glossary** A very thorough glossary that is both conceptual and descriptive. These definitions are useful reference tools in that they are more comprehensively written than the key terms.
2. **Index** Our index is considered the most comprehensive listing in the market. As with previous editions, we have included both conceptual and descriptive entries with much cross-referencing.
3. **Discussion Questions at Chapter Ends** Each chapter concludes with a list of questions that are useful for classroom discussion or a

student's individual study. We have purposefully chosen questions that will generate interesting analysis and commentary.

4. **Summary at Chapter Ends** Summary statements are listed at the end of each chapter and are page-referenced to the body of the text. These statements allow students to quickly review the most important topics and concepts in each chapter.
5. **Easy Reference Text Notes** Throughout the text, bold-faced "text notes" concisely state the fundamental ideas of the material just covered. They provide instant reinforcement for the student as he or she studies the text. The text notes assure that the preceding material is well understood before the student goes on to the next topic.
6. **Key Terms at Chapter Ends** Key terms, carefully defined in the context of the material of the particular chapter, are listed alphabetically at the end of each chapter so that the student can build his or her economics vocabulary as he or she proceeds through the course. Each key term is page-referenced to where the topic is defined and discussed in the body of the text. For reference purposes, the key terms are repeated with more general definitions in the glossary at the back of the book.

## COMPLETE ANCILLARY PACKAGE

Our ancillaries are better than ever. They were developed to make the myriad of economic concepts more accessible to both instructors and students. Our computer-assisted interactive learning system is new. We have multicolor transparencies (some with overlays) and many new questions in our revised test bank, plus an altogether new test bank. Here is a list of the ancillaries.

1. **Instructor's Manual** Prepared by the text authors, the instructor's manual provides, for each chapter, a schematic outline, teaching tips about especially important or difficult points, and condensed answers to the end-of-

chapter discussion questions. The manual also includes transparency masters for all the figures and all the tables in the text.

2. **Study Guide** Prepared by Dr. Rose Pfefferbaum, Mesa Community College, our study guide is recognized as one of the best in the industry. For each chapter, it contains a summary, a list of learning objectives, review terms, new terms, completion exercises, problems and applications, sample true-false questions, sample multiple-choice questions, and discussion questions.
3. **Test Banks** With this edition we publish two complete test banks: SERIES I (Chapters 1–40) and SERIES II (Chapters 1–40). In total, our test banks offer over 5,000 multiple-choice questions with a significant percentage of items requiring graphical analysis. Questions are coded for level of difficulty and type.
4. **Overhead Transparencies** We provide our adopters with over 150 multicolored overhead transparencies. Fifteen percent of these overheads are produced as overlays, allowing instructors to visually demonstrate the dynamic nature of economics.

## For the Computer

5. **PC Test Bank Plus** All of our test questions are available free of charge to our adopters, on computer disk in IBM PC, PS/2 and compatibles, and Apple Macintosh format. PC Test Bank Plus is an innovative test assembly program that saves time and assures accuracy. The program renders precise, pre-programmed graphs on the computer which eliminates the need to draw graphs or paste them in place.

In addition to this offering, adopters can use Houghton Mifflin's Call-in Test Service for test generation.

6. **Computerized Tutorial Package** New to this edition is an exciting tutorial program consisting of over 15 modules. Providing students with a highly interactive environment that fully utilizes the dynamic capabilities of the computer, each module reviews the major concepts in a single chapter and then asks questions that allow students to change vari-

ables to interact with appropriate graphs. Students are scored at the end of each module. For questions that they did not answer correctly, students are referred back to the text discussion via actual page numbers. Available to adopters for IBM PC, PS/2, and compatible computers.

7. **Computerized Simulation** New to this edition is a highly dynamic simulation program consisting of over 15 modules. Each module asks students to apply their chapter knowledge to a real-world situation. By assuming various jobs that require economic understanding, students must make economic decisions and evaluate the consequences. Unlike most simulation packages, ours is highly graphical, thereby furthering analytical education. In addition, when a student has problems with a particular decision, they are referred back to both the text and appropriate tutorial module. Available to adopters for IBM PC, PS/2, and compatible computers.
8. **Computerized Study Guide** With this edition we offer a brand new computerized version of the printed Study Guide. When questions are answered incorrectly, explanations are offered to guide the students to the correct answer. Available to adopters for IBM PC, PS/2, and compatible computers.

9. **Computerized Instructor's Handbook** This ancillary includes lecture outlines for each chapter. Instructors can modify these lecture files using any commercial word processor to produce personalized lecture notes, course syllabi, or handouts for use in the classroom. Available to adopters for IBM PC, PS/2, and Apple Macintosh computers.

## THE AUTHORS

Each of us has instructed thousands of students in elementary economics. We have used many different texts, and each of us has taught many parts of the subject—micro, macro, international, comparative systems, and points between and beyond.

Each of us has his areas of special interest. Also, we have learned a lot from each other and from the experience of writing and revising our first two editions. Therefore, the final product is far less the work of three individuals than it is the combined efforts of a team. Each chapter is the result of the cooperative efforts of all the authors. The result, we believe, is far superior to what any one of us could have accomplished alone.

## ACKNOWLEDGMENTS

It is a pleasure to acknowledge the help we have received in writing this book and preparing it for publication. Since Martin Bronfenbrenner was a visiting professor at Western Michigan University in 1989, all three of us are able to express our gratitude to our colleagues who shared generously their knowledge of economics and their teaching insights. Especially helpful were Sisay Asefa, Philip Caruso, Kevin Collins, Bassam Harik, Salim Harik, Wei Chiao Huang, William Kern, Jon Neill, Susan Pozo, Theo Sypris, and Raymond Zelder. Also, we benefited from conversations with a former colleague, Barry Krissoff, now with the United States Department of Agriculture, and with a long-time friend, Harry Trebing, professor of

economics at Michigan State University. All three of us are grateful for the typing services of Bonnie Guminski and Becky Ryder.

Especially helpful reviews were provided by Professor David Colander of Wesleyan University and by Professor Nancy Jianakoplos of Michigan State University; also Ira Gang of Rutgers University, Harry Holzer of Michigan State University, Pradeep Kotamraju of the University of Minnesota, Harry Landreth of Centre College, Lester Mander-schied of Michigan State University, Emlyn Norman of Texas Southern University, Susan Pozo of Western Michigan University, Gerald Sazama of the University of Connecticut, Robert Stuart of Rutgers University, and Jay Sultan of Arizona State University. Rose Pfefferbaum provided especially thoughtful comments as she studied the manuscript in preparing the Study Guide. Insights and inspiration were received from six Nobel Laureate economists (Kenneth Arrow, James Buchanan, Lawrence Klein, Herbert Simon, Robert Solow, and James Tobin) who lectured on "The State of Economic Science" at Western Michigan University during the 1988–1989 academic year.

In the previous two editions, we received expert advice from many reviewers. We are very grateful for their comments which resulted in two very successful editions and the foundation for what promises to be the best edition yet.

