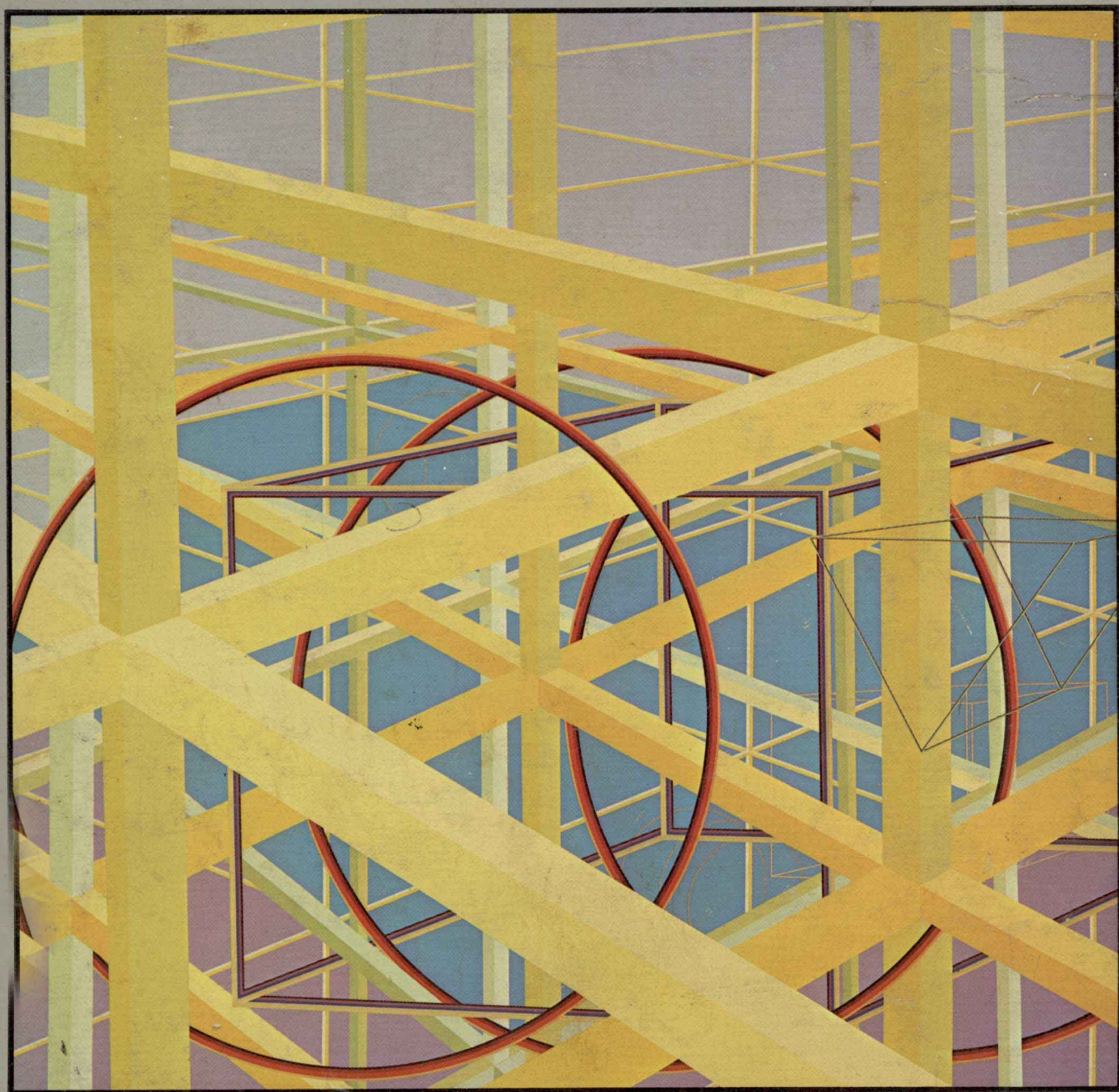


**Edwin Mansfield**

# **ECONOMICS**



**FOURTH EDITION**

# Economics

PRINCIPLES, PROBLEMS, DECISIONS

---

EDWIN MANSFIELD

UNIVERSITY OF PENNSYLVANIA

---

FOURTH EDITION



W • W • NORTON & COMPANY • NEW YORK • LONDON

(Photograph credits and acknowledgments appear on page A28.)

Front cover art: *Bruges II*, 1981, by A. Held. Acrylic on canvas: 7' × 7', 213.4 × 213.4 cm.  
Courtesy André Emmerich Gallery.

To Edward Deering Mansfield (1801–1880)  
and his brother-in-law Charles Davies (1798–1876)  
neither of whom should be held responsible  
for the views expressed here.

Copyright © 1983, 1980, 1977, 1974 by W. W. Norton & Company, Inc.  
All rights reserved.

Published simultaneously in Canada by George J. McLeod Limited, Toronto.  
Printed in the United States of America.

The text of this book is composed in Times Roman, with display type set in Times Roman Bold. Composition by New England Typographic Service, Inc. Manufacturing by The Murray Printing Company. Book design by Antonina Krass. Page makeup by Ben Gamit.

Library of Congress Cataloging in Publication Data  
Mansfield, Edwin.

Economics: principles, problems, decisions,  
Fourth Edition.

Includes bibliographical references and index.

1. Economics. I. Title.

HB171.5.M266 1983 330 82-8196

**ISBN 0-393-95265-7**

W. W. Norton & Company, Inc. 500 Fifth Avenue, New York, N. Y. 10110  
W. W. Norton & Company Ltd. 37 Great Russell Street, London WC1B 3NU

2 3 4 5 6 7 8 9 0



# Preface

This edition, like its predecessors, emphasizes the importance of economics as a guide to decision making. It does so by taking principles beyond the classroom and demonstrating how those principles actually can be used in the operation of business firms ranging in size and market power from a corner drugstore to a multinational corporation, in the routines of a typical household, and in the activities of the largest economic institution of all, the federal government.

