

# MICROECONOMICS

Lipsey  
Steiner  
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Courant

Ninth Edition



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# MICROECONOMICS

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## **Microeconomics, Ninth Edition**

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# **MICROECONOMICS**

# PREFACE

Economics is a living discipline. Through nine editions of *Economics*, our basic motivation has been to provide a text that reflects the tremendous changes in that discipline over the decades.

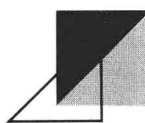
The first major theme of this book is to reflect the movement of economics toward becoming a science and exhibiting the key characteristic that marks any science: the systematic confrontation of theory with observation. Today most economists agree that their subject is more than a stage for parading pet theories and is not just a container for collecting masses of unrelated institutional and statistical material. Economists are expanding the frontiers of knowledge about the economic environment and are learning to understand and sometimes to control it, but new problems and new events are always challenging existing knowledge. Economists are therefore continually concerned with how theory, institutions, and facts relate to each other. Every theory is subject to empirical challenge.

A second major theme of this book concerns the relationship between economic theory and economic policy. Decades of systematic observations have provided an ever-growing understanding of how things relate to one another quantitatively. This knowledge has increased economists' ability to make sensible and relevant statements about public policy. True, there remain many areas where economists' knowledge is painfully sparse, as current debates about our international competitiveness and about the nature of an appropriate monetary policy remind us.

The third major feature of the book has to do with the way we view students. We have tried to be as honest with them as possible within the limits of an introductory textbook. No subject worth studying is always easy, and we do not approve of slipping particularly hard bits of analysis past students without letting them see what is happening and what has been assumed, nor do we approve of teaching them things that they will have to unlearn if they continue their study of economics (a practice sometimes jus-

tified on the grounds that it is important to get to the big issues quickly). In short, we have tried to follow Albert Einstein's advice: *Make things as simple as possible, but not simpler.*

Effective criticism of existing ideas is the springboard to progress in science. We believe that introductory economics should introduce students to methods for testing, criticizing, and evaluating the present state of the subject. We do not believe that it is wrong to suggest to students the possibility of criticizing current economic theory. Students will always criticize and evaluate their course content, and their criticisms are more likely to be informed and relevant if they are given practice and instruction in how to challenge what they have been taught in an effective, constructive manner.



## Major Revisions in This Edition

The revisions introduced in this ninth edition are the result of an extensive series of reviews and feedback from those who have used the previous editions of this book. There are a number of major additions, including several completely new chapters, but we have also strived very hard to improve the "teachability and readability" of the book. Every part of the book has been thoroughly reviewed with these two goals in mind.

## Changes in Microeconomics

1. In Chapter 1 we report on the remarkable shift toward markets that has occurred worldwide and especially in the major socialist countries. A new box, "Will *Perestroika* Succeed?," highlights some of the problems that might be encountered as a result of a rapid shift toward reliance on markets, even when the shift is beneficial in the long run.



2. In Chapter 5, the distinction between long-run and short-run elasticity is stressed, both for demand and supply elasticities, which follows the development in the eighth edition. In this edition we have extended that discussion to incorporate the distinction (due to the famous nineteenth century British economist Alfred Marshall) between short-run and long-run responses of markets to supply and demand shocks, stressing that prices can “overshoot” (i.e., adjust by more than is required for long-run equilibrium) in the short run.

3. Chapter 6 has been rewritten to emphasize *applying* the tools that were developed in Chapters 4 and 5, rather than attempting complete coverage of the topics chosen for illustrative purposes. The chapter now begins with a wholly new section on the determination of exports and imports in competitive international markets. This is in line with our desire to emphasize wherever possible the increasingly important international linkages of the American economy.

4. The basic theory of demand has been completely restructured in this edition. The new structure has been chosen to give instructors maximum flexibility in covering the material. This has been achieved by putting the two major theories—indifference curves and marginal utility—in two appendixes to Chapter 7. The text of Chapter 7 does as much as can be done with demand theory by stressing the budget constraint and rational choice, without developing either marginal utility or indifference curves. Surprisingly, a lot can be done, but very few instructors would choose not to use one or the other of the appendixes. The old structure forced instructors to use marginal utility and left indifference curves optional. Thus, they covered either marginal utility or both marginal utility and indifference curves. Now readers can do one or the other, or both, or neither.