David Abel  
*Mankato State University*

Jack Adams  
*University of Arkansas*

Richard Agnello  
*University of Delaware*

J. Barry  
*Fordham University*

Philip Bartholomew  
*University of Michigan*

Paul T. Bechtol  
*Ohio State University*

Klaus Becker  
*University of Kansas*

Carolyn Shaw Bell  
*Wellesley College*

Robert E. Berry  
*Miami University, Ohio*

Calvin Blair  
*Wilson College*

Paul Blume  
*Hanover College*

Joe Brum  
*Fayetteville Technical Institute*

E. Buchholz  
*Santa Monica College*

J. Alvin Carter  
*Catawba College*

Phillip Caruso  
*Western Michigan University*

J. Cavallo  
*College of Mt. St. Vincent*

Ming Chow  
*Kansas State University*

K. Chu  
*California State University*

Charles Cole  
*California State University*

Robert Collier  
*Western Washington University*

Michael T. Cook  
*William Jewell College*

Eleanor Craig  
*University of Delaware*

James M. Cypher  
*California State University, Fresno*

Michael T. Doyle  
*University of Nebraska, Omaha*



Peter Eelkema <i>University of Kansas</i>	Brooks Hull <i>University of Michigan</i>	Joan M. McCrea <i>University of Texas, Arlington</i>
William Field <i>Depauw University</i>	Paul C. Huszar <i>Colorado State University</i>	Jesse Mercer <i>College of the Albemarle</i>
Max E. Fletcher <i>University of Idaho</i>	Harry Hutchinson <i>University of Delaware</i>	Ellen Miller <i>University of North Carolina</i>
Carroll Foster <i>University of Michigan</i>	Eric Jacobson <i>University of Delaware</i>	Jack Minkoff <i>Pratt Institute</i>
R. Freed <i>California State University, Dominguez Hills</i>	Jack L. Jeppesen <i>Cerritos College</i>	Eric Mitchell <i>University of New Hampshire</i>
Mark Gardner <i>Emory &amp; Henry College</i>	Stanley R. Keil <i>Ball State University</i>	Gary Mongiovi <i>St. John's University</i>
Ann Garrison <i>University of Northern Colorado</i>	Larry Kendra <i>Cuyahoga Community College</i>	R. B. Moore <i>U.S. Naval Academy</i>
Kathie Gilbert <i>Mississippi State University</i>	Dan Knighton <i>Moorhead State University</i>	W. Morrison <i>Mesa Community College</i>
Otis W. Gilley <i>University of Texas, Austin</i>	A. Kohen <i>James Madison University</i>	Joseph Murray <i>Community College of Philadelphia</i>
Constantine Glezakos <i>California State University, Long Beach</i>	R. Kolinski <i>University of Michigan</i>	P. J. Nickless <i>University of North Carolina</i>
Douglas Gordon <i>Arapahoe Community College</i>	B. Lanciaux <i>Hobart &amp; William Smith College</i>	T. Lee Norman <i>Idaho State University</i>
A. Grow <i>Mesa Community College</i>	John Larson <i>University of Oregon</i>	James O'Neill <i>University of Delaware</i>
Nicholas D. Grunt <i>Tarrant County Junior College</i>	Soyen Lee <i>Illinois Benedictine College</i>	Carl D. Parker <i>Ft. Hayes State University</i>
George Hartley <i>Northwestern State University</i>	E. Liebhafsky <i>University of Houston, Clear Lake</i>	Peter Penndorf <i>Quinsigamond Community College</i>
Curtis Harvey <i>University of Kentucky</i>	M. London <i>Butte College</i>	R. D. Peterson <i>Colorado State University</i>
Frank Hefner <i>Washburn University</i>	Alan B. Mandelstamm <i>Virginia Polytechnic Institute &amp; State University</i>	Rose Pfefferbaum <i>Mesa Community College</i>
Ali Hekmat <i>Western Washington University</i>	Gabriel Manrique <i>Quincy College</i>	John Pisciotta <i>University of Southern Colorado</i>
Robert E. Herman <i>Nassau Community College</i>	Wolfgang Mayer <i>University of Cincinnati</i>	Dean Popp <i>San Diego State University</i>
C. A. Hofmann <i>Idaho State University</i>	Michelle McAlpin <i>Tufts University</i>	John A. Powers <i>University of Cincinnati</i>
Donald Holley <i>Boise State University</i>	Roger McCain <i>City University of New York, Brooklyn College</i>	Myron Re <i>Gogebic Community College</i>
Estelle Horowitz <i>Pratt Institute</i>	Norris McClain <i>Old Dominion University</i>	Mike Reed <i>University of Nevada</i>

Terry Riddle  
*Central Virginia Community  
 College*

Richard Roehl  
*University of Michigan*

G. Roth  
*Hofstra University*

Lars G. Sandberg  
*Ohio State University*

Paul J. Schmitt  
*St. Clair County Community  
 College*

Carole Scott  
*West Georgia College*

William Shingleton  
*Ball State University*

Arlene Silvers  
*Drexel University*

Nat Simons  
*Ohio State University*

Gordon Skinner  
*University of Cincinnati*

Charles Skoro  
*Boise State University*

Russell E. Smith  
*Washburn University*

J. Ronald Stanfield  
*Colorado State University*

M. Dudley Stewart, Jr.  
*Stephen F. Austin State University*

Barry Stregeusky  
*Ball State University*

Emily Sun  
*Manhattan College*

Gilbert Suzawa  
*University of Rhode Island*

W. Swift  
*Hofstra University*

K. Taylor  
*University of Southern California*

Fred Tiffany  
*Bryn Mawr College*

Tom Till  
*St. Andrew's Presbyterian College*

Ralph Townsend  
*University of Maine*

John F. Walker  
*Portland State University*

Harold L. Wattel  
*Hofstra University*

Charles Weber  
*University of Michigan*

James Wible  
*University of New Hampshire*

Jeffrey J. Wright  
*Bryant College*

William Wood  
*University of Virginia*

Werner Sichel wishes especially to thank Peter Eckstein, his co-author of a previous book, *Basic Economic Concepts*, for his efforts on that volume, which have surely carried over and benefited this one. While Werner Sichel was very careful to use only examples and other material that he had initially contributed, he is indebted to Peter Eckstein for helping him to develop his ideas and materials for the earlier book.

All three of us acknowledge the help of students who, over the years, have plied us with questions that remained in our minds long after the

answer was given. And, most importantly, each of us wants to acknowledge the help and support from family members who did without our company, sacrificed vacations, and in many ways were essential to the completion of the project. We trust that they understand the depth of our appreciation.

We also want to thank the many people at Houghton Mifflin who worked hard and well to create an attractive finished product.

M.B.      W.S.      W.G.

# The Complete Teaching/Learning System

- *Economics*, the hardcover text
- *Macroeconomics* and *Microeconomics*, paperbacks. International trade, comparative economic systems, and radical economics chapters included in both volumes.
- *Instructor's Manual*, prepared by the text authors. Provides for each chapter:
  - Schematic Outline
  - Teaching Notes
  - Suggested answers to all discussion questions in the textThe Instructor's Manual also provides transparency masters for all figures and tables in the text; and instructions for using the computerized Test Bank.
- *Study Guide*, by Rose Pfefferbaum, Mesa Community College. Provides for each chapter:
  - Summary
  - List of Objectives
  - Review Terms
  - New Terms
  - Completion Exercises
  - Problems and Applications
  - True-False Questions
  - Multiple-Choice Questions
  - Discussion Questions

- *Test Banks*, Series I: Chapters 1–40, prepared by the text authors with Rose Pfefferbaum, Mesa Community College; Series II: Chapters 1–40, prepared by the text authors and Ronald Cipic of Kalamazoo Community College and Western Michigan University.
- *Overhead Transparencies*, over 150 including overlays.

## For the Computer

- *PC Test Bank Plus*, computerized Test Bank in IBM PC, PS/2 and compatibles, and Apple Macintosh formats.
- *Computerized Macro and Micro Tutorial Package*, over 15 modules available for IBM PC, PS/2, and compatible computers.
- *Computerized Study Guide*, available for IBM PC, PS/2, and compatible computers.
- *Computerized Instructor's Handbook*, available for IBM PC, PS/2, and Apple Macintosh computers.

# Contents

## **I INTRODUCTION TO ECONOMICS**

---

### **1 What Economics Is 1**

---

#### **Preview 1**

#### **What Is Economics? 2**

#### **Microeconomics and Macroeconomics 3**

*Microeconomics: Three Basic Choices 3*

*Macroeconomics: Analysis of Aggregate*

*Economic Activity 4*

#### **Economic Growth and Development 6**

*Economic Growth: More of the Same Output 6*

*Economic Development: Growth Plus Progress 6*

#### **How Societies Solve Economic Problems 8**

*Which Mechanism—Market or Planned? 9*

*Ownership—Capitalism or Socialism? 11*

#### **Evaluating Economic Systems 11**

*Six Criteria 11*

*Policy Tradeoffs 13*

#### **Why So Hard? 14**

*Economics in Focus Is Socialism Dying? 15*

#### **Summary 16**

#### **Key Terms 16**

#### **Discussion Questions 17**

### **2 The Actors on the Economic Stage 19**

---

#### **Preview 19**

#### **Households 20**

*Population and Age Groups 20*

*Sources of Income 22*

*Median Family Income 23*

*Labor Force Participation 24*

*Uses of Income 25*

#### **Business Firms 26**

*Forms of Business Organizations 26*

*The Stock Market 28*

*Business Accounting 29*

#### **Governments 32**

*The Allocation Function 33*

*The Distribution Function 34*

*The Stabilization Function 35*

<b>The Rest of the World</b>	<b>35</b>
<b>The Actors in Action</b>	<b>36</b>
<i>Economics in Focus Women in the Labor Force</i>	<b>37</b>
<b>Summary</b>	<b>38</b>
<b>Key Terms</b>	<b>38</b>
<b>Discussion Questions</b>	<b>39</b>

<i>Economics in Focus Economic Experiments</i>	<b>58</b>
<b>Summary</b>	<b>59</b>
<b>Key Terms</b>	<b>59</b>
<b>Discussion Questions</b>	<b>60</b>

### **3 How Economists Approach Problems 41**

#### **Preview 41**

#### **Economic Theory 42**

*Testing Economic Theory 42*

*The Role of Assumptions 43*

*Economic Rationality 44*

*Positive and Normative Economics 46*

#### **Functional Relationships 46**

*Dependent and Independent Variables 47*

*Direct and Inverse Relationships 47*

*Graphs 47*

#### **Marginal Analysis 51**

*Marginal Analysis in Functional Relationships 51*

*Relationship Between Marginal, Average, and Total Amount 51*

*Marginal Cost and Marginal Benefit 52*

*Criticism of Marginal Analysis 53*

#### **Equilibrium 53**

*Stable and Unstable Equilibrium 54*

*Partial Equilibrium versus General Equilibrium 54*

*Statics, Comparative Statics, and Dynamics 55*

#### **A Word to the Wise . . . 55**

*Terms 55*

*Cause and Effect 55*

*Fallacy of Composition 56*

*Time Lags 56*

*Uncertainty and Expectations 56*

*Pervasive Errors 57*

### **4 Scarcity: The Economic Problem 63**

#### **Preview 63**

#### **Scarcity 64**

*Scarce Goods and Services 64*

*Scarce Resources 65*

*Choice 68*

#### **Opportunity Cost 68**

*Opportunity Cost in Consumption 69*

*Opportunity Cost in Production 70*

*Economics in Focus Opportunity Costs in Health Care 77*

#### **Summary 78**

#### **Key Terms 78**

#### **Discussion Questions 79**

### **5 Demand and Supply—Or Supply and Demand 81**

#### **Preview 81**

#### **Individual Consumer Demand Decisions 82**

*The Demand Schedule and Curve 83*

*Slope of the Demand Curve 84*

*Changes in the Quantity Demanded and Changes in Demand 85*

#### **Individual Firm Supply Decisions 87**

*The Supply Schedule and Curve 88*

*Slope of the Supply Curve 88*

*Changes in the Quantity Supplied and Changes in Supply 89*



## **Market Demand and Supply 91**

*Equilibrium Price and Quantity 92*

*Market Manipulation 94*

### **Which Sequence: Macro-Micro or Micro-Macro? 98**

*Economics in Focus Drought and Food Prices or No Rain—A Lot of Pain 99*

**Summary 100**

**Key Terms 100**

**Discussion Questions 101**

*Essay Classical Economics: The Dismal Science?*

## **II THE BEHAVIOR OF CONSUMERS AND FIRMS**

### **6 Consumer Choice 103**

**Preview 103**

**Review of the Demand Curve 104**

**Utility Analysis 104**

*Assumptions of Utility Analysis 104*

*Utility and Demand 109*

*Is the Consumer Sovereign? 112*

**Extensions of Utility Analysis 112**

*Consumers' Surplus 113*

*Paradox of Value 114*

*Economics in Focus The Sovereign Consumer and the Edsel 116*

**Summary 117**

**Key Terms 117**

**Discussion Questions 118**

*Appendix Indifference Curve Analysis 120*

### **7 Market Demand and Elasticity 129**

**Preview 129**

**The Market-Demand Curve 130**

*Summing Individual Quantities Demanded 130*

*Market-Demand Shifts 130*

**Price Elasticity of Demand 132**

*The Relationship Between Relatives 132*

*The Numerical Value of Elasticity 133*

*Elasticity Categories 134*

*Determinants of Price Elasticity of Demand 135*

*Price Elasticity of Demand and Total Revenue 138*

**Cross Elasticity of Demand 139**

**Income Elasticity of Demand 141**

*Economics in Focus The Price of Vanity 143*

**Summary 144**

**Key Terms 144**

**Discussion Questions 145**

### **8 Business Firm Choice 147**

**Preview 147**

**Production 148**

*Technical Efficiency 148*

*Economic Efficiency 150*

**Three Time Spans for Decision Making 151**

**Production in the Short Run 152**

*Increasing, Diminishing, and Negative Returns 153*

*The Stages of Production 155*

**Costs in the Short Run 156**

*Transaction and Information Costs 157*

*Explicit and Implicit Costs 157*

*Total Costs of Production 158*

*Average Costs of Production 160*

*Marginal Cost of Production 161*

## **Production in the Long Run 162**

*Effects of Plant Size on Long-Run Average Cost* 163

*The Relationship Between Long-Run and Short-Run Average Total Costs* 167

## **Production in the Very Long Run 169**

*Invention and Innovation* 169

*Productivity and Business Decisions* 169

*Productivity in the United States* 170

*Economics in Focus How Short Is the Very-Long Run?* 171

**Summary 172**

**Key Terms 173**

**Discussion Questions 174**

*Appendix A Firm's Best Input Combination* 176

---

## **9 Market Supply and Elasticity 181**

**Preview 181**

**Rational Business Firms 182**

**The Meanings of Profit 183**

**Identifying the Profit-Maximizing Level of Output 184**

*Total Cost and Total Revenue* 184

*Marginal Cost and Marginal Revenue* 186

*Graphic Presentation of Profit Maximization* 187

*To Supply or Not to Supply?* 189

**Elasticity of Supply 191**

*Elasticity Categories* 191

*Determinants of Price Elasticity of Supply* 192

*Economics in Focus Supply in the Oil Industry: Drilling, Spilling, and Price Fluctuations* 196

**Summary 197**

**Key Terms 197**

**Discussion Questions 198**

*Essay Neoclassical Economics: The Complacent Science*

---

## **III MARKET STRUCTURES AND ECONOMIC PERFORMANCE**

---

### **10 Pure Competition 199**

**Preview 199**

**Four Sellers' Market Structures 200**

**Pure Competition 201**

*Conditions for Pure Competition* 201

*Perfect Competition* 202

**The Pure Competition Model 202**

*The Firm versus the Market* 202

*Demand and Revenue for the Firm in Pure Competition* 204

*Supply and Cost for the Firm in Pure Competition* 205

*Profitability of Firms in Pure Competition* 207

*Long-Run Market Supply* 212

**Evaluation of Pure Competition 217**

*The Virtues of Pure Competition* 218

*The Failings of Pure Competition* 220

*Economics in Focus Competition in the Egg Business* 221

**Summary 222**

**Key Terms 223**

**Discussion Questions 223**

---

### **11 Monopoly 225**

**Preview 225**

**Pure Monopoly, Actual Monopoly, and Monopoly Control 226**

Pure Monopoly 226  
Actual Monopoly 226  
Monopoly Control 228

### **The Pure Monopoly Model 229**

Demand and Marginal Revenue 229  
Relationship to Elasticity 232  
Equilibrium Output and Price 233  
Short-Run and Long-Run Profit 233

### **Evaluation of Pure Monopoly 237**

Price, Marginal Cost, and Resource Allocation 237  
Resource Transfer 238  
Beyond Resource Allocation 239

### **Price Discrimination 241**

Price Differentials and Price Discrimination 241  
Prerequisites for Price Discrimination 242  
Profit Improvement Through Price Discrimination 243  
Evaluation of Price Discrimination 245

### **Economics in Focus Patent Protection for U.S. Business 247**

#### **Summary 248**

#### **Key Terms 249**

#### **Discussion Questions 250**

---

## **12 Monopolistic Competition and Oligopoly 251**

---

### **Preview 251**

### **Monopolistic Competition 252**

Conditions for Monopolistic Competition 252  
Real-World Markets? 253  
Advertising 253  
The Monopolistic Competition Model 258  
Evaluation of Monopolistic Competition 261

### **Oligopoly 263**

Fewness 263  
The Real World 263

Oligopoly Models 264  
Evaluation of Oligopoly 271

### **Economics in Focus War of the Burgers: Monopolistic Competition in the Fast Food Industry 274**

#### **Summary 275**

#### **Key Terms 276**

#### **Discussion Questions 277**

---

## **13 Oligopoly: The Real World 279**

---

### **Preview 279**

### **Economic Concentration 280**

Aggregate Economic Concentration 280  
Market Concentration 285

### **Merger 288**

Types of Mergers 288  
Merger Movements 289  
Why the Urge to Merge? 290  
Merger, Concentration, and Competition 293

### **Potential Entry 294**

The Entry Concept in Economics 294  
The Condition of Entry 295  
The Barriers to Entry 296

### **Oligopoly and Social Welfare 298**

Economics in Focus Is Big Business in Decline? 299

#### **Summary 300**

#### **Key Terms 301**

#### **Discussion Questions 302**

Essay Living with Oligopoly

---

## **IV RESOURCE MARKETS**

---

---

## **14 Resource Supply and Demand 303**

---

### **Preview 303**

### **The Resources Revisited 304**

*Labor Resources* 304  
*Entrepreneurial Resources* 304  
*Natural Resources* 305  
*Capital Resources* 305  
*Resource Packages* 305

### **The Functional Distribution of Income 306**

### **The Supply of Resources 307**

*Supply for All Uses* 307  
*Supply for Specific Uses* 313  
*Price Elasticity of Resource Supply* 313

### **The Demand for Resources 314**

*Derived Demand* 314  
*Price Elasticity of Resource Demand* 315  
*Resource Demand and Marginal Productivity* 316

### **The Interaction of Supply and Demand in a Resource Market 319**

*Transfer Earnings and Economic Earnings* 320  
*Taxing Economic Earnings* 323

### ***Economics in Focus The Shortage of Nurses* 324**

### **Summary 325**

### **Key Terms 326**

### **Discussion Questions 327**

## **15 Labor, Wages, and Collective Bargaining 329**

### **Preview 329**

### **Labor Supply and Demand 330**

*Hiring in a Purely Competitive Labor Market* 330  
*Hiring in a Monopsonistic Labor Market* 336

### **Labor Unions and Collective Bargaining 340**

*Highlights in the History of the Labor Movement* 341  
*Collective Bargaining* 347

### **The Impact of Unions on Wage Rates 349**

*Bargaining in a Purely Competitive Labor Market* 349  
*Bargaining in a Monopsonistic Labor Market* 354

### **The Effect of Government on Wage Rates 355**

*Taxing Employees and Employers* 356  
*Setting Minimum Wage Rates* 356

### **Wage Differentials 358**

*Worker Qualifications* 359  
*Job Desirability* 359  
*Labor Market Institutions* 360

### ***Economics in Focus The Share Economy* 361**

### **Summary 362**

### **Key Terms 363**

### **Discussion Questions 364**

## **16 Capital, Interest, and Investment 367**

### **Preview 367**

### **Physical Capital 368**

*Roundabout Production* 368  
*The Investment Decision* 368

### **Interest-Rate Determination 373**

*The Investment Demand for Loanable Funds* 374  
*Other Demands for Loanable Funds* 375  
*The Supply of Loanable Funds* 375  
*Many Different Interest Rates* 376

### **Human Capital 376**

*The Human Capital Investment Decision* 376  
*Some Findings on the Returns from Education* 379

### ***Economics in Focus Investing in Education* 382**

### **Summary 383**