

PART I Introduction

Chapter 1 Thinking Like an Economist 3

Economics: Studying Choice in a World of Scarcity 4

Applying the Cost-Benefit Principle 5

Economic Surplus 6

Opportunity Cost 6

The Role of Economic Models 7

Four Important Decision Pitfalls 8

Pitfall 1: Measuring Costs and Benefits as Proportions Rather Than Absolute Dollar Amounts 8

Pitfall 2: Ignoring Opportunity Costs 9

Pitfall 3: Failure to Ignore Sunk Costs 10

Pitfall 4: Failure to Understand the Average–Marginal Distinction 11

Normative Economics versus Positive Economics 14

Economics: Micro and Macro 15

The Approach of This Text 15

Economic Naturalism 16

ECONOMIC NATURALIST 1.1: Why do many hardware manufacturers include more than \$1,000 worth of “free” software with a computer selling for only slightly more than that? 17

ECONOMIC NATURALIST 1.2: Why don’t auto manufacturers make cars without heaters? 17

ECONOMIC NATURALIST 1.3: Why do the keypad buttons on drive-up automatic teller machines have Braille dots? 18

Summary 19

Core Principles 19

Key Terms 19

Review Questions 19

Problems 20

Answers to In-Chapter Exercises 21

Appendix: Working with Equations, Graphs, and Tables 23

Chapter 2 Comparative Advantage: The Basis for Exchange 35

Exchange and Opportunity Cost 36

The Principle of Comparative Advantage 37

ECONOMIC NATURALIST 2.1: Where have all the .400 hitters gone? 39

Sources of Comparative Advantage 40

ECONOMIC NATURALIST 2.2: Televisions and videocassette recorders were developed and first produced in the United States, but today the United States accounts for only a

minuscule share of the total world production of these products. Why did the United States fail to retain its lead in these markets? 41

Comparative Advantage and Production Possibilities 41

The Production Possibilities Curve 41

How Individual Productivity Affects the Slope and Position of the PPC 44

The Gains from Specialization and Exchange 46

A Production Possibilities Curve for a Many-Person Economy 47

Factors That Shift the Economy's Production Possibilities Curve 49

Why Have Some Countries Been Slow to Specialize? 51

Can We Have Too Much Specialization? 52

Comparative Advantage and International Trade 53

ECONOMIC NATURALIST 2.3: If trade between nations is so beneficial, why are free-trade agreements so controversial? 53

Summary 54

Core Principles 54

Key Terms 54

Review Questions 54

Problems 55

Answers to In-Chapter Exercises 56

Chapter 3 Supply and Demand: An Introduction 59

What, How, and for Whom? Central Planning versus the Market 61

Buyers and Sellers in Markets 62

The Demand Curve 63

The Supply Curve 64

Market Equilibrium 66

Rent Controls Reconsidered 69

Pizza Price Controls? 72

Predicting and Explaining Changes in Prices and Quantities 73

Shifts in Demand 74

ECONOMIC NATURALIST 3.1: When the federal government implements a large pay increase for its employees, why do rents for apartments located near Washington Metro stations go up relative to rents for apartments located far away from Metro stations? 76

Shifts in the Supply Curve 77

ECONOMIC NATURALIST 3.2: Why do major term papers go through so many more revisions today than in the 1970s? 79

Four Simple Rules 80

ECONOMIC NATURALIST 3.3: Why do the prices of some goods, like airline tickets to Europe, go up during the months of heaviest consumption, while others, like sweet corn, go down? 82

Markets and Social Welfare 83

Cash on the Table 83

Smart for One, Dumb for All 84

Summary 86

Core Principles 86

Key Terms 87

Review Questions 87

Problems 87

Answers to In-Chapter Exercises 88

Appendix: The Algebra of Supply and Demand 91

PART 2 Competition and the Invisible Hand

Chapter 4 Elasticity 97

Price Elasticity of Demand 98

Price Elasticity Defined 98

Determinants of Price Elasticity of Demand 99

Some Representative Elasticity Estimates 100

Using Price Elasticity of Demand 101

ECONOMIC NATURALIST 4.1: Will a higher tax on cigarettes curb teenage smoking? 101