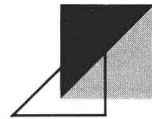
5. Chapter 8 is almost entirely new. It starts off with some material on *using* demand theory that was included in the eighth edition, and it then turns to an extended treatment of a new and currently fashionable topic—the economics of uncertainty. Boxes on “The Economics of Gambling” and “The Problem of ‘Lemons’ ” (used cars) will appeal to students and can be read separately from the text itself.

6. The structure of Part 4 has been altered so that all the positive analysis is done before a discussion of efficiency considerations is introduced. Chapter 14

on imperfect competition has been completely rewritten to improve its teachability and to increase its coverage of modern industrial organization theory. Chapter 16 has been rewritten to discuss the “market for corporate control,” emphasizing hostile takeovers, leveraged buyouts, and their effects on industrial organization.

7. Chapters 21 and 22 of the micro section in the eighth edition have been completely reorganized and rewritten, and we have included a new chapter, Chapter 23, on environmental and social regulation.

8. Finally, the international material has been updated and revised to reflect current concerns. We have included two international chapters in this edition, “The Gains From Trade” and “Barriers to Free Trade.”



## Teaching Aids

**Key ideas in microeconomics.** New to this edition are two full-color insert sections that repeat important conceptual diagrams from the text with abbreviated captions as a review device for students. Each of these diagrams is intended to be a memory-jogger that says to the student, “Do you remember and understand this concept? If not, return to the proper chapter and reread it in detail.”

**Tag lines and captions for figures and tables.** The boldface tag line below or next to a figure or a table states briefly the central conclusion to be drawn from the illustration; the lightface caption gives information needed to reach that conclusion. Each title, tag line, and caption, along with the figure or table, forms a self-contained unit, useful for reviewing.

**Boxes.** The boxes contain examples or materials that are relevant extensions of the main text but need not be read as part of the text sequence. They are all optional. Some have further theoretical material. Others contain expansions and applications of points already covered in the text. The boxes give flexibility in expanding or contracting the coverage of specific chapters.

**End-of-chapter material.** Each chapter has a Summary, a list of Topics for Review, and Discussion

**Questions.** The questions are designed for class discussion or for “quiz sections.” Answers appear in the Instructor’s Manual.

**Appendixes.** All of the appendixes are optional, and most contain material that is less central to a first-year course than is the text material. One exception to this, at least in the view of many instructors, is the use of appendixes in Chapter 7. These are designed for flexibility, rather than to suggest that the material is in some sense peripheral. The present structure allows the instructor to choose to cover either marginal utility or indifference curves, or both, or neither.

**Mathematical notes.** Mathematical notes are collected in a separate section at the end of the book. Since mathematical notation and derivation are not necessary to understand the principles of economics but are helpful in more advanced work, this segregation seems to be a sensible arrangement. Mathematical notes provide clues to the uses of mathematics for the increasing number of students who have some background in math, without loading the text with notes that are useless and put off other readers. Students with a mathematical background have often told us that they find the mathematical notes helpful.

**Glossary.** The glossary covers widely used definitions of economic terms. Words in the glossary are printed in boldface type when they are first mentioned in the text. Some words, however, that are discussed in the text but are not printed in boldface type appear in the glossary.

## Supplements

Our book is accompanied by a workbook. *Study Guide and Problems*, by Fredric C. Menz, John H. Mutti, and Dascomb R. Forbush. The workbook can be used either in the classroom or by the students on their own. It offers additional study support for each text chapter, including chapter overviews, objectives, matching self-tests, exercises, review questions, additional problems, and a special case with related questions for each Part of the text. It is available in one- or two-volume editions.

An *Instructor’s Manual*, prepared by us, includes an explanation of the approach used in each text

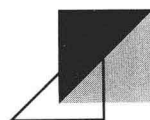
chapter, along with a chapter overview, answers to all end-of-chapter questions, and additional teaching suggestions. Also provided are answers to all problems and cases in the student Study Guide.

*Test Bank I*, by Clark Ross, contains 2,500 updated multiple-choice questions, nearly a third of which are completely new. *Test Bank II*, by Kevin O’Brien, Clark Ross, and Dereka Rushbrook, offers 2,000 completely new multiple-choice questions. Both test banks are free to adopters. The Test Banks are also available in a microcomputerized version, called *Harper Test*, that provides customized testing capabilities.