Any principles text must keep current with the state of economic knowledge, especially as it applies to the economic issues of the day. The Fourth Edition does that, in ways I outline below. But the most sweeping change in this edition is not one of organization or style; it concerns the role of the textbook vis à vis the student.

Most textbooks do not encourage the student to get involved in the subject. They simply lay out the material, leaving the student to absorb it passively. Economics, however, need not be a spectator sport. In this edition I invite the student to *do* economics in order to understand it better. The book contains over seventy examples; each describes a real (or realistic) situation and then calls on the reader to work through the solution. Within each chapter there are two problem sets, both designated “Test Yourself,” that enable students to check their comprehension of what they have just read. At the end of each chapter is a case, generally based on real data, that gives rise to a number of detailed questions that students can answer on the strength of their reading of the chapter. (Answers to the Test Yourself sections and the end-of-chapter cases appear in the Instructor’s Manual. Answers to the Test Yourself sections also appear in the Study Guide.)

This combination of learning devices is similar to what one might find in a chemistry or physics text. They are, I believe, appropriate to an economics text as well, since economics no less than physics or chemistry requires constant shuttling back and forth from the concrete to the abstract.

In emphasis, organization, and design, this edition has, quite literally, a fresh look. While dozens of sections have been recast, the most extensive changes can be summarized briefly:

*New Emphases.* Three topics have received much more attention in this new edition than in its predecessor.

1. A new chapter (Chapter 9) has been added on aggregate demand and aggregate supply curves. In the previous edition, there was a short discussion of these curves and their usefulness in economic analysis. Now this treatment has been expanded considerably, reflecting the fact that more and more instructors include aggregate demand and supply curves in their courses.

2. A new chapter (Chapter 20) has been added on America's recent productivity slowdown. Besides describing the causes and consequences of this slowdown, this chapter examines in detail many of the policies that have been proposed to increase U.S. productivity, and the measures that have been adopted. Also, considerable attention is devoted to our nation's policies toward civilian technology, which is at the core of this topic.

3. More attention has been given to supply-side economics and rational expectations theories, both of which have played an important role in many of the policy discussions of the 1980s. In Chapters 5 and 17, sections have been added on supply-side economics, dealing with the Laffer curve, the policy prescriptions of supply-side economists, and the relationship between supply-side economics and other schools of economics. In Chapter 17, rational expectations theories are given more prominence than in the previous edition.

*New Organization.* Four major changes have occurred in the organization of the book.

1. By careful editing, it has been possible to compress the introductory material that formerly constituted Chapters 1 to 3 into two chapters, not three. This allows the student to get more quickly into the heart of the subject.

2. A set of appendices, "Digging Deeper into the Economist's Tool Box," has been constructed, each of which contains important material that is sometimes considered too advanced for the elementary course. These appendices deal with *IS* and *LM* curves, isoquants and isocost curves, linear programming, input-output models, and optimal resource allocation. These appendices are grouped together at the end of the book.

3. The chapter on consumer behavior and rational choice is now after, not before, the chapter on market demand. Also, the material on indifference curves has been put into an appendix to the chapter on consumer behavior. These changes should make this part of the book conform more closely to most instructors' treatments of this subject.

4. The organization of the macroeconomic chapters has been altered somewhat, due to the addition of the new material on aggregate demand and supply curves. One advantage of the new organization is that an entire chapter is devoted to multiplier analysis and related topics.

*Updating.* All of the empirical and policy-oriented materials have been updated. Since a text should reflect current conditions and concerns, the government policies in all the major economic areas, fiscal, monetary, incomes, farm, energy, environmental, antitrust, and international, are reviewed in depth. The latest data available have been incorporated in the

tables, diagrams, and discussions, while revisions in sections on economic forecasting, the definition of money, reserve requirements, and a variety of other topics have brought them into line with current developments.

*Other Improvements.* A host of other changes have been made in all parts of the book. Key concepts like consumer's surplus and price discrimination have received more attention. New inserts have been added on David Stockman and OMB, as well as on the important new trends in collective bargaining. Old inserts have been rewritten. At the same time, many parts of the text have been simplified, and extraneous details have been purged. The process of revision left no chapter, section, paragraph, or sentence unexamined.

*The New Design.* The study of economics presents enough challenges without students being forced to cope with page after page of densely packed reading matter. The single column format, new in this edition, reduces the amount of words on each page; beyond that, it permits generous enough margins to accommodate many of the diagrams and tables. This results in an extremely close fit between written text and graphic material, minimizing the page flipping that understandably can be the source of much reader annoyance. As in previous editions, a second color has been used to lend emphasis to key movements and relationships in the diagrams. This time, in addition, the second color highlights crucial statements and definitions, making it decidedly easier for the reader to pick out those passages when reviewing a chapter.

This completes the conducted tour of the major changes. Since instructors differ considerably in their choice and ordering of topics, this book is organized for maximum flexibility. Many instructors take up microeconomics before macroeconomics. This book will work just as well for these instructors as for those who prefer to present macroeconomics first. (A suggested ordering of chapters is presented for them on p.xxiv.) As an alternative to reversing the chapter sequence in the one-volume editions, some instructors may want to consider the two-volume paperbound version, *Principles of Microeconomics* and *Principles of Macroeconomics*, fourth editions.

This book can also be adapted for use in one-semester courses. Pages xxiv–xxv present outlines for a one-semester course stressing microeconomics, a one-semester course stressing macroeconomics, and a one-semester course covering both.