ECONOMIC NATURALIST 4.2: Why was the luxury tax on yachts such a disaster? 102

A Graphical Interpretation of Price Elasticity 102

Price Elasticity Changes along a Straight-Line Demand Curve 104

Two Special Cases 105

Elasticity and Total Expenditure 107

Income Elasticity and Cross-Price Elasticity of Demand 110

The Price Elasticity of Supply 111

Determinants of Supply Elasticity 114

ECONOMIC NATURALIST 4.3: Why are gasoline prices so much more volatile than car prices? 116

Unique and Essential Inputs: The Ultimate Supply Bottleneck 118

Summary 118

Key Terms 119

Review Questions 119

Problems 119

Answers to In-Chapter Exercises 121

Appendix: The Midpoint Formula 123

Chapter 5 Demand: The Benefit Side of the Market 125

The Law of Demand 126

The Origins of Demand 126

Needs versus Wants 127

ECONOMIC NATURALIST 5.1: Why does California experience chronic water shortages? 128

Translating Wants into Demand 128

Measuring Wants: The Concept of Utility 128

Allocating a Fixed Income between Two Goods 132

The Rational Spending Rule 135

Income and Substitution Effects Revisited 135

Applying the Rational Spending Rule 138

Substitution at Work 138

ECONOMIC NATURALIST 5.2: Why do the wealthy in Manhattan live in smaller houses than the wealthy in Seattle? 138

ECONOMIC NATURALIST 5.3: Why did people turn to four-cylinder cars in the 1970s, only to shift back to six- and eight-cylinder cars in the 1990s? 138

ECONOMIC NATURALIST 5.4: Why are automobile engines smaller in England than in the United States? 140

The Importance of Income Differences 140

ECONOMIC NATURALIST 5.5: Why are waiting lines longer in poorer neighborhoods? 140

Individual and Market Demand Curves 140

Horizontal Addition 141

Demand and Consumer Surplus 142

Calculating Economic Surplus 142

Summary 145

Key Terms 145

Review Questions 145

Problems 146

Answers to In-Chapter Exercises 147

Appendix: Indifference Curves 149

Chapter 6 Perfectly Competitive Supply: The Cost Side of the Market 165

Thinking about Supply: The Importance of Opportunity Cost 166

Individual and Market Supply Curves 168

Profit-Maximizing Firms in Perfectly Competitive Markets 169

Profit Maximization 169

The Demand Curve Facing a Perfectly Competitive Firm 170

Production in the Short Run 171

Some Important Cost Concepts 172

Choosing Output to Maximize Profit 173

A Note on the Firm's Shutdown Condition 175

Average Variable Cost and Average Total Cost 175

A Graphical Approach to Profit Maximization 175

Price = Marginal Cost: The Maximum-Profit Condition 177

The "Law" of Supply 179

Determinants of Supply Revisited 180

Technology 180

Input Prices 180

The Number of Suppliers 181

Expectations 181

Changes in Prices of Other Products 181

Applying the Theory of Supply 181

ECONOMIC NATURALIST 6.1: When recycling is left to private market forces, why are many more aluminum beverage containers recycled than glass ones? 181

Supply and Producer Surplus 184

Calculating Producer Surplus 184

Summary 185

Key Terms 186

Review Questions 186

Problems 186

Answers to In-Chapter Exercises 189

Chapter 7 Efficiency and Exchange 191

Market Equilibrium and Efficiency 192

Efficiency Is Not the Only Goal 195

Why Efficiency Should Be the First Goal 195

The Cost of Preventing Price Adjustments 196

Price Ceilings 196

Price Subsidies 199

First-Come, First-Served Policies 201

ECONOMIC NATURALIST 7.1: Why does no one complain any longer about being bumped from an overbooked flight? 201