*The Lipsey Disk 2: Key Concepts for Review*, a computerized student review tool, provides 20 crucial multiple-choice questions for each chapter in the text. If an incorrect answer is given, the student is referred to specific text pages for further study. Free to adopters, it is available for use with IBM PC and compatibles.

*Lipsey Micro Tutorial* is a new interactive software tutorial package that helps students review microeconomic concepts in ten key areas: Supply and Demand; Elasticity; Marginal Cost and Marginal Revenue; Perfect Competition; Monopoly; Oligopoly; Labor-Resource Demand and Supply; Union Effectiveness; Consumer Choice; and Effects of Regulation. This program is also available for use with the IBM PC and compatibles.

For this edition, all illustrations in 15 key theory chapters are reproduced as two- or four-color transparency acetates. In addition, the remaining figures in the text are reproduced in the form of transparency masters. All of these are available free to adopters.



## Using the Book

Needs of students differ: Some want material that goes beyond the average class level, but others have gaps in their backgrounds. To accommodate the former, we have included more material than we would assign to every student. Also, because there are many different kinds of first-year economics courses in colleges and universities, we have included more material than normally would be included in any single course.

## Those Who Helped with This Edition

---

Several individuals provided reviews of the ninth edition micro chapters in various drafts: Ernest Ankrum, Pacific Lutheran University; Stephen A. Baker, Capital University; Trudy Cameron, University of California at Los Angeles; Kathleen A. Carroll, University of Maryland, Baltimore; David H. Dean, University of Richmond; Bruce Herrick, Washington and Lee University; Bruce E. Kaufman, Georgia State University; Dennis Koepke, University of Wisconsin–Whitewater; Jerome K. Laurent, University of Wisconsin–Whitewater; Thea M. Lee, University of Michigan; Richard McIntyre, University of Rhode Island; Robert C. Puth, University of New Hampshire; William Doyle Smith, University of Texas at El Paso; and Mira Wilkins, Florida International University.

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We are most grateful to all of these people for their helpful suggestions.

The new edition has benefited greatly from the research assistance of Carolyn Betts, Heather Lathe, Patricia Casey-Purvis, David Scoones, Charlotte Mack, and Kevin O'Brien. Ellen McKay and Elaine Fitzpatrick handled with skill and patience our mountains of manuscript and innumerable revisions. Weidenfeld and Nicholson generously gave permission to use material first prepared for the sixth and seventh editions of *An Introduction to Positive Economics* by R. G. Lipsey. With this edition, we are pleased to welcome Professor Paul N. Courant of the University of Michigan to our team of authors.

Richard G. Lipsey  
 Peter O. Steiner  
 Douglas D. Purvis  
 Paul N. Courant



# TO THE STUDENT

A good course in economics will give you insight into how an economy functions and into some currently debated policy issues. Like all rewarding subjects, economics will not be mastered without effort. A book on economics must be worked at. It cannot be read like a novel.

Each of you must develop an individual technique for studying, but the following suggestions may prove helpful. It is usually a good idea to read a chapter quickly in order to get the general run of the argument. At this first reading, you may want to skip the boxes and any footnotes. Then, after reading the Topics for Review and the Discussion Questions, reread the chapter more slowly, making sure that you understand each step of the argument. With respect to the figures and tables, be sure you understand how the conclusions that are stated in the brief tag lines with each table or figure have been reached. You should be prepared to spend time on difficult sections; occasionally, you may spend an hour on only a few pages. Paper and a pencil are indispensable equipment in your reading. It is best to follow a difficult argument by building your own diagram while the argument unfolds rather than by relying on the finished diagram as it appears in the book. It is often helpful to invent numerical examples to illustrate general propositions. The end-of-chapter questions require you to apply what you have studied. We advise you to outline answers to some of the questions. In short, you should seek to understand economics, not to memorize it.

After you have read each part in detail, reread it quickly from beginning to end. It is often difficult to understand why certain things are done when they are viewed as isolated points, but when you reread a whole part, much that did not seem relevant or entirely comprehensible will fall into place in the analysis.

We call your attention to the glossary at the end of the book. Any time that you encounter a concept that seems vaguely familiar but is not clear to you, check the glossary. The chances are that it will be there and that its definition will remind you of what you once understood. If you are still in doubt, check the index entry to find where the concept is discussed more fully. Incidentally, the glossary, along with the captions that accompany figures and tables and the end-of-chapter summaries, may prove to be very helpful when you are reviewing for examinations.

The bracketed colored numbers in the text itself refer to a series of 49 mathematical notes that are found starting on page 487. For those of you who like mathematics or prefer mathematical argument to verbal or geometric exposition, these may prove useful. Others may ignore them.

We hope that you will find the book rewarding and stimulating. Students who used earlier editions made some of the most helpful suggestions for revision, and we hope that you will carry on the tradition. If you are moved to write to us, please do.

# CONTENTS

PREFACE *xi*  
TO THE STUDENT *xv*

## PART 1

### THE NATURE OF ECONOMICS 1

1

#### The Economic Problem 2

Current Economic Problems 3

What Is Economics? 4

Resources and Commodities 4

Scarcity 4

Choice 4

Four Key Economic Problems 6

Alternative Economic Systems 7

Differences Among Economies 8

■ Box 1-1 *Will Perestroika Succeed?* 10

2

#### Economics as a Social Science 14

The Distinction Between Positive and  
Normative 14

■ Box 2-1 *Why Economists Disagree* 15

■ Box 2-2 *Limits on the Positive-Normative  
Distinction* 17

The Scientific Approach 17

Is Human Behavior Predictable? 17

The Nature of Scientific Theories 19

Testing Theories 22

■ Box 2-3 *Can Hypotheses Be Proved or  
Refuted?* 23

Measurement and Testing of Economic  
Relations 23

An Example of Statistical Testing 25

#### Appendix to Chapter 2

#### Expressing and Graphing Relations Among Variables 32

Expressing Relations: Correspondences and  
Functions 32

Graphing Relationships Among Variables 34

Graphing Observations 35

Ratio (Logarithmic) Scales 38

Graphing Three Variables in Two  
Dimensions 40

3

### An Overview of the Market Economy 41

The Evolution of Market Economies 41

Surplus, Specialization, and Trade 41

The Division of Labor 42

Markets and Resource Allocation 42

The Decision Makers 42

■ Box 3-1 *The Division of Labor* 43

Households 43

Firms 44

Government 44

Markets and Economies 45

Markets 45

Economies 45

Sectors of an Economy 45

Microeconomics and Macroeconomics 46

An Overview of Microeconomics 46

Microeconomics and Macroeconomics  
Compared 48

An Overview of Macroeconomics 48

## PART 2

### A GENERAL VIEW OF THE PRICE SYSTEM 53

4

#### Demand, Supply, and Price 54

Demand 54

Quantity Demanded 54

What Determines Quantity Demanded? 55

Demand and Price 56

The Demand Schedule and the Demand  
Curve 56

Supply 60

Quantity Supplied 61

What Determines Quantity Supplied? 61

Supply and Price 62

The Supply Schedule and the Supply Curve 62

Determination of Price by Demand and

**Supply 64**

- The Laws of Demand and Supply 66
- ▣ Box 4-1 *Laws, Predictions, Hypotheses* 67
- Prices and Inflation 67
- ▣ Box 4-2 *Demand and Supply: What Really Happens* 69

**5**

**Elasticity and Market Adjustment 73**

- Price Elasticity of Demand 73
  - The Measurement of Price Elasticity 74
  - ▣ Box 5-1 *Terminology of Elasticity* 77
  - What Determines Elasticity of Demand? 78
- Other Demand Elasticities 82
  - Income Elasticity of Demand 82
  - Cross Elasticity of Demand 85
- Elasticity of Supply 85
  - Long-Run and Short-Run Elasticity of Supply 85

**Appendix to Chapter 5**

**Elasticity: A Formal Analysis 90**

- Arc Elasticity as an Approximation to Point Elasticity 90
- Point Elasticity According to the Precise Definition 93

**6**

**Supply and Demand in Action: Foreign Trade, Price Controls, and Agriculture 95**

- Foreign Trade at Fixed World Prices 95
  - The Determination of Imports and Exports 95
- Government-Controlled Prices 97
  - Disequilibrium Prices 97
  - Price Floors 98
  - Price Ceilings 99
- Rent Controls: A Case Study of Price Ceilings 100
  - General Effects of Rent Controls 101
  - Specific Effects of Rent Controls 101
  - When Rent Controls May Work: Short-Term Shortages 102
  - When Rent Controls Fail: Long-Term Shortages 103
  - Alternative Responses to the Rising Costs of Housing 104
- Agriculture and the Farm Problem 105
  - Long-Term Trends 106
  - Short-Term Fluctuations 109
  - Agricultural Stabilization in Theory 111

- Farm Policy in Action: Sixty Years of American Farm Policy 112
- ▣ Box 6-1 *The Vocabulary of American Farm Policy* 114
- ▣ Box 6-2 *Four General Lessons About Resource Allocation* 116

**PART 3**

**CONSUMPTION, PRODUCTION, AND COST 123**

**7**

**Household Consumption Behavior 124**

- The Choices Households Face 124
  - The Budget Line 124
  - Shifts in the Budget Line 125
- The Choices Households Make 127
  - Income and Substitution Effects 128
  - ▣ Box 7-1 *Does Demand Theory Require That Households Always Act Rationally?* 129
  - The Role of Tastes 132
  - Can Demand Curves Ever Have Positive Slopes? 133
  - ▣ Box 7-2 *More About the Slope of Demand Curves* 134
- Consumers' Surplus 136
  - A Preview 138

**Appendix A to Chapter 7**

**Indifference Theory 141**

- An Indifference Curve 141
- The Indifference Map 143
- The Equilibrium of the Household 143
- Derivation of the Demand Curve 145
- The Slope of the Demand Curve 147

**Appendix B to Chapter 7**

**Marginal Utility Theory 151**

- Marginal and Total Utility 151
- Maximizing Utility 152
- Derivation of the Household's Demand Curve 154

**8**

**Using Demand Theory 156**

- Market and Individual Demand Curves 156
- Some Applications of Consumers' Surplus 156
  - The Paradox of Value 156
  - Necessities, Luxuries, and Elasticity 159
  - Free, Scarce, and Freely Provided Goods 160
- Household Behavior Under Uncertainty 160

- Box 8-1 *What Do Attitude Surveys Measure?* 161
- Sources of Uncertainty 162
- The Characterization of Risky Events 162
- Box 8-2 *Used-Car Prices: The Problem of "Lemons"* 163
- Preferences Toward Risk 164
- The Market for Insurance 165
- Box 8-3 *The Economics of Gambling* 166

9

**The Role of the Firm 173**

- The Organization of Production 173
  - Forms of Business Organization 173
  - The Rise of the Modern Corporation 175
  - Financing of Firms 175
  - The Firm in Economic Theory 176
  - Box 9-1 *Kinds of Firms* 177
  - The Meaning of Cost 178
  - The Measurement of Opportunity Cost 178
  - Box 9-2 *Opportunity Cost Beyond Economics* 179
  - The Meaning and Significance of Profits 180
  - Profits and Resource Allocation 182

**Appendix to Chapter 9****Balance Sheets, Income Statements, and Costs of Production: Two Views 185**

- An Example 185
- An Accountant's Balance Sheet and Income Statement 185
- An Economist's Balance Sheet and Income Statement 187

10

**Production and Cost in the Short Run 189**

- Choices Open to the Firm 189
  - Time Horizons for Decision Making 190
  - Connecting the Runs: The Production Function 190
- Short-Run Choices 191
  - Total, Average, and Marginal Products 191
  - The Shape of Marginal Product and Average Product Curves 192
- Short-Run Variations in Cost 193
  - Box 10-1 *Diminishing Returns* 194
  - Box 10-2 *Pete Rose's Batting Statistics* 195
  - Cost Concepts Defined 195
  - Short-Run Cost Curves 196
  - Shifts in Short-Run Cost Curves 198

11

**Production and Cost in the Long and Very Long Runs 201**

- The Long Run: No Fixed Factors 201
  - Box 11-1 *Various Concepts of Efficiency* 202
  - Profit Maximization and Cost Minimization 203
  - The Principle of Substitution 204
  - Cost Curves in the Long Run 205
  - Shifts in Cost Curves 207
- The Very Long Run 208
  - Kinds of Technological Change 209
  - Sources of Technological Change 209
  - Box 11-2 *The Significance of Productivity Growth* 210
  - The Endogenous Nature of Technological Change 211
  - How Much Productivity Growth Do We Want? 211
  - Box 11-3 *Causes of Decline in Productivity Growth* 212

**Appendix to Chapter 11****Isoquants: An Alternative Analysis of the Firm's Input Decisions 217**

- A Single Isoquant 217
- An Isoquant Map 218
- Conditions for Cost Minimization 219
- The Principle of Substitution 219

PART 4

**MARKETS AND PRICING 223**

12

**Competitive Markets 224**

- Market Structure and Firm Behavior 224
  - Behavior and Market Structure 224
  - The Significance of Market Structure 225
  - Box 12-1 *Demand Under Perfect Competition: Firm and Industry* 226
- Elements of the Theory of Perfect Competition 226
  - Assumptions of Perfect Competition 226
  - Demand and Revenue for a Firm in Perfect Competition 228
- Short-Run Equilibrium 230
  - The Firm's Equilibrium Output 230
  - Short-Run Supply Curves 231
  - Short-Run Equilibrium Price 232
  - Short-Run Profitability of the Firm 232
- Long-Run Equilibrium 232
  - The Effect of Entry and Exit 234

Conditions for Long-Run Equilibrium	235
The Long-Run Industry Supply Curve	236
Changes in Technology	238
Declining Industries	239
■ Box 12-2 <i>A Parable of Seaside Inn</i>	241
The Appeal of Perfect Competition	242

## 13

**Monopoly 246**

A Single-Price Monopolist	246
Cost and Revenue in the Short Run	246
Short-Run Monopoly Equilibrium	248
Long-Run Monopoly Equilibrium	249
Entry Barriers	250
Cartels as Monopolies	252
■ Box 13-1 <i>Erosion of a Monopoly</i>	253
A Multiprice Monopolist: Price Discrimination	255
■ Box 13-2 <i>Does Price Fixing Raise Profits?</i>	256
Why Price Discrimination Is Profitable	256
When Is Price Discrimination Possible?	258
Consequences of Price Discrimination	258
Normative Aspects of Price Discrimination	259
■ Box 13-3 <i>Is Price Discrimination Bad?</i>	260
Systematic and Unsystematic Price Discrimination	261

## 14

**Patterns of Imperfect Competition 264**

The Structure of the American Economy	264
Two Groupings of American Industries	264
Patterns of Concentration in Manufacturing	266
Imperfectly Competitive Market Structures	267
Firms Select Their Products	267
Firms Administer Their Prices	268
Other Aspects of the Behavior of Firms	268
Monopolistic Competition	269
Assumptions of Monopolistic Competition	269
Predictions About Behavior	269
Evaluation of the Theory of Monopolistic Competition	270
Oligopoly	271
Characteristics of Oligopoly	272
Why Bigness?	272
The Basic Dilemma of Oligopoly	273
Types of Cooperative Behavior	275
Cooperation or Competition?	277
Short-Run Price Stickiness	277

■ Box 14-1 <i>Saucer-shaped Industry Cost Curves</i>	282
Long-Run Behavior: The Importance of Entry Barriers	281

Oligopoly and the Functioning of the Economy	284
--	-----

■ Box 14-2 <i>Contestable Markets</i>	285
---------------------------------------	-----

## 15

**Public Policy Toward Monopoly and Competition 291**

The Theory of Efficiency	291
Efficiency in Perfect Competition and in Monopoly	294
Allocative Efficiency: An Elaboration	295
Major Policy Issues	297
Antitrust Policy Against Monopoly	299
The Nature of Antitrust Policy	299
Antitrust Policies in Practice	300
■ Box 15-1 <i>Principal Antitrust Provisions</i>	301
■ Box 15-2 <i>Antitrust Policy and the Theory of Contestable Markets</i>	304
The Deviant Theme in Antitrust Policy	304
The Success of Antitrust Policy	305
Public Utility Regulation of Natural Monopoly	305
■ Box 15-3 <i>Economics and Antitrust Law</i>	306
Regulation of Price	307
Problems in Regulation	308
The Success of Natural-Monopoly Regulation	309
■ Box 15-4 <i>Airline Deregulation</i>	310
Anticompetitive Policies of Regulatory Commissions	312

## 16

**The Nature of the Firm and the Market for Corporate Control 316**

What Do Firms Maximize?	316
The Separation of Ownership from Control	317
Alternative Theories of the Firm	318
Nonmaximization Due to Ignorance	318
Nonmaximization by Choice	319
■ Box 16-1 <i>Do Firms Control the Market? Should Firms Maximize Profits?</i>	322
The Market for Corporate Control	324
The Effects of Takeovers	325
■ Box 16-2 <i>The Mechanics of Takeovers and Leveraged Buy Outs</i>	326
Conclusion: The Importance of Nonmaximizing Theories	328



## PART 5

**THE DISTRIBUTION OF INCOME 333**

17

**Factor Mobility and Factor Pricing 334**

The Functional and the Size Distribution 334

The Theory of Income Distribution 336

Factor Markets and Factor Incomes 336

The Demand for Factors 337

The Total Supply of Factors 338

■ *Box 17-1 Taxes, Welfare, and the Supply of Effort 339*

The Supply of Factors for a Particular Use 340

Factor Price Differentials 341

Economic Rent 343

■ *Box 17-2 Origin of the Term Economic Rent 344*

The Division of Factor Earnings 344

Do Factors Move in Response to Changes in Earnings? 346

The Pricing of an Exhaustible Resource 347

An Example 347

■ *Box 17-3 Economic Rent as a Component of Factor Earnings 348*■ *Box 17-4 Deindustrialization: From Blue Collar to White Coat 350*

The Price System as a Conservation Mechanism 353

Actual Price Profiles 354

18

**More on Factor Markets 359**

The Demand for Factors of Production 359

Marginal Productivity Theory 359

Slope of the Derived Demand Curve 360

Elasticity of Factor Demand 360

■ *Box 18-1 The Marginal Productivity Theory of Distribution 361*

Distribution Theory: Some Evidence 363

Capital and Land 363

Labor 363

Implications for Economic Efficiency 365

Capital and Interest 366

Two Prices of Capital 366

Present Value of Future Returns 367

■ *Box 18-2 Capital, Capitalists, and Capitalism 367*■ *Box 18-3 The Rental and Purchase Price of Labor 368*

The Equilibrium of the Firm 370

The Equilibrium for the Whole Economy 371

**Appendix to Chapter 18****The Firm's Demand for Factors 376**

Will There Be a Downward-sloping Portion of MRP? 377

19

**Labor Markets and Discrimination 378**

Theoretical Models of Wage Determination 378

Wage Differences in Competitive Labor Markets 379

The Influence of Market Structure 380

Minimum-Wage Laws 383

The Nature and Evolution of Modern Labor Unions 384

Labor-Market Institutions 385

The Development of American Labor Unions 385

■ *Box 19-1 Factory Life in the United States, 1903 386*

Objectives of Modern Unions 387

Discrimination in Labor Markets 388

A Model of Labor-Market Discrimination 389

Black-White Differentials 392

Female-Male Differentials 394

Progress Against Discrimination 395

■ *Box 19-2 Comparable Worth 396*

Who Loses as a Result of Discrimination? 398

20

**The Problem of Poverty 402**

Poverty in the United States 402

The Concept of Poverty 402

The Extent of Poverty 403

Who Are the Poor? 404

■ *Box 20-1 Profiles of Poverty 407*

Policies Toward Poverty 409

Incentive Effects and Targeting 409

Antipoverty Programs 410

Antipoverty Policy 412

Future Directions of Policy Toward Poverty 414

## PART 6

**THE MARKET ECONOMY: PROBLEMS AND POLICIES 419**

21

**Benefits and Costs of Government Intervention 420**

How Markets Coordinate 421

The Case for the Market System 423

The Case for Intervention	425
Failure to Achieve Efficiency	425
Failure to Achieve Other Social Goals	430
■ Box 21-1 <i>Distribution Versus Efficiency</i>	432
Government Intervention	433
The Tools of Government Intervention	434
The Costs of Government Intervention	436
Government "Imperfection"	437
■ Box 21-2 <i>Social Choice Theory—The Economic Analysis of Government Behavior</i>	438
How Much Should Government Intervene?	441
The Role of Analysis	441
The Role of Ideology	441

## 22 Social and Environmental Regulation 445

The Economics of Pollution and Pollution Control	446
The Economic Rationale for Regulating Pollution	446
Pollution Control in Theory and Practice	447
■ Box 22-1 <i>Charging for Emissions at Home</i>	450
Regulation for Health and Safety	454
Health and Safety Information as a Public Good	455
Health and Safety Regulation in Practice	457
Benefit-Cost Analysis of Social Regulation	458

## 23 Taxation and Public Expenditure 462

Taxation	462
The U.S. Tax System	463
Evaluating the Tax System	467
Equity	467
■ Box 23-1 <i>The Negative Income Tax</i>	469
Efficiency	470
Tax Incidence	471
Public Expenditure	473
■ Box 23-2 <i>The Rising Cost of Health Care</i>	478
Grants-in-Aid and Fiscal Federalism	476
Evaluating the Role of Government	480
Do Benefits of Public Programs Exceed Costs?	480

What Is the Correct Balance Between Private and Public Sectors?	480
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## PART 7 INTERNATIONAL TRADE 487

24	
The Gains from Trade	488
Sources of the Gains from Trade	488
Interpersonal, Interregional, and International Trade	488
Gains from Specialization with Given Costs	489
Why Opportunity Costs Differ	493
Gains from Specialization with Variable Costs	493
The Terms of Trade	495
■ Box 24-1 <i>The Gains from Trade Illustrated Graphically</i>	496
25	
Barriers to Free Trade	500
The Theory of Commercial Policy	500
The Case for Free Trade	500
Methods of Protection	501
■ Box 25-1 <i>The Efficiency Effects of Import Restrictions</i>	502
■ Box 25-2 <i>Import Restrictions on Japanese Cars: Tariffs or Quotas?</i>	504
The Case for Protectionism	506
How Much Protectionism?	510
Fallacious Trade Policy Arguments	512
Trade Policy in the World Today	515
The Importance of Trade and Tariffs	515
International Agreements on Trade and Tariffs	515
Trade Remedy Laws and Nontariff Barriers	517
■ Box 25-3 <i>Europe 1992</i>	518
■ Box 25-4 <i>The U.S.–Canada Free Trade Agreement</i>	520
The Crisis in the Multilateral Trading System	522
MATHEMATICAL NOTES	525
GLOSSARY	536
INDEX	555

P · A · R · T

1

**THE  
NATURE  
OF  
ECONOMICS**

# Chapter 1

## The Economic Problem

Many of the world's most pressing problems are economic. The dominant problem of the 1930s was the massive unemployment of workers and other resources that resulted from the Great Depression. The wartime economy of the 1940s solved that problem but created a new one: how to reallocate scarce resources quickly between military and civilian needs. The period from 1945 to 1955 was a time of worldwide economic growth as the major economies recovered from World War II. As the European nations tried to rebuild their war-shattered economies, a major concern was whether they could export enough to pay for all that they needed to import.

The period from 1955 to 1965 was a time of unparalleled growth in prosperity as the world experienced a period of expanding output and trade. Unemployment was a concern during some of this period, as was the inability of most economies to achieve *both* full employment and zero inflation. From 1965 to 1975 a slowdown in growth and rising inflation became matters for serious concern. The central problems of the late 1970s and early 1980s were the rising cost of energy—oil prices increased tenfold from 1974 to 1980—and the disturbing combination of rising unemployment and rising inflation, called *stagflation*.

In the United States, high unemployment was a major problem of the early 1980s, and persistent balance-of-trade deficits throughout the rest of the decade led to a concern about the threat to American jobs from foreign competition. Dramatic increases in agricultural subsidies in many advanced countries and the persistent debt crisis faced by a number of poorer countries created an uncertain international environment. Massive government deficits and the growth of the public debt cast a shadow of concern that will linger throughout the rest of the century.

Problems change over the decades, yet there are always problems. Of course, not all the world's problems are primarily economic. Political, biological, social, cultural, and philosophical issues often predominate. However, as the following examples suggest, no matter how "noneconomic" a particular problem may seem, it will almost always have a significant economic dimension.

1. The crises that lead to wars often have economic roots. Nations fight for oil and rice and land to live on, although the rhetoric of their leaders evokes God, Glory, and the Fatherland.
2. The current rate of world population growth is 2.1 persons per second, or about 65 million people a year. The economic