As supplements to this text, I have prepared both a book of readings and a study guide containing problems and exercises. The book of readings is in two parts, *Principles of Macroeconomics: Readings, Issues, and Cases*, fourth edition, and *Principles of Microeconomics: Readings, Issues, and Cases*, fourth edition. It provides a substantial set of supplementary articles, carefully correlated with the text for instructors who want to introduce their students to the writings of major contemporary economists. It is designed to acquaint the student with a wide range of economic analysis, spanning the spectrum from the classics to the present-day radicals. The emphasis, as in the text, is on integrating theory, measurement, and applications.

The *Study Guide*, fourth edition, contains, in addition to problems, review questions, and tests, a large number of cases that require the student to work with quantitative material in applying concepts to practical situa-

tions. Also, the completion, multiple choice, and true-false questions have been made more challenging. Major efforts have been made to root out the less effective questions and insert ones that work better.

An *Instructor's Manual* has been prepared by Michael Claudon of Middlebury College to accompany the text. A *Test Item File*, prepared by Herbert Gishlick of Rider College, is available both in printed form and on computer tape. *Transparency Masters* are also available to instructors who adopt the text.

Finally, it is a pleasure to acknowledge the debts that I owe to the many teachers at various colleges and universities who have commented in detail on various parts of the manuscript. The first, second, and third editions benefited greatly from the advice I received from the following distinguished economists, none of whom is responsible, of course, for the outcome: Wallace Atherton, California State University at Long Beach; Bela Balassa, Johns Hopkins; Robert Baldwin, University of Wisconsin (Madison); Arthur Benavie, North Carolina; Lee Biggs, Montgomery College; Donald Billings, Boise State; William Branson, Princeton; Martin Bronfenbrenner, Duke; Edward Budd, Penn State; Phillip Burstein, Purdue; Wade Chio, U.S. Air Force Academy; Michael Claudon, Middlebury; Warren Coates, Federal Reserve; Richard Cooper, Yale; Alan Deardorff, Michigan; William Desvousges, Missouri (Rolla); F. Trenery Dolbear, Brandeis; Robert Dorfman, Harvard; James Duesenberry, Harvard; William Dugger, North Texas State University; Richard Easterlin, University of Pennsylvania; Jonathan Eaton, Princeton; David Fand, Wayne State; Judith Fernandez, University of California (Berkeley); David Gay, University of Arkansas; Howard A. Gilbert, South Dakota State University; Gerald Goldstein, Northwestern; Robert Gordon, Northwestern; Edward Gramlich, Michigan; Herschel Grossman, Brown; William Gunther, Alabama; Jerry Gustafson, Beloit; Judy Herman, Queens College; Alan Heston, University of Pennsylvania; Albert Hirschman, Harvard; Ronald Jones, Rochester; John Kareken, Minnesota; Ann Krueger, Minnesota; Robert Kuenne, Princeton; Simon Kuznets, Harvard; William Leonard, St. Joseph's; Richard Levin, Yale; Raymond Lubitz, Columbia and the Federal Reserve; John F. MacDonald, Illinois (Chicago Circle); Sherman Maisel, University of California (Berkeley); Leonard Martin, Cleveland State University; Thomas Mayer, University of California (Davis); William McEachern, University of Connecticut; Joseph McKinney, Baylor; Edward McNertney, Texas Christian University; Steven Morrison, University of California (Berkeley); John Murphy, Canisius; Arthur Okun, Brookings Institution; Lloyd Orr, Indiana; R. D. Peterson, Markenomics Associates (Fort Collins); E. Dwight Phaup, Union College; Roger Ransom, University of California (Berkeley); Charles Ratliff, Davidson College; Albert Rees, Princeton; Edward Renshaw, State University of New York (Albany); Anthony Romeo, University of Connecticut; Vernon Rutan, Minnesota; Warren St. James, Nassau County Community College; Steven Sacks, University of Connecticut; Allen Sanderson, William and Mary; David Schulze, Florida; Edward Shapiro, University of Toledo; William Shugart, Arizona; Paul Sommers, Middlebury; Nicolas Spulber, Indiana; Charles Stone, Swarthmore; Richard Sutch, University of California (Berkeley); Frank Tansey, City University of New York; Michael Taussig, Rutgers; Thomas Tidrick, Clayton Junior College; Fred West-

---

PREFACE

---

field, Vanderbilt; Simon Whitney, Iona College; William Whitney, University of Pennsylvania; and Harold Williams, Kent State University.

Among the teachers who contributed comments and suggestions for the changes in the fourth edition are: Otis Gilley, University of Texas at Austin; Marvin E. Goodstein, University of the South; William Keeton, Yale; Water Misiolek, University of Alabama; and Jennifer Roback, Yale.

I would like to thank Elisabeth Allison of Harvard University for contributing the inserts that appear (over her initials) in various chapters, Donald S. Lamm and Nancy K. Palmquist of W. W. Norton for their efficient handling of the publishing end of the work, and Edward D. Mansfield and Elizabeth D. Mansfield for editorial help. As always, my wife, Lucile, has contributed an enormous amount to the completion of this book.

Philadelphia, 1982

E.M.



---

## Outline of a One-Year Course with Macroeconomics Following Microeconomics.

- |   |  |
|---|--|
| 1 Economic Problems and Analysis  | 8 Unemployment and Inflation   |
| 2 Economic Models and Capitalism, American-Style                          | 9 Aggregate Demand, Aggregate Supply, and Business Fluctuations          |
| 3 The Price System  | 10 The Determination of National Output                                  |
| 4 The Economic Role of the Government                                     | 11 Multiplier Analysis and Changes in Output                             |
| 5 Government Expenditures, Taxation, and the Public Debt                  | 12 Fiscal Policy and National Output                                     |
| 6 The Business Firm: Organization, Motivation, and Technology             | 13 Business Fluctuations and Economic Forecasting                        |
| 22 Market Demand and Price Elasticity                                     | 14 Money and the Economy   |
| 23 Getting Behind the Demand Curve: Consumer Behavior and Rational Choice | 15 The Banking System and the Quantity of Money                          |
| 24 Optimal Input Decisions by Business Firms                              | 16 Monetary Policy   |
| 25 Cost Analysis  | 17 Controversies over Stabilization Policy                               |
| 26 Perfect Competition  | 18 Inflation and Anti-Inflationary Measures                              |
| 27 Monopoly and Its Regulation  | 19 Economic Growth   |
| 28 Monopolistic Competition and Oligopoly                                 | 20 The Productivity Slowdown, U.S. Economic Growth and Technology Policy |
| 29 Industrial Organization and Antitrust Policy                           | 21 Environmental and Energy Problems                                     |
| 30 Determinants of Wages  | 33 International Trade   |
| 31 Interest, Rent, and Profits  | 34 Exchange Rates and the Balance of Payments                            |
| 32 Income Inequality, Poverty, and Discrimination                         | 35 The Less Developed Countries  |
| 7 National Income and Product   | 36 The Communist Countries and Marxism                                   |

---

## Outline of a One-Semester Course Emphasizing Microeconomics.

- |   |   |
|---|---|
| 1 Economic Problems and Analysis  | 29 Industrial Organization and Antitrust Policy                 |
| 2 Economic Models and Capitalism, American-Style                          | 32 Income Inequality, Poverty, and Discrimination [optional]    |
| 3 The Price System  | 7 National Income and Product                                   |
| 4 The Economic Role of the Government                                     | 8 Unemployment and Inflation                                    |
| 6 The Business Firm: Organization, Motivation, and Technology             | 9 Aggregate Demand, Aggregate Supply, and Business Fluctuations |
| 22 Market Demand and Price Elasticity                                     | 10 The Determination of National Output                         |
| 23 Getting Behind the Demand Curve: Consumer Behavior and Rational Choice | 11 Multiplier Analysis and Changes in Output                    |
| 24 Optimal Input Decisions by Business Firms                              | 12 Fiscal Policy and National Output                            |
| 25 Cost Analysis  | 14 Money and the Economy <sup>1</sup>                           |
| 26 Perfect Competition  | 15 The Banking System and the Quantity of Money                 |
| 27 Monopoly and Its Regulation  | 16 Monetary Policy  |
| 28 Monopolistic Competition and Oligopoly                                 |   |

<sup>1</sup> Also, assign the beginning sections of Chapter 13.

---

### **Outline of a One-Semester Course Emphasizing Macroeconomics.**

- |   |   |
|---|---|
| 1 Economic Problems and Analysis                                | 11 Multiplier Analysis and Changes in Output                              |
| 2 Economic Models and Capitalism, American-Style                | 12 Fiscal Policy and National Output                                      |
| 3 The Price System  | 13 Business Fluctuations and Economic Forecasting                         |
| 4 The Economic Role of the Government                           | 14 Money and the Economy  |
| 5 Government Expenditures, Taxation, and the Public Debt        | 15 The Banking System and the Quantity of Money                           |
| 6 The Business Firm: Organization, Motivation, and Technology   | 16 Monetary Policy  |
| 7 National Income and Product                                   | 17 Controversies over Stabilization Policy                                |
| 8 Unemployment and Inflation                                    | 19 Economic Growth  |
| 9 Aggregate Demand, Aggregate Supply, and Business Fluctuations | 20 The Productivity Slowdown, U.S. Economic Growth, and Technology Policy |
| 10 The Determination of National Output                         | 33 International Trade  |
|   | 34 Exchange Rates and the Balance of Payments                             |
|   | 35 The Less Developed Countries   |
- 

### **Outline of a One-Semester Course Emphasizing Both Macroeconomics and Microeconomics.**

- |   |   |
|---|---|
| 1 Economic Problems and Analysis                                | 12 Fiscal Policy and National Output                                      |
| 2 Economic Models and Capitalism, American-Style                | 13 Business Fluctuations and Economic Forecasting                         |
| 3 The Price System  | 14 Money and the Economy  |
| 4 The Economic Role of the Government                           | 15 The Banking System and the Quantity of Money                           |
| 5 Government Expenditures, Taxation, and the Public Debt        | 16 Monetary Policy  |
| 6 The Business Firm: Organization, Motivation, and Technology   | 17 Controversies over Stabilization Policy                                |
| 7 National Income and Product                                   | 18 Inflation and Anti-Inflationary Measures                               |
| 8 Unemployment and Inflation                                    | 22 Market Demand and Price Elasticity                                     |
| 9 Aggregate Demand, Aggregate Supply, and Business Fluctuations | 23 Getting Behind the Demand Curve: Consumer Behavior and Rational Choice |
| 10 The Determination of National Output                         | 24 Optimal Input Decisions by Business Firms                              |
| 11 Multiplier Analysis and Changes in Output                    | 25 Cost Analysis  |
|   | 26 Perfect Competition  |
|   | 27 Monopoly and Its Regulation  |

# Contents

Preface

Suggested Outlines

---

## PART ONE

---

### Introduction to Economics

#### CHAPTER 1

#### Economic Problems and Analysis 1

ECONOMIC PROBLEMS: A SAMPLER 1 • WHAT IS ECONOMICS? 6 • *Test Yourself* 9 • OPPORTUNITY COST: A FUNDAMENTAL CONCEPT 9 • *Example 1.1 How Much Does It Cost to Go to College?* 11 • THE IMPACT OF ECONOMICS ON SOCIETY 12 • *Adam Smith on the “Invisible Hand”* 14 • *Example 1.2 The Assessment of Damages* 16 • *Test Yourself* 17 • *Summary* 18 • *Concepts for Review* 18 • *Getting Down to Cases: A Proposal by the President of the Ford Motor Company* 19

#### CHAPTER 2

#### Economic Models and Capitalism, American-Style 20

CONSUMERS 21 • FIRMS 21 • MARKETS 22 • THE METHODOLOGY OF ECONOMICS 23 • GRAPHS AND RELATIONSHIPS 25 • THE TASKS OF AN ECONOMIC SYSTEM 26 • *Example 2.1 Graphs, Taxes, and Politics* 27 • *Test Yourself* 28 • THE ECONOMIC SYSTEM: A SIMPLE INTRODUCTORY MODEL 29 • *Example 2.2 Hay and Grain in Iowa* 35 • CAPITALISM: AN ECONOMIC SYSTEM 36 • OUR MIXED CAPITALIST SYSTEM 39 • *Test Yourself* 40 • *Summary* 41 • *Concepts for Review* 42 • *Getting Down to Cases: The Military Buildup and the Production Possibilities Curve* 42

---

## PART TWO

---

## The Private Sector and the Public Sector: An Overview

### CHAPTER 3 The Price System 43

THE DEMAND SIDE OF A MARKET 43 • THE SUPPLY SIDE OF A MARKET 46 • EQUILIBRIUM PRICE 47 • ACTUAL PRICE 49 • *Example 3.1 It's Not Just for Breakfast Anymore* 50 • *Test Yourself* 51 • THE EFFECTS OF SHIFTS IN THE DEMAND CURVE 51 • THE EFFECTS OF SHIFTS IN THE SUPPLY CURVE 53 • THE PRICE SYSTEM AND THE DETERMINATION OF WHAT IS PRODUCED 54 • *Example 3.2 Tennis Anyone?* 55 • THE PRICE SYSTEM AND THE DETERMINATION OF HOW GOODS ARE PRODUCED 56 • THE PRICE SYSTEM AND THE DETERMINATION OF WHO GETS WHAT 56 • THE PRICE SYSTEM AND ECONOMIC GROWTH 57 • TWO CASE STUDIES 58 • PRICE CEILINGS AND PRICE SUPPORTS 62 • THE CIRCULAR FLOWS OF MONEY AND PRODUCTS 63 • *Test Yourself* 64 • *Summary* 65 • *Concepts for Review* 65 • *Getting Down to Cases: Improved Vital Signs in Hard Coal* 66

### CHAPTER 4 The Economic Role of the Government 67

LIMITATIONS OF THE PRICE SYSTEM 67 • WHAT FUNCTIONS SHOULD THE GOVERNMENT PERFORM? 69 • ESTABLISHING "RULES OF THE GAME" 70 • REDISTRIBUTION OF INCOME 72 • STABILIZING THE ECONOMY 73 • PROVIDING PUBLIC GOODS 73 • EXTERNALITIES 75 • GOVERNMENT PRODUCTION AND "CREEPING SOCIALISM" 76 • *Example 4.1 The Economics of Urban Blight* 77 • SIZE AND NATURE OF GOVERNMENT ACTIVITIES 79 • CHANGES IN VIEW OF GOVERNMENT RESPONSIBILITIES 80 • *Urban Fiscal Crisis: The Case of New York City* 81 • WHAT THE FEDERAL, STATE, AND LOCAL GOVERNMENTS RECEIVE IN TAXES 82 • *Test Yourself* 83 • THE ROLE OF GOVERNMENT IN AMERICAN AGRICULTURE 84 • THE FARM PROBLEM 84 • GOVERNMENT AID TO AGRICULTURE 87 • PRICE SUPPORTS AND SURPLUS CONTROLS 88 • THE 1973 FARM BILL AND MORE RECENT DEVELOPMENTS 89 • THE WHEAT PROGRAM: A CASE STUDY 90 • *Example 4.2 Milk Prices in South Carolina* 91 • EVALUATION OF GOVERNMENT FARM PROGRAMS 93 • *Test Yourself* 94 • *Summary* 95 • *Concepts for Review* 96 • *Getting Down to Cases: Majority Rule and Social Choice* 97

### CHAPTER 5 Government Expenditures, Taxation, and the Public Debt 98

GOVERNMENT EXPENDITURES 98 • BENEFIT-COST ANALYSIS 99 • SCOPE AND EFFICIENCY OF GOVERNMENT ACTIVITIES 101 • THE THEORY OF PUBLIC CHOICE 102 • TAXATION AND GOVERNMENT REVENUES 104 • *Example 5.1 Brown-Lung Disease and Benefit-Cost Analysis* 105 • PRINCIPLES OF TAXATION 106 • THE PERSONAL AND CORPORATE INCOME TAXES 107 • *How People Reduce Their Income Tax Without Cheating* 109 • *Test Yourself* 110 • THE PROPERTY TAX AND THE SALES TAX 111 • TAX INCIDENCE 111 • SUPPLY-SIDE ECONOMICS 113 • *Example 5.2 Should Income or Consump-*

*tion Be Taxed?* 114 • GOVERNMENT DEBT 115 • ALTERNATIVE WAYS OF FINANCING GOVERNMENT EXPENDITURES—AND THEIR EFFECTS 118 • *The Department of the Treasury and the National Debt* 119 • *Test Yourself* 120 • *Summary* 120 • *Concepts for Review* 121 • *Getting Down to Cases: The Federal Government and Auto Shoulder Belts* 122

## CHAPTER 6      **The Business Firm: Organization, Motivation, and Technology**      123

GENERAL MOTORS: A CASE STUDY 123 • CHARACTERISTICS OF AMERICAN FIRMS: SOME SALIENT FACTS 126 • PROPRIETORSHIPS 127 • PARTNERSHIPS 127 • CORPORATIONS 128 • CORPORATE SECURITIES 129 • THE STOCK MARKET 130 • *Buying and Selling Common Stocks* 132 • THE GIANT CORPORATION 133 • *Example 6.1 Bidding for Conoco* 134 • *Test Yourself* 135 • MOTIVATION OF THE FIRM 136 • GALBRAITH'S NEW INDUSTRIAL STATE 137 • TECHNOLOGY, INPUTS, AND THE PRODUCTION FUNCTION 137 • ELEMENTS OF ACCOUNTING: THE FIRM'S BALANCE SHEET 139 • THE FIRM'S INCOME STATEMENT 140 • *Example 6.2 How to Depreciate Pete Rose* 142 • ECONOMIC VERSUS ACCOUNTING PROFITS 143 • *Test Yourself* 144 • *Summary* 144 • *Concepts for Review* 145 • *Getting Down to Cases: The Profitability of the U.S. Steel Industry* 146 • APPENDIX: RELATIONSHIP BETWEEN BALANCE SHEET AND INCOME STATEMENT 147

---

## PART THREE

---

## National Output, Income, and Employment

### CHAPTER 7      **National Income and Product**      149

GROSS NATIONAL PRODUCT 150 • ADJUSTING GNP FOR PRICE CHANGES 151 • USING VALUE-ADDED TO CALCULATE GNP 154 • NET NATIONAL PRODUCT 155 • THE LIMITATIONS OF GNP AND NNP 156 • *Test Yourself* 157 • *Example 7.1 Measured Economic Welfare and National Defense* 158 • TWO APPROACHES TO GNP 159 • THE EXPENDITURES APPROACH TO GNP 159 • THE INCOME APPROACH TO GNP 162 • GNP EQUALS THE TOTAL CLAIMS ON OUTPUT: A PROOF 163 • NATIONAL INCOME, PERSONAL INCOME, AND DISPOSABLE INCOME 165 • *Test Yourself* 167 • *Example 7.2 Piecing Together GNP* 168 • *Summary* 169 • *Concepts for Review* 170 • *Getting Down to Cases: The Underground Economy and the GNP* 170

### CHAPTER 8      **Unemployment and Inflation**      171

UNEMPLOYMENT 171 • THE MEASUREMENT AND INCIDENCE OF UNEMPLOYMENT 173 • THE COSTS OF UNEMPLOYMENT 176 • THEORIES OF UNEMPLOYMENT 178 • *Example 8.1 Should We Look at Employment, not Unemployment?* 179 • *Test Yourself* 184 • INFLATION 184 • THE MEASUREMENT OF INFLATION 185 • IMPACT OF INFLATION 187 • *Example 8.2 Money Wages and Real Wages in Manufacturing* 188 • IS INDEXATION



THE ANSWER TO INFLATION? 190 • THE RELATIONSHIP BETWEEN INFLATION AND UNEMPLOYMENT 191 • *Unemployment and Inflation: An International Overview* 192 • *Test Yourself* 193 • *Summary* 194 • *Concepts for Review* 195 • *Getting Down to Cases: Measuring Inflation in Farm Products* 196

## CHAPTER 9      **Aggregate Demand, Aggregate Supply, and Business Fluctuations**    197

AGGREGATE SUPPLY AND DEMAND 198 • THE AGGREGATE DEMAND CURVE 198 • THE AGGREGATE SUPPLY CURVE 200 • NATIONAL OUTPUT AND THE PRICE LEVEL 202 • SHIFTS IN THE AGGREGATE DEMAND CURVE 202 • SHIFTS IN THE AGGREGATE SUPPLY CURVE 206 • *Example 9.1 A Ratchet Effect on Aggregate Supply* 206 • “SUPPLY-SIDE” GOVERNMENT POLICIES 207 • *Test Yourself* 208 • BUSINESS FLUCTUATIONS 208 • BUSINESS FLUCTUATIONS DURING 1929–82: A BRIEF OVERVIEW 210 • *Example 9.2 Building Activity in the Nineteenth Century* 214 • STAGFLATION 215 • *Test Yourself* 216 • *Summary* 216 • *Concepts for Review* 217 • *Getting Down to Cases: Business Fluctuations and the Steel Industry* 218

## CHAPTER 10      **The Determination of National Output**    219

THE CONSUMPTION FUNCTION 220 • THE SAVING FUNCTION 222 • THE PERMANENT-INCOME AND LIFE-CYCLE HYPOTHESES 224 • DETERMINANTS OF INVESTMENT 225 • *Example 10.1 Actual U.S. Consumption and Saving Behavior* 226 • THE INVESTMENT DECISION 227 • *Test Yourself* 229 • THE EQUILIBRIUM LEVEL OF NET NATIONAL PRODUCT 230 • AGGREGATE FLOWS OF INCOME AND EXPENDITURE 230 • WHY NNP MUST EQUAL INTENDED SPENDING 232 • RECONCILING AGGREGATE DEMAND AND SUPPLY CURVES WITH INCOME-EXPENDITURE ANALYSIS 234 • LEAKAGES AND INJECTIONS: ANOTHER APPROACH 235 • *Example 10.2 Asking “What If” Questions* 236 • A NUMERICAL EXAMPLE 237 • LEAKAGES AND INJECTIONS: A GRAPHICAL VIEW 238 • ACTUAL SAVING EQUALS ACTUAL INVESTMENT 239 • USEFULNESS OF THE LEAKAGE-INJECTION APPROACH 240 • *Test Yourself* 241 • *Summary* 241 • *Concepts for Review* 242 • *Getting Down to Cases: The Slow Growth of Investment During the 1970s* 243

## CHAPTER 11      **Multiplier Analysis and Changes in Output**    244

THE VOLATILITY OF INVESTMENT 244 • EFFECTS OF CHANGES IN INTENDED INVESTMENT 245 • THE MULTIPLIER 247 • *Example 11.1 Investment and a Great Crash* 249 • • *Test Yourself* 250 • DETERMINANTS OF CONSUMPTION: NONINCOME FACTORS 250 • SHIFTS IN THE CONSUMPTION AND SAVING FUNCTIONS 251 • EFFECTS OF SHIFTS IN THE CONSUMPTION FUNCTION 252 • THE ACCURACY OF POSTWAR FORECASTS: A CASE STUDY 253 • INDUCED INVESTMENT 255 • THE PARADOX OF THRIFT 256 • *Example 11.2 Shifting Both the Saving and Investment Functions* 256 • *Test Yourself* 257 • *Summary* 258 • *Concepts for Review* 258 • *Getting Down to Cases: Belt Tightening as Economic Policy* 259 • APPENDIX: USING BASIC ALGEBRA TO DERIVE THE MULTIPLIER 259

---

## CHAPTER 12      **Fiscal Policy and National Output    262**

GOVERNMENT EXPENDITURE AND NET NATIONAL PRODUCT 262 • TAXATION AND NET NATIONAL PRODUCT 265 • HOW GOVERNMENT EXPENDITURE AND TAXES AFFECT NNP: A TABULAR ILLUSTRATION 268 • THE BALANCED-BUDGET MULTIPLIER 270 • RECESSIONARY AND INFLATIONARY GAPS 271 • THE NATURE AND OBJECTIVES OF FISCAL POLICY 272 • MAKERS OF FISCAL POLICY 273 • *Example 12.1 Fiscal Policy, Deficits, and Surpluses* 273 • AUTOMATIC STABILIZERS 274 • THE COUNCIL OF ECONOMIC ADVISERS 276 • *Test Yourself* 277 • THE TOOLS OF DISCRETIONARY FISCAL POLICY 277 • FISCAL POLICY: THREE CASE STUDIES 279 • DEFICIT AND SURPLUS FINANCING 281 • *OMB and David Stockman* 285 • THE FULL-EMPLOYMENT BUDGET 286 • EFFECTS OF HOW A DEFICIT IS FINANCED, OR HOW A SURPLUS IS USED 287 • RECENT AMERICAN EXPERIENCE WITH FISCAL POLICY 288 • *Example 12.2 Interpreting Federal Budget Deficits* 288 • *Test Yourself* 291 • *Summary* 291 • *Concepts for Review* 292 • APPENDIX: THE EFFECT OF A CHANGE IN GOVERNMENT EXPENDITURE AND THE BALANCED-BUDGET MULTIPLIER (AN ALGEBRAIC TREATMENT) 292 • *Getting Down to Cases: How do You Estimate the Impact of a Major Fiscal Program?* 294

## CHAPTER 13      **Business Fluctuations and Economic Forecasting    295**

BUSINESS FLUCTUATIONS AND VARIATION IN INVESTMENT SPENDING 295 • THE ACCELERATION PRINCIPLE 296 • THE INTERACTION BETWEEN THE ACCELERATION PRINCIPLE AND THE MULTIPLIER 298 • *Example 13.1 Investment at the Howe Company* 299 • THE ROLE OF EXPECTATIONS 300 • THE EFFECT OF INNOVATIONS AND RANDOM EXTERNAL EVENTS 301 • INVENTORY CYCLES 303 • VARIATION IN GOVERNMENT SPENDING 303 • THE POLITICAL BUSINESS CYCLE 304 • MONETARY FACTORS 305 • CAN BUSINESS FLUCTUATIONS BE AVOIDED? 306 • *Test Yourself* 307 • CAN BUSINESS FLUCTUATIONS BE FORECASTED? 307 • LEADING INDICATORS 308 • SIMPLE AGGREGATE MODELS 309 • ECONOMETRIC MODELS 312 • ECONOMETRIC FORECASTS: THE TRACK RECORD 315 • *Example 13.2 Economic Forecasts and Politics* 318 • *Test Yourself* 320 • *Summary* 320 • *Concepts for Review* 321 • *Getting Down to Cases: Determining Where We Are in the Business Cycle* 321

---

## PART FOUR

---

## **Money, Banking, and Stabilization Policy**

### CHAPTER 14      **Money and the Economy    323**

WHAT IS MONEY? 323 • THE MONEY SUPPLY, NARROWLY DEFINED 324 • THE MONEY SUPPLY, BROADLY DEFINED 327 • THE VALUE OF MONEY 327 • INFLATION AND THE QUANTITY OF MONEY 329 • UNEMPLOYMENT AND THE QUANTITY OF MONEY 329 • DETERMINANTS OF THE QUANTITY OF MONEY 330 • THE DEMAND FOR MONEY 330 • *Example 14.1 Empirical Evidence Regarding the Demand for Money* 332 • *Test Yourself* 333 •

CHANGES IN THE MONEY SUPPLY AND NATIONAL OUTPUT 333 • THE MONETARISTS 336 • THE VELOCITY OF MONEY 338 • THE EQUATION OF EXCHANGE 338 • THE CRUDE QUANTITY THEORY OF MONEY AND PRICES 339 • A MORE SOPHISTICATED VERSION OF THE QUANTITY THEORY 341 • *Example 14.2 The Recent Increase in Velocity* 343 • THE IMPORTANCE OF MONEY 344 • *Test Yourself* 344 • *Summary* 345 • *Concepts for Review* 346 • *Getting Down to Cases: How Accurate Are the Money Supply Figures?* 346

## CHAPTER 15      **The Banking System and the Quantity of Money**    347

THE FEDERAL RESERVE SYSTEM 347 • FUNCTIONS OF THE FEDERAL RESERVE 349 • COMMERCIAL BANKS IN THE UNITED STATES 349 • HOW BANKS OPERATE 350 • THE BALANCE SHEET OF AN INDIVIDUAL BANK 353 • FRACTIONAL-RESERVE BANKING 354 • THE SAFETY OF THE BANKS 355 • TWO WAYS BANKS CANNOT CREATE MONEY 357 • *Example 15.1 Why Have Banks Altered Their Assets?* 358 • *Test Yourself* 361 • HOW BANKS CAN CREATE MONEY 362 • THE EFFECT OF EXCESS RESERVES: A GENERAL PROPOSITION 369 • THE EFFECT OF A DECREASE IN RESERVES 369 • CURRENCY WITHDRAWALS 371 • *Example 15.2 Currency Holdings of the Public* 372 • EXCESS RESERVES 373 • *Test Yourself* 374 • *Summary* 374 • *Concepts for Review* 375 • *Getting Down to Cases: The Matter of Compensating Balances* 375

## CHAPTER 16      **Monetary Policy**    376

THE AIMS OF MONETARY POLICY 376 • THE CENTRAL ROLE OF BANK RESERVES 377 • MAKERS OF MONETARY POLICY 378 • THE FEDERAL RESERVE BANKS: THEIR CONSOLIDATED BALANCE SHEET 379 • OPEN MARKET OPERATIONS 380 • CHANGES IN LEGAL RESERVE REQUIREMENTS 382 • CHANGES IN THE DISCOUNT RATE 384 • OTHER TOOLS OF MONETARY POLICY 385 • *Example 16.1 Monetary Policy and the Aggregate Demand Curve* 387 • *Test Yourself* 388 • WHEN IS MONETARY POLICY TIGHT OR EASY? 388 • SHOULD THE FED PAY MORE ATTENTION TO INTEREST RATES OR THE MONEY SUPPLY? 390 • DECISION MAKING AT THE FED: A CASE STUDY 391 • *Example 16.2 How Quickly Does Monetary Policy Work?* 392 • MONETARY POLICY IN THE UNITED STATES 393 • *Burns to Miller to Volcker* 394 • *Is There an Independent Federal Reserve? Should There Be?* 396 • PROBLEMS IN FORMULATING MONETARY POLICY 397 • HOW WELL HAS THE FED PERFORMED? 398 • SHOULD THE FED BE GOVERNED BY A RULE? 400 • MONETARY POLICY: ADVANTAGES AND DISADVANTAGES 401 • *Test Yourself* 402 • *Summary* 402 • *Concepts for Review* 403 • *Getting Down to Cases: Money Supply Growth in the 1970s* 404

## CHAPTER 17      **Controversies over Stabilization Policy**    405

MONETARISTS VERSUS KEYNESIANS: THE HISTORICAL BACKGROUND 406 • CAUSES OF BUSINESS FLUCTUATIONS: THE OPPOSING VIEWS 406 • STABILITY OF THE ECONOMY: THE OPPOSING VIEWS 407 • EFFECTS OF THE INTEREST RATE: THE OPPOSING VIEWS 408 • THE EFFECT OF MONETARY POLICY: THE

OPPOSING VIEWS 409 • THE EFFECT OF FISCAL POLICY: THE OPPOSING VIEWS 411 • THE CONTROVERSY OVER A MONETARY RULE 413 • *Example 17.1 What Caused the Great Depression?* 413 • *Test Yourself* 414 • THE CURRENT STATE OF THE KEYNESIAN-MONETARIST DEBATE 414 • *Milton Friedman versus Walter W. Heller* 416 • RATIONAL EXPECTATIONS: ANOTHER ELEMENT IN THE CURRENT DEBATE 417 • *Example 17.2 What Is the Effect of an Increase in Government Spending?* 419 • SUPPLY-SIDE ECONOMICS ENTERS THE FRAY 420 • *Test Yourself* 422 • *Summary* 422 • *Concepts for Review* 423 • *Getting Down to Cases: Lester Thurow and the 4 Percent Solution* 423

## CHAPTER 18      Inflation and Anti-Inflationary Measures    424

DEMAND-PULL INFLATION 424 • COST-PUSH INFLATION 425 • *Example 18.1 The Fed and Cost-Push Inflation* 426 • DIFFICULTIES IN DISTINGUISHING COST-PUSH FROM DEMAND-PULL INFLATION 427 • THE PHILLIPS CURVE 427 • THE INSTABILITY OF THE PHILLIPS CURVE 430 • THE LONG-RUN PHILLIPS CURVE 431 • MANPOWER POLICIES 434 • POLICIES TOWARD COMPETITION 435 • *Test Yourself* 436 • WAGE AND PRICE CONTROLS 437 • INCOMES POLICIES 439 • *Example 18.2 Effects of the 1971–74 Control Program* 440 • TAX-BASED INCOMES POLICIES 444 • ECONOMIC STABILIZATION: WHERE WE STAND 446 • *Test Yourself* 447 • *Summary* 447 • *Concepts for Review* 448 • *Getting Down to Cases: Okun on Anti-Inflation Policy* 448

---

## PART FIVE

---

## Economic Growth, Energy, and the Environment

### CHAPTER 19      Economic Growth    449

WHAT IS ECONOMIC GROWTH? 450 • ECONOMIC GROWTH AS A POLICY OBJECTIVE 450 • ECONOMIC GROWTH AND THE PRODUCTION POSSIBILITIES CURVE 452 • THE AGGREGATE PRODUCTION FUNCTION 453 • THE LAW OF DIMINISHING MARGINAL RETURNS 454 • THOMAS MALTHUS AND POPULATION GROWTH 455 • *Example 19.1 “Birth Rights” and Population Control* 457 • *Test Yourself* 459 • DAVID RICARDO AND CAPITAL FORMATION 460 • CAPITAL FORMATION AND ECONOMIC GROWTH 462 • THE ROLE OF HUMAN CAPITAL 464 • *Example 19.2 Capital and Saving in the United States* 465 • THE ROLE OF TECHNOLOGICAL CHANGE 466 • DETERMINANTS OF TECHNOLOGICAL CHANGE 468 • ENTREPRENEURSHIP AND THE SOCIAL ENVIRONMENT 469 • THE GAP BETWEEN ACTUAL AND POTENTIAL OUTPUT 470 • JAPAN: A CASE STUDY OF RAPID ECONOMIC GROWTH 471 • *Test Yourself* 472 • *Summary* 473 • *Concepts for Review* 474 • *Getting Down to Cases: Manganese Nodules on the Ocean Floor* 474