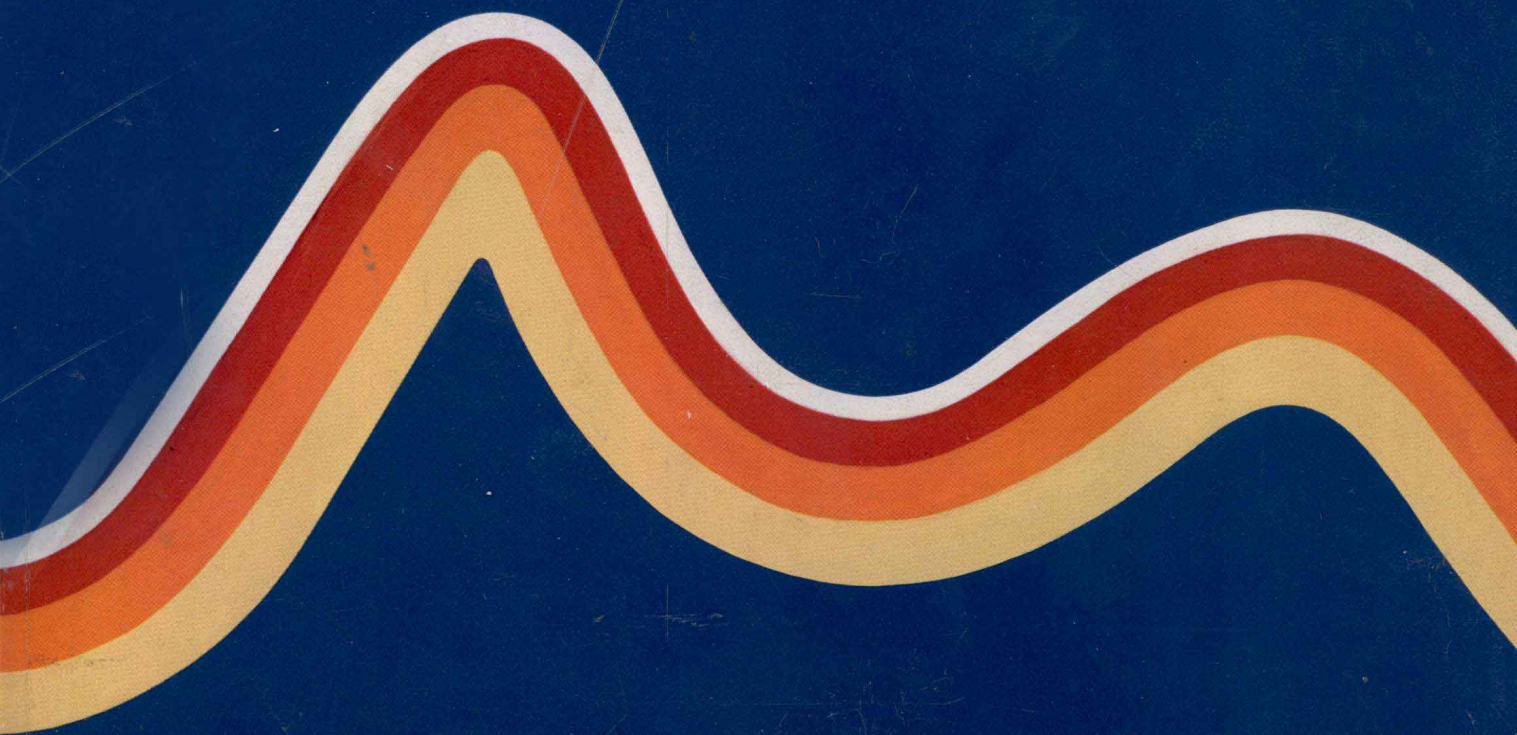


Edwin Mansfield

ECONOMICS

== FIFTH EDITION ==



Economics

PRINCIPLES, PROBLEMS, DECISIONS

EDWIN MANSFIELD

DIRECTOR, CENTER FOR ECONOMICS AND TECHNOLOGY
UNIVERSITY OF PENNSYLVANIA

FIFTH EDITION



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

(Photograph credits and acknowledgments appear on page A50.)

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 ©1986, 1983, 1980, 1977, 1974 by W. W. Norton & Company, Inc.
All rights reserved.

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. Cover design by Mike McIver.

Library of Congress Cataloging-in-Publication Data

Mansfield, Edwin.

Economics : principles, problems, decisions.

Bibliography: p.

Includes index.

1. Economics. I. Title.

HG171.5.M266 1986 330 85-21626

ISBN 0-393-95475-7

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

1 2 3 4 5 6 7 8 9 0

Preface

Any principles text must keep current with the state of economic knowledge, especially as it applies to the economic issues of the day. The fifth edition of *Economics: Principles, Problems, Decisions* does this, in ways I outline below. But the most fundamental change in this edition is not one of organization or style: it involves a new emphasis which, I believe, will lead to far greater understanding and retention of the core material of the introductory course.

To students, perhaps the biggest defect in most textbooks is their failure to sift through the many details, and present a reasonably small number of basic propositions that should be given central attention. Thus students find it difficult to separate the essential and basic from the less important, and a few years after graduation their recollection of economics is often a smudge.

Almost as formidable a barrier to learning is the tendency of textbooks to treat each topic as a separate entity, with the connections among them either unstated or mentioned in passing. Because the topics are not brought together, the student is like a chef who has the ingredients spread on the counter but lacks the recipe for blending them.

The fifth edition attempts to remedy the twin problems of excessive detail and missing linkages:

Basic Ideas. To provide direction finders through the text, the present edition focuses on 70 Basic Ideas, two highlighted per chapter, which students are encouraged to think through carefully. One can reasonably expect these 70 Basic Ideas to stick with students. If so, their time will have been well spent, because these ideas really constitute the heart of elementary economics, *stripped of frills and details*. Based on classroom experience, this simple pedagogical aid helps students to see (and remember) the forest, as distinct from a hodgepodge of trees. (Besides presenting each of these 70 Basic Ideas in the relevant chapters in the text, a summary of them is printed in the front and back inside covers of the book, where students can readily refer to them.)

Cross-Chapter Cases. To make connections clear—connections not only

between aspects of theory but also between theory and the uses to which it is put—this edition introduces eight Cross-Chapter Cases. Appearing near the end of each part (other than the introduction), each takes up a major issue cutting across material contained in various chapters of the part. Among the issues developed in detail are the pros and cons of America's adopting an industrial policy, the accuracy of the economic forecasts of 1984, an account of a meeting of the Federal Open Market Committee, how robots affect firms' cost curves, the antitrust case involving Berkey Photo and Eastman Kodak, the effects of the minimum wage on teenage unemployment, and the debt problems of Argentina, Brazil, and Mexico. These Cross-Chapter Cases are not mere appendages. They require students to draw on a number of tools and techniques to which they have just been exposed in the entire part.

Other New Material. While the 70 Basic Ideas and the Cross-Chapter Cases are the principal innovations in the Fifth Edition, much else has been changed. New inserts, for example, come in two varieties: some on new developments in economics (such as the role of time in economics, market signaling, contestable markets, and laboratory experimentation) while others deal with mistakes and fallacies (such as the discussion of sunk costs in Chapter 23). In addition, new materials have been introduced on such aspects of the current policy scene as tax reform, the strong dollar, the balance of trade deficit, the federal budget deficit, the B-1 bomber, and protectionism. Also, the IBM Corporation is now used to explain the operation of a giant corporation, significantly one with a strong entrepreneurial bent, in Chapter 6. Additional space is also devoted to relatively new theoretical developments such as the rational expectations hypothesis.

Glossary of Terms. Another new feature of the Fifth Edition is a Glossary of Terms, which is placed at the end of the book. I am grateful to Nariman Behravish, who supervised much of the work underlying this glossary, for permission to include it here. This new section should make it easier for students to refresh their memories concerning the definition of economic terms.

Emphasis on Doing Economics. 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. In the previous edition, I invited students to *do* economics in order to understand it better. Scores of examples were provided, each describing a real (or realistic) situation and then calling on the student to work through the solution. Within each chapter there were two problem sets, both designated "Test Yourself." that enabled students to check their comprehension of what they had just read. The reaction of instructors and students was very favorable, and the emphasis on doing economics is maintained in this fifth edition. One new feature is that the answers for the odd-numbered Test Yourself questions are now provided at the end of the book. Many students and instructors urged me to include them in this way.

Organizational Changes. Although many new features have been included in the present edition, the book is shorter than the previous edition, due to a tough (even ruthless) editing process. A very determined effort has been made to drop extraneous material and to keep the number of words to a minimum. This has led to a reduction in the number of chapters and to shortening in such areas as consumer decision making and how banks

create money. This edition, while leaner than its predecessor, manages, I believe, to be clearer, both theoretically and empirically.

Updating. All of the empirical and policy-oriented chapters 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, reserve requirements, Social Security, and a variety of other topics have brought them into line with current developments.

Since instructors differ considerably in their choice and ordering of topics, the fifth edition, like its predecessors, 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. xxi.) As an alternative to reversing the chapter sequence in the one-volume edition, some instructors may want to consider the two-volume paperbound version, *Principles of Microeconomics* and *Principles of Macroeconomics*, fifth editions.

This book can also be adapted for use in one-semester courses. Pages xxi–xxii 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: Reading, 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*, fifth 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 situations. In practically every chapter of the study guide, a new case study has been added. Both students and instructors have reported that such cases are important in motivating students and illuminating economic theory.

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); Ar-

thur 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. Treney Dolbear, Brandeis; Robert Dorfman, Harvard; James Duesenberry, Harvard; William Dugger, North Texas State University; Richard Easterlin, University of Southern California; 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; Judith Herman, Queens College; Alan Heston, University of Pennsylvania; Albert Hirschman, Harvard; Ronald Jones, Rochester; John Kareken, Minnesota; Ann Krueger, World Bank; 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 Ruttan, 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 Westfield, 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 subsequent editions are: Otis Gilley, University of Texas at Austin; Marvin E. Goodstein, University of the South; William Keeton, Yale; Walter Misiulek, 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, 1985.

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 |
| 21 Market Demand and Price Elasticity | 14 Money and the Economy |
| 22 Getting Behind the Demand Curve: Consumer Behavior | 15 The Banking System and the Quantity of Money |
| 23 Optimal Input Decisions by Business Firms | 16 Monetary Policy |
| 24 Cost Analysis | 17 Controversies over Stabilization Policy |
| 25 Perfect Competition | 18 Inflation and Anti-Inflationary Measures |
| 26 Monopoly and Its Regulation | 19 Economic Growth |
| 27 Monopolistic Competition and Oligopoly | 20 Environmental and Energy Problems |
| 28 Industrial Organization and Antitrust Policy | 32 International Trade |
| 29 Determinants of Wages | 33 Exchange Rates and the Balance of Payments |
| 30 Interest, Rent, and Profits | 34 The Less Developed Countries |
| 31 Income Inequality, Poverty, and Discrimination | 35 The Communist Countries and Marxism |
| 7 National Income and Product | |

Outline of a One-Semester Course Emphasizing Microeconomics.

- | | |
|---|---|
| 1 Economic Problems and Analysis | 28 Industrial Organization and Antitrust Policy |
| 2 Economic Models and Capitalism, American-Style | 31 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 |
| 21 Market Demand and Price Elasticity | 10 The Determination of National Output |
| 22 Getting Behind the Demand Curve: Consumer Behavior | 11 Multiplier Analysis and Changes in Output |
| 23 Optimal Input Decisions by Business Firms | 12 Fiscal Policy and National Output |
| 24 Cost Analysis | 14 Money and the Economy ¹ |
| 25 Perfect Competition | 15 The Banking System and the Quantity of Money |
| 26 Monopoly and Its Regulation | 16 Monetary Policy |
| 27 Monopolistic Competition and Oligopoly | |

¹ Also, assign the beginning sections of Chapter 13.

Outline of a One-Semester Course Emphasizing Macroeconomics.

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

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

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

PART ONE

Introduction to Economics

Contents

Preface xvii
Suggested Outlines xxi

PART ONE

Introduction to Economics

CHAPTER 1 Economic Problems and Analysis 1

ECONOMIC PROBLEMS: A SAMPLER 1 • WHAT IS ECONOMICS? 5 • *Test Yourself* 8 • OPPORTUNITY COST: A FUNDAMENTAL CONCEPT 9 • THE IMPACT OF ECONOMICS ON SOCIETY 11 • *Example 1.1 How Much Does It Cost to Go to College?* 11 • *Adam Smith on the “Invisible Hand”* 13 • *Example 1.2 The Assessment of Damages* 15 • *Test Yourself* 16 • *Summary* 16 • *Concepts for Review* 17

CHAPTER 2 Economic Models and Capitalism, American-Style 18

THE METHODOLOGY OF ECONOMICS 19 • GRAPHS AND RELATIONSHIPS 21 • THE TASKS OF AN ECONOMIC SYSTEM 22 • *Test Yourself* 23 • THE ECONOMIC SYSTEM: A SIMPLE INTRODUCTORY MODEL 23 • *Example 2.1 Hay and Grain in Iowa* 25 • *How the Industrial Revolution Came About* 30 • CAPITALISM: AN ECONOMIC SYSTEM 31 • OUR MIXED CAPITALIST SYSTEM 34 • *Test Yourself* 35 • *Summary* 36 • *Concepts for Review* 37

PART TWO

The Private Sector and the Public Sector: An Overview

CHAPTER 3 The Price System 39

CONSUMERS, FIRMS, AND MARKETS 39 • THE DEMAND SIDE OF A MARKET 40 • THE SUPPLY SIDE OF A MARKET 43 • EQUILIBRIUM PRICE 44 • ACTUAL PRICE 45 • *Example 3.1 It's Not Just for Breakfast Anymore* 46 • *Test Yourself* 47 • THE EFFECTS OF SHIFTS IN THE DEMAND CURVE 48 • THE EFFECTS OF SHIFTS IN THE SUPPLY CURVE 49 • THE PRICE SYSTEM AND THE DETERMINATION OF WHAT IS PRODUCED 50 • THE PRICE SYSTEM AND THE DETERMINATION OF HOW GOODS ARE PRODUCED 51 • *Example 3.2 Tennis Anyone?* 52 • THE PRICE SYSTEM AND THE DETERMINATION OF WHO GETS WHAT 53 • THE PRICE SYSTEM AND ECONOMIC GROWTH 54 • TWO CASE STUDIES 55 • PRICE CEILINGS AND PRICE SUPPORTS 58 • THE CIRCULAR FLOWS OF MONEY AND PRODUCTS 60 • *Test Yourself* 61 • *Summary* 61 • *Concepts for Review* 62

CHAPTER 4 The Economic Role of the Government 63

LIMITATIONS OF THE PRICE SYSTEM 63 • WHAT FUNCTIONS SHOULD THE GOVERNMENT PERFORM? 65 • ESTABLISHING "RULES OF THE GAME" 66 • REDISTRIBUTION OF INCOME 67 • STABILIZING THE ECONOMY 67 • PROVIDING PUBLIC GOODS 68 • EXTERNALITIES 69 • SIZE AND NATURE OF GOVERNMENT ACTIVITIES 69 • *Example 4.1 The Economics of Urban Blight* 70 • CHANGES IN VIEW OF GOVERNMENT RESPONSIBILITIES 72 • *The Saga of the B-1 Bomber* 73 • WHAT THE FEDERAL, STATE, AND LOCAL GOVERNMENTS RECEIVE IN TAXES 74 • *Test Yourself* 75 • THE ROLE OF GOVERNMENT IN AMERICAN AGRICULTURE 76 • THE FARM PROBLEM 76 • GOVERNMENT AID TO AGRICULTURE 78 • PRICE SUPPORTS AND SURPLUS CONTROLS 79 • THE 1973 FARM BILL AND MORE RECENT DEVELOPMENTS 81 • EVALUATION OF GOVERNMENT FARM PROGRAMS 82 • *Test Yourself* 83 • *Summary* 84 • *Concepts for Review* 85

CHAPTER 5 Government Expenditures, Taxation, and the Public Debt 86

GOVERNMENT EXPENDITURES 86 • BENEFIT-COST ANALYSIS 87 • SCOPE AND EFFICIENCY OF GOVERNMENT ACTIVITIES 89 • THE THEORY OF PUBLIC CHOICE 89 • TAXATION AND GOVERNMENT REVENUES 91 • *Example 5.1 Brown-Lung Disease and Benefit-Cost Analysis* 92 • PRINCIPLES OF TAXATION 93 • THE PERSONAL INCOME TAX 94 • *More Equity and Simplicity in the Income Tax Codes* 96 • THE CORPORATE INCOME TAX 97 • *Test Yourself* 97 • THE PROPERTY TAX AND THE SALES TAX 98 • TAX INCIDENCE 98 • SUPPLY-SIDE ECONOMICS 100 • *Example 5.2 Should Income or Consumption Be Taxed?* 101 • GOVERNMENT DEBT 102 • ALTERNATIVE WAYS OF FINANCING GOVERNMENT EXPENDITURES—AND THEIR EFFECTS 104 • *The Department of the Treasury and the National Debt* 105 • *Test Yourself* 106 • *Summary* 106 • *Concepts for Review* 107

**CHAPTER 6 The Business Firm: Organization, Motivation,
and Technology 108**

THE IBM CORPORATION: A CASE STUDY 108 • CHARACTERISTICS OF AMERICAN FIRMS: SOME SALIENT FACTS 110 • PROPRIETORSHIPS 111 • PARTNERSHIPS 112 • CORPORATIONS 112 • CORPORATE SECURITIES 113 • THE STOCK MARKET 115 • *Buying and Selling Common Stocks* 116 • THE GIANT CORPORATION 117 • *Test Yourself* 118 • MOTIVATION OF THE FIRM 118 • TECHNOLOGY, INPUTS, AND THE PRODUCTION FUNCTION 120 • ELEMENTS OF ACCOUNTING: THE FIRM'S BALANCE SHEET 121 • THE FIRM'S INCOME STATEMENT 122 • **Cross-Chapter Case/Part Two: Should America Adopt an Industrial Policy?** 124 • *Example 6.1 How to Depreciate a Baseball Club* 126 • ECONOMIC VERSUS ACCOUNTING PROFITS 127 • *Test Yourself* 128 • *Summary* 128 • *Concepts for Review* 129

PART THREE

National Output, Income, and Employment

CHAPTER 7 National Income and Product 131

GROSS NATIONAL PRODUCT 132 • ADJUSTING GNP FOR PRICE CHANGES 133 • USING VALUE-ADDED TO CALCULATE GNP 135 • NET NATIONAL PRODUCT 136 • THE LIMITATIONS OF GNP AND NNP 137 • *Example 7.1 Measured Economic Welfare and National Defense* 139 • *Test Yourself* 140 • TWO APPROACHES TO GNP 140 • THE EXPENDITURES APPROACH TO GNP 141 • THE INCOME APPROACH TO GNP 143 • GNP EQUALS THE TOTAL CLAIMS ON OUTPUT: A PROOF 145 • NATIONAL INCOME, PERSONAL INCOME, AND DISPOSABLE INCOME 147 • *Test Yourself* 148 • *Summary* 149 • *Concepts for Review* 150

CHAPTER 8 Unemployment and Inflation 151

UNEMPLOYMENT 151 • THE MEASUREMENT AND INCIDENCE OF UNEMPLOYMENT 153 • THE COSTS OF UNEMPLOYMENT 156 • THEORIES OF UNEMPLOYMENT 158 • *Example 8.1 Should We Look at Employment, not Unemployment?* 159 • *Test Yourself* 163 • INFLATION 164 • THE MEASUREMENT OF INFLATION 165 • IMPACT OF INFLATION 167 • *Example 8.2 Money Wages and Real Wages in Manufacturing* 168 • IS INDEXATION THE ANSWER TO INFLATION? 170 • THE RELATIONSHIP BETWEEN INFLATION AND UNEMPLOYMENT 171 • *Unemployment and Inflation: An International Overview* 172 • *Test Yourself* 173 • *Summary* 174 • *Concepts for Review* 174

**CHAPTER 9 Aggregate Demand, Aggregate Supply,
and Business Fluctuations 175**

AGGREGATE SUPPLY AND DEMAND 175 • THE AGGREGATE DEMAND CURVE 176 • THE AGGREGATE SUPPLY CURVE 178 • NATIONAL OUTPUT AND THE PRICE LEVEL 180 • SHIFTS IN THE AGGREGATE DEMAND CURVE 180 • SHIFTS

IN THE AGGREGATE SUPPLY CURVE 184 • “SUPPLY-SIDE” GOVERNMENT POLICIES 184 • *Example 9.1 A Ratchet Effect on Aggregate Supply* 185 • *Test Yourself* 186 • BUSINESS FLUCTUATIONS 186 • BUSINESS FLUCTUATIONS DURING 1929–85: A BRIEF OVERVIEW 188 • *Test Yourself* 192 • *Summary* 193 • *Concepts for Review* 194

CHAPTER 10 **The Determination of National Output** 195

THE CONSUMPTION FUNCTION 196 • THE SAVING FUNCTION 198 • THE PERMANENT-INCOME AND LIFE-CYCLE HYPOTHESES 200 • DETERMINANTS OF INVESTMENT 201 • THE INVESTMENT DECISION 202 • *Test Yourself* 204 • THE EQUILIBRIUM LEVEL OF NET NATIONAL PRODUCT 205 • AGGREGATE FLOWS OF INCOME AND EXPENDITURE 205 • WHY NNP MUST EQUAL INTENDED SPENDING 207 • RECONCILING AGGREGATE DEMAND AND SUPPLY CURVES WITH INCOME-EXPENDITURE ANALYSIS 209 • LEAKAGES AND INJECTIONS: ANOTHER APPROACH 210 • *Example 10.1 Asking “What If” Questions* 211 • A NUMERICAL EXAMPLE 212 • LEAKAGES AND INJECTIONS: A GRAPHICAL VIEW 213 • ACTUAL SAVING EQUALS ACTUAL INVESTMENT 214 • USEFULNESS OF THE LEAKAGE-INJECTION APPROACH 215 • *Test Yourself* 215 • *Summary* 216 • *Concepts for Review* 217

CHAPTER 11 **Multiplier Analysis and Changes in Output** 218

THE VOLATILITY OF INVESTMENT 218 • EFFECTS OF CHANGES IN INTENDED INVESTMENT 220 • *Example 11.1 Investment and a Great Crash* 222 • THE MULTIPLIER • 223 • *Test Yourself* 224 • DETERMINANTS OF CONSUMPTION: NONINCOME FACTORS 225 • SHIFTS IN THE CONSUMPTION AND SAVING FUNCTIONS 226 • EFFECTS OF SHIFTS IN THE CONSUMPTION FUNCTION 227 • THE ACCURACY OF POSTWAR FORECASTS: A CASE STUDY 228 • INDUCED INVESTMENT 230 • THE PARADOX OF THRIFT 230 • *Example 11.2 Shifting Both the Saving and Investment Functions* 231 • *Test Yourself* 232 • *Summary* 232 • *Concepts for Review* 233 • APPENDIX: USING BASIC ALGEBRA TO DERIVE THE MULTIPLIER 233

CHAPTER 12 **Fiscal Policy and National Output** 236

GOVERNMENT EXPENDITURE AND NET NATIONAL PRODUCT 236 • TAXATION AND NET NATIONAL PRODUCT 239 • HOW GOVERNMENT EXPENDITURE AND TAXES AFFECT NNP: A TABULAR ILLUSTRATION 242 • THE BALANCED-BUDGET MULTIPLIER 244 • RECESSIONARY AND INFLATIONARY GAPS 244 • THE NATURE AND OBJECTIVES OF FISCAL POLICY 245 • MAKERS OF FISCAL POLICY 247 • *Example 12.1 Fiscal Policy, Deficits, and Surpluses* 247 • AUTOMATIC STABILIZERS 248 • *The Council of Economic Advisers* 249 • *Test Yourself* 251 • THE TOOLS OF DISCRETIONARY FISCAL POLICY 251 • FISCAL POLICY: THREE CASE STUDIES 253 • DEFICIT AND SURPLUS FINANCING 255 • *Martin Feldstein versus Donald Regan* 258 • THE FULL-EMPLOYMENT BUDGET 259 • EFFECTS OF HOW A DEFICIT IS FINANCED, OR HOW A SURPLUS IS USED 261 • *Example 12.2 Interpreting Federal Budget Deficits* 262 • RECENT AMERICAN EXPERIENCE WITH FISCAL POLICY 262 • *Test Yourself* 264 • *Sum-*

mary 264 • *Concepts for Review* 265 • APPENDIX: THE EFFECT OF A CHANGE IN GOVERNMENT EXPENDITURE AND THE BALANCED-BUDGET MULTIPLIER (AN ALGEBRAIC TREATMENT) 266

CHAPTER 13 **Business Fluctuations and Economic Forecasting** 268

BUSINESS FLUCTUATIONS AND VARIATION IN INVESTMENT SPENDING 268 • THE ACCELERATION PRINCIPLE 269 • THE INTERACTION BETWEEN THE ACCELERATION PRINCIPLE AND THE MULTIPLIER 271 • *Example 13.1 Investment at the Howe Company* 272 • THE ROLE OF EXPECTATIONS 273 • THE EFFECT OF INNOVATIONS AND RANDOM EXTERNAL EVENTS 274 • INVENTORY CYCLES 275 • VARIATION IN GOVERNMENT SPENDING 276 • THE POLITICAL BUSINESS CYCLE 277 • MONETARY FACTORS 278 • CAN BUSINESS FLUCTUATIONS BE AVOIDED? 279 • *Test Yourself* 280 • CAN BUSINESS FLUCTUATIONS BE FORECASTED? 280 • LEADING INDICATORS 281 • SIMPLE AGGREGATE MODELS 283 • ECONOMETRIC MODELS 285 • ECONOMETRIC FORECASTS: THE TRACK RECORD 288 • **Cross-Chapter Case/Part Three: The Economic Forecasts of 1984** 290 • *Test Yourself* 292 • *Summary* 293 • *Concepts for Review* 293

PART FOUR

Money, Banking, and Stabilization Policy

CHAPTER 14 **Money and the Economy** 295

WHAT IS MONEY? 295 • THE MONEY SUPPLY, NARROWLY DEFINED 297 • THE MONEY SUPPLY, BROADLY DEFINED 299 • THE VALUE OF MONEY 300 • INFLATION AND THE QUANTITY OF MONEY 301 • UNEMPLOYMENT AND THE QUANTITY OF MONEY 302 • DETERMINANTS OF THE QUANTITY OF MONEY 302 • THE DEMAND FOR MONEY 303 • *Example 14.1 Empirical Evidence Regarding the Demand for Money* 304 • *Test Yourself* 306 • CHANGES IN THE MONEY SUPPLY AND NATIONAL OUTPUT 306 • THE MONETARISTS 309 • THE VELOCITY OF MONEY 310 • THE EQUATION OF EXCHANGE 311 • THE CRUDE QUANTITY THEORY OF MONEY AND PRICES 312 • A MORE SOPHISTICATED VERSION OF THE QUANTITY THEORY 314 • THE IMPORTANCE OF MONEY 316 • *Test Yourself* 317 • *Summary* 317 • *Concepts for Review* 318

CHAPTER 15 **The Banking System and the Quantity of Money** 319

THE FEDERAL RESERVE SYSTEM 319 • FUNCTIONS OF THE FEDERAL RESERVE 321 • COMMERCIAL BANKS IN THE UNITED STATES 321 • HOW BANKS OPERATE 324 • THE BALANCE SHEET OF AN INDIVIDUAL BANK 325 • FRACTIONAL-RESERVE BANKING 326 • THE SAFETY OF THE BANKS 328 • *Should Deposit Insurance Be Changed?* 330 • TWO WAYS BANKS CANNOT CREATE MONEY 331 • *Test Yourself* 334 • HOW BANKS CAN CREATE MONEY 334 • THE EFFECT OF EXCESS RESERVES: A GENERAL PROPOSITION 339 • THE EFFECT OF A DECREASE IN RESERVES 340 • CURRENCY WITHDRAWALS 341 • *Example 15.1 Currency Holdings of the Public* 342 • EXCESS RESERVES 343 • *Test Yourself* 344 • *Summary* 344 • *Concepts for Review* 345

CHAPTER 16 **Monetary Policy** 346

THE AIMS OF MONETARY POLICY 346 • THE CENTRAL ROLE OF BANK RESERVES 347 • MAKERS OF MONETARY POLICY 348 • THE FEDERAL RESERVE BANKS: THEIR CONSOLIDATED BALANCE SHEET 349 • OPEN MARKET OPERATIONS 350 • CHANGES IN LEGAL RESERVE REQUIREMENTS 352 • CHANGES IN THE DISCOUNT RATE 354 • OTHER TOOLS OF MONETARY POLICY 355 • *Example 16.1 Monetary Policy and the Aggregate Demand Curve* 356 • *Test Yourself* 357 • WHEN IS MONETARY POLICY TIGHT OR EASY? 358 • SHOULD THE FED PAY MORE ATTENTION TO INTEREST RATES OR THE MONEY SUPPLY? • 359 • DECISION MAKING AT THE FED: A CASE STUDY 360 • *Example 16.2 How Quickly Does Monetary Policy Work?* 362 • MONETARY POLICY IN THE UNITED STATES 362 • PROBLEMS IN FORMULATING MONETARY POLICY 364 • *Is There an Independent Federal Reserve? Should There Be?* 365 • HOW WELL HAS THE FED PERFORMED? 366 • SHOULD THE FED BE GOVERNED BY A RULE? 368 • *Test Yourself* 369 • *Summary* 369 • *Concepts for Review* 370

CHAPTER 17 **Controversies over Stabilization Policy** 371

MONETARISTS VERSUS KEYNESIANS: THE HISTORICAL BACKGROUND 372 • CAUSES OF BUSINESS FLUCTUATIONS: THE OPPOSING VIEWS 373 • STABILITY OF THE ECONOMY: THE OPPOSING VIEWS 373 • EFFECTS OF THE INTEREST RATE: THE OPPOSING VIEWS 374 • THE EFFECT OF MONETARY POLICY: THE OPPOSING VIEWS 376 • THE EFFECT OF FISCAL POLICY: THE OPPOSING VIEWS 377 • THE CONTROVERSY OVER A MONETARY RULE 379 • *Example 17.1 What Caused the Great Depression?* 379 • *Test Yourself* 380 • THE CURRENT STATE OF THE KEYNESIAN-MONETARIST DEBATE 381 • RATIONAL EXPECTATIONS: ANOTHER ELEMENT IN THE CURRENT DEBATE 382 • SUPPLY-SIDE ECONOMICS ENTERS THE FRAY 384 • *Test Yourself* 386 • *Summary* 386 • *Concepts for Review* 387

CHAPTER 18 **Inflation and Anti-Inflationary Measures** 388

DEMAND-PULL INFLATION 388 • COST-PUSH INFLATION 389 • *Example 18.1 The Fed and Cost-Push Inflation* 390 • DIFFICULTIES IN DISTINGUISHING COST-PUSH FROM DEMAND-PULL INFLATION 391 • THE PHILLIPS CURVE 392 • THE INSTABILITY OF THE PHILLIPS CURVE 394 • THE LONG-RUN PHILLIPS CURVE 395 • *Recent Developments in Economics: Rational Expectations and Credibility in Fighting Inflation* 398 • *Test Yourself* 399 • WAGE AND PRICE CONTROLS 400 • INCOMES POLICIES 402 • *Example 18.2 Effects of the 1971–74 Control Program* 402 • TAX-BASED INCOMES POLICIES 405 • **Cross-Chapter Case/Part Four: The Meeting of the Federal Open Market Committee on November 14–15, 1983** 406 • ECONOMIC STABILIZATION: WHERE WE STAND 410 • *Test Yourself* 411 • *Summary* 411 • *Concepts for Review* 412

PART FIVE

Economic Growth, Energy, and the Environment

CHAPTER 19

Economic Growth 413

WHAT IS ECONOMIC GROWTH? 414 • ECONOMIC GROWTH AND THE PRODUCTION POSSIBILITIES CURVE 414 • THE AGGREGATE PRODUCTION FUNCTION 415 • THE LAW OF DIMINISHING MARGINAL RETURNS 415 • THOMAS MALTHUS AND POPULATION GROWTH 417 • *Example 19.1 "Birth Rights" and Population Control* 419 • *Test Yourself* 421 • DAVID RICARDO AND CAPITAL FORMATION 422 • CAPITAL FORMATION AND ECONOMIC GROWTH 424 • THE ROLE OF HUMAN CAPITAL 426 • THE ROLE OF TECHNOLOGICAL CHANGE 427 • DETERMINANTS OF TECHNOLOGICAL CHANGE 429 • ENTREPRENEURSHIP AND THE SOCIAL ENVIRONMENT 431 • *If the Robots Are Coming, Can Mass Unemployment Be Far Behind?* 432 • THE GAP BETWEEN ACTUAL AND POTENTIAL OUTPUT 433 • *Test Yourself* 434 • *Summary* 434 • *Concepts for Review* 435

CHAPTER 20

Environmental and Energy Problems 436

OUR ENVIRONMENTAL PROBLEMS 437 • THE IMPORTANT ROLE OF EXTERNAL DISECONOMIES 438 • PUBLIC POLICY TOWARD POLLUTION 439 • POLLUTION-CONTROL PROGRAMS IN THE UNITED STATES 443 • HOW CLEAN SHOULD THE ENVIRONMENT BE? 444 • *Example 20.1 How to Reduce the Costs of Cleaning Up* 445 • RECENT DIRECTIONS OF ENVIRONMENTAL POLICY 447 • *Test Yourself* 448 • OUR ENERGY PROBLEMS 448 • PUBLIC POLICY TOWARD ENERGY 450 • **Cross-Chapter Case/Part Five: Bubbles, Offsets, and Banks** 452 • *Example 20.2 Oil Price Decontrol and Imports* 454 • THE WEAKENING OF OPEC 455 • *Test Yourself* 456 • *Summary* 456 • *Concepts for Review* 457

PART SIX

Consumer Behavior and Business Decision Making

CHAPTER 21

Market Demand and Price Elasticity 459

MARKET DEMAND CURVES 459 • *Example 21.1 Speculation and the Demand Curve* 462 • THE PRICE ELASTICITY OF DEMAND 463 • DETERMINANTS OF THE PRICE ELASTICITY OF DEMAND 465 • *Why Washington's Gasoline Tax Bit the Dust* 466 • PRICE ELASTICITY AND TOTAL MONEY EXPENDITURE 467 • *Henry Ford and the Price Elasticity of Demand for Autos* 468 • *Test Yourself* 470 • THE FARM PROBLEM AND THE PRICE ELASTICITY OF DEMAND 470 • INDUSTRY AND FIRM DEMAND CURVES 472 • INCOME ELASTICITY OF DEMAND 472 • *Example 21.2 The Demand for "Suds"* 474 • CROSS ELASTICITY OF DEMAND 475 • *Test Yourself* 475 • *Summary* 476 • *Concepts for Review* 476