Marginal Cost Pricing of Public Services 204

Taxes and Efficiency 206

Who Pays a Tax Imposed on Sellers of a Good? 206

ECONOMIC NATURALIST 7.2: How will a tax on cars affect their prices in the long run? 207

How a Tax Collected from a Seller Affects Economic Surplus 208

Taxes, Elasticity, and Efficiency 210

Taxes, External Costs, and Efficiency 211

Summary 212

Key Terms 212

Review Questions 213

Problems 213

Answers to In-Chapter Exercises 215

Chapter 8 The Quest for Profit and the Invisible Hand 217

The Central Role of Economic Profit 218

Three Types of Profit 218

The Invisible Hand Theory 221

Two Functions of Price 221

Responses to Profits and Losses 222

The Importance of Free Entry and Exit 228

Economic Rent versus Economic Profit 229

The Invisible Hand in Action 230

The Invisible Hand at the Supermarket and on the Freeway 230

ECONOMIC NATURALIST 8.1: Why do supermarket checkout lines all tend to be roughly the same length? 230

The Invisible Hand and Cost-Saving Innovations 231

The Invisible Hand in Regulated Markets 231

ECONOMIC NATURALIST 8.2: Why do New York City taxicab medallions sell for more than \$300,000? 232

ECONOMIC NATURALIST 8.3: Why did major commercial airlines install piano bars on the upper decks of Boeing 747s in the 1970s? 233

The Invisible Hand in Antipoverty Programs 234

The Invisible Hand in the Stock Market 234

ECONOMIC NATURALIST 8.4: Why isn't a stock portfolio consisting of Canada's 50 "best-managed companies" a particularly good investment? 237

The Distinction between an Equilibrium and a Social Optimum 238

Smart for One, Dumb for All 239

ECONOMIC NATURALIST 8.5: Are there "too many" smart people working as corporate earnings forecasters? 239

Summary 240

Key Terms 241

Review Questions 241

Problems 241

Answers to In-Chapter Exercises 243

Chapter 9 International Trade 245

Comparative Advantage as a Basis for Trade 246

Production and Consumption Possibilities and the Benefits of Trade 247

Consumption Possibilities with and without International Trade 248

ECONOMIC NATURALIST 9.1: Does “cheap” foreign labor pose a danger to high-wage economies? 254

A Supply and Demand Perspective on Trade 254

Winners and Losers from Trade 258

Protectionist Policies: Tariffs and Quotas 259

ECONOMIC NATURALIST 9.2: Why do consumers in the United States pay more than double the world price for sugar? 261

ECONOMIC NATURALIST 9.3: Who benefited from, and who was hurt by, voluntary export restraints on Japanese automobiles in the 1980s? 263

The Inefficiency of Protectionism 264

Outsourcing 266

ECONOMIC NATURALIST 9.4: Is PBS economics reporter Paul Solman’s job a likely candidate for outsourcing? 266

Summary 268

Key Terms 268

Review Questions 268

Problems 269

Answers to In-Chapter Exercises 271

Appendix: An Algebraic Approach to Trade Analysis 275

PART 3 Market Imperfections

Chapter 10 Monopoly and Other Forms of Imperfect Competition 283

Imperfect Competition 284

Different Forms of Imperfect Competition 284

The Essential Difference between Perfectly and Imperfectly Competitive Firms 286

Five Sources of Market Power 287

Exclusive Control over Important Inputs 287

Patents and Copyrights 287

Government Licenses or Franchises 287

Economies of Scale (Natural Monopolies) 287

Network Economies 288

Economies of Scale and the Importance of Start-Up Costs 289

ECONOMIC NATURALIST 10.1: Why does Intel sell the overwhelming majority of all microprocessors used in personal computers? 291

Profit Maximization for the Monopolist 292

Marginal Revenue for the Monopolist 292

The Monopolist’s Profit-Maximizing Decision Rule 294

Being a Monopolist Doesn’t Guarantee an Economic Profit 296

Why the Invisible Hand Breaks Down under Monopoly 297

Using Discounts to Expand the Market 299

Price Discrimination Defined 299

ECONOMIC NATURALIST 10.2: Why do many movie theaters offer discount tickets to students? 300

How Price Discrimination Affects Output 300

The Hurdle Method of Price Discrimination 303

Is Price Discrimination a Bad Thing? 305

Examples of Price Discrimination 306

ECONOMIC NATURALIST 10.3: Why might an appliance retailer instruct its clerks to hammer dents into the sides of its stoves and refrigerators? 307

Public Policy toward Natural Monopoly	307
State Ownership and Management	307
State Regulation of Private Monopolies	308
Exclusive Contracting for Natural Monopoly	309
Vigorous Enforcement of Antitrust Laws	309
<i>Summary</i>	310
<i>Key Terms</i>	311
<i>Review Questions</i>	311
<i>Problems</i>	312
<i>Answers to In-Chapter Exercises</i>	314
<i>Appendix: The Algebra of Monopoly Profit Maximization</i>	317

Chapter 11 Strategic Choice in Oligopoly, Monopolistic Competition, and Everyday Life 319

Using Game Theory to Analyze Strategic Decisions	320
The Three Elements of a Game	320
Nash Equilibrium	322
The Prisoner's Dilemma	324
The Original Prisoner's Dilemma	324
The Economics of Cartels	325
ECONOMIC NATURALIST 11.1: Why are cartel agreements notoriously unstable?	325
Tit-for-Tat and the Repeated Prisoner's Dilemma	327
ECONOMIC NATURALIST 11.2: How did Congress unwittingly solve the television advertising dilemma confronting cigarette producers?	328
ECONOMIC NATURALIST 11.3: Why do people shout at parties?	329
Games in Which Timing Matters	330
Credible Threats and Promises	332
Monopolistic Competition When Location Matters	333
ECONOMIC NATURALIST 11.4: Why do we often see convenience stores located on adjacent street corners?	334
Commitment Problems	335
The Strategic Role of Preferences	337
Are People Fundamentally Selfish?	338
Preferences as Solutions to Commitment Problems	338
<i>Summary</i>	339
<i>Key Terms</i>	340
<i>Review Questions</i>	340
<i>Problems</i>	340
<i>Answers to In-Chapter Exercises</i>	343

Chapter 12 Externalities and Property Rights 347

External Costs and Benefits	347
How Externalities Affect Resource Allocation	348
The Graphical Portrayal of Externalities	349
The Coase Theorem	351
Legal Remedies for Externalities	355
ECONOMIC NATURALIST 12.1: What is the purpose of speed limits and other traffic laws?	356
ECONOMIC NATURALIST 12.2: Why do most communities have zoning laws?	356
ECONOMIC NATURALIST 12.3: Why do many governments enact laws that limit the discharge of environmental pollutants?	356

ECONOMIC NATURALIST 12.4:	What is the purpose of free speech laws?	357
ECONOMIC NATURALIST 12.5:	Why does government subsidize the planting of trees on hillsides?	357
	The Optimal Amount of Negative Externalities Is Not Zero	357
	Compensatory Taxes and Subsidies	358
Property Rights and the Tragedy of the Commons		360
	The Problem of Unpriced Resources	360
	The Effect of Private Ownership	362
	When Private Ownership Is Impractical	363
ECONOMIC NATURALIST 12.6:	Why do blackberries in public parks get picked too soon?	363
ECONOMIC NATURALIST 12.7:	Why are shared milkshakes consumed too quickly?	363
Positional Externalities		365
	Payoffs That Depend on Relative Performance	365
ECONOMIC NATURALIST 12.8:	Why do football players take anabolic steroids?	365
	Positional Arms Races and Positional Arms Control Agreements	366
	Social Norms as Positional Arms Control Agreements	368
<i>Summary</i>		370
<i>Key Terms</i>		370
<i>Review Questions</i>		370
<i>Problems</i>		371
<i>Answers to In-Chapter Exercises</i>		373

Chapter 13

The Economics of Information		375
How the Middleman Adds Value		376
The Optimal Amount of Information		378
	The Cost-Benefit Test	378
	The Free-Rider Problem	379
ECONOMIC NATURALIST 13.1:	Why is finding a knowledgeable salesclerk often difficult?	379
ECONOMIC NATURALIST 13.2:	Why did Rivergate Books, the last bookstore in Lambertville, New Jersey, recently go out of business?	379
	Two Guidelines for Rational Search	380
	The Gamble Inherent in Search	381
	The Commitment Problem When Search Is Costly	382
Asymmetric Information		383
	The Lemons Model	384
	The Credibility Problem in Trading	385
	The Costly-to-Fake Principle	386
ECONOMIC NATURALIST 13.3:	Why do firms insert the phrase “As advertised on TV” when they advertise their products in magazines and newspapers?	386
ECONOMIC NATURALIST 13.4:	Why do many companies care so much about elite educational credentials?	387
	Conspicuous Consumption as a Signal of Ability	387
ECONOMIC NATURALIST 13.5:	Why do many clients seem to prefer lawyers who wear expensive suits?	388
	Statistical Discrimination	388
ECONOMIC NATURALIST 13.6:	Why do males under 25 years of age pay more than other drivers for auto insurance?	388
	Adverse Selection	390
	Moral Hazard	390
Disappearing Political Discourse		391

ECONOMIC NATURALIST 13.7: Why do opponents of the death penalty often remain silent? 391

ECONOMIC NATURALIST 13.8: Why do proponents of legalized drugs often remain silent? 392

Summary 393

Key Terms 394

Review Questions 394

Problems 394

Answers to In-Chapter Exercises 395

PART 4 Economics of Public Policy

Chapter 14 Labor Markets, Poverty, and Income Distribution 399

The Economic Value of Work 400

The Equilibrium Wage and Employment Levels 402

The Demand Curve for Labor 402

The Supply Curve of Labor 403

Market Shifts 404

Explaining Differences in Earnings 405

Human Capital Theory 405

Labor Unions 405

ECONOMIC NATURALIST 14.1: If unionized firms have to pay more, how do they manage to survive in the face of competition from their nonunionized counterparts? 407

Compensating Wage Differentials 407

ECONOMIC NATURALIST 14.2: Why do some ad copy writers earn more than others? 407

Discrimination in the Labor Market 408

Winner-Take-All Markets 410

ECONOMIC NATURALIST 14.3: Why does Renée Fleming earn millions more than sopranos of only slightly lesser ability? 410

Recent Trends in Inequality 411

Is Income Inequality a Moral Problem? 412

Methods of Income Redistribution 414

Welfare Payments and In-Kind Transfers 414

Means-Tested Benefit Programs 414

The Negative Income Tax 415

Minimum Wages 416

The Earned-Income Tax Credit 417

Public Employment for the Poor 418

A Combination of Methods 419

Summary 420

Key Terms 421

Review Questions 421

Problems 421

Answers to In-Chapter Exercises 423

Chapter 15 The Environment, Health, and Safety 425

The Economics of Health Care Delivery 426

Applying the Cost-Benefit Criterion 426

Designing a Solution 428

The HMO Revolution 429

ECONOMIC NATURALIST 15.1: Why is a patient with a sore knee more likely to receive an MRI exam if he has conventional health insurance than if he belongs to a health maintenance organization? 429

Paying for Health Insurance 430

ECONOMIC NATURALIST 15.2: In the richest country on Earth, why do so many people lack basic health insurance? 431

Using Price Incentives in Environmental Regulation 432

Taxing Pollution 432

Auctioning Pollution Permits 434

Workplace Safety Regulation 435

ECONOMIC NATURALIST 15.3: Why does the government require safety seats for infants who travel in cars, but not for infants who travel in airplanes? 439

Public Health and Security 440

ECONOMIC NATURALIST 15.4: Why do many states have laws requiring students to be vaccinated against childhood illnesses? 440

ECONOMIC NATURALIST 15.5: Why do more Secret Service agents guard the president than the vice president, and why do no Secret Service agents guard college professors? 441

Summary 442

Key Terms 443

Review Questions 443

Problems 443

Answers to In-Chapter Exercises 445

Chapter 16 Public Goods and Tax Policy 447

Government Provision of Public Goods 448

Public Goods versus Private Goods 448

Paying for Public Goods 450

ECONOMIC NATURALIST 16.1: Why don't most married couples contribute equally to joint purchases? 452

The Optimal Quantity of a Public Good 453

The Demand Curve for a Public Good 453

Private Provision of Public Goods 455

ECONOMIC NATURALIST 16.2: Why do television networks favor *Jerry Springer* over *Masterpiece Theater*? 456

Additional Functions of Government 458

Externalities and Property Rights 458

Local, State, or Federal? 459

Sources of Inefficiency in the Political Process 460

Pork Barrel Legislation 460

ECONOMIC NATURALIST 16.3: Why does check-splitting make the total restaurant bill higher? 460

ECONOMIC NATURALIST 16.4: Why do legislators often support one another's pork barrel spending programs? 461

Rent-Seeking 461

Starve the Government? 463

What Should We Tax? 464

Summary 466

Key Terms 467

Review Questions 467

Problems 467

Answers to In-Chapter Exercises 469

PART 5 Macroeconomics: Issues and Data

Chapter 17	Macroeconomics: The Bird's-Eye View of the Economy	473
	The Major Macroeconomic Issues	475
	Economic Growth and Living Standards	475
	Productivity	477
	Recessions and Expansions	478
	Unemployment	479
	Inflation	480
	Economic Interdependence among Nations	481
	Macroeconomic Policy	483
	Types of Macroeconomic Policy	483
	Positive versus Normative Analyses of Macroeconomic Policy	484
	Aggregation	485
	Studying Macroeconomics: A Preview	487
	<i>Summary</i>	488
	<i>Key Terms</i>	488
	<i>Review Questions</i>	489
	<i>Problems</i>	489
	<i>Answers to In-Chapter Exercises</i>	490
Chapter 18	Measuring Economic Activity: GDP and Unemployment	491
	Gross Domestic Product: Measuring the Nation's Output	492
	Market Value	492
	ECONOMIC NATURALIST 18.1: Why has female participation in the labor market increased by so much? What explains the trends illustrated in Figure 18.1?	494
	Final Goods and Services	495
	Produced within a Country during a Given Period	498
	The Expenditure Method for Measuring GDP	499
	GDP and the Incomes of Capital and Labor	503
	Nominal GDP versus Real GDP	504
	ECONOMIC NATURALIST 18.2: Can nominal and real GDP ever move in different directions?	506
	Real GDP Is Not the Same as Economic Well-Being	508
	Leisure Time	508
	ECONOMIC NATURALIST 18.3: Why do people work fewer hours today than their great-grandparents did?	508
	Nonmarket Economic Activities	509
	Environmental Quality and Resource Depletion	509
	Quality of Life	510
	Poverty and Economic Inequality	510
	But GDP Is Related to Economic Well-Being	510
	Availability of Goods and Services	511
	Health and Education	511
	ECONOMIC NATURALIST 18.4: Why do far fewer children complete high school in poor countries than in rich countries?	512
	ECONOMIC NATURALIST 18.5: How do economists identify the determinants of happiness?	513
	The Unemployment Rate	513
	Measuring Unemployment	514
	The Costs of Unemployment	515

The Duration of Unemployment 516
The Unemployment Rate versus “True” Unemployment 517

Summary 517
Key Terms 518
Review Questions 518
Problems 518
Answers to In-Chapter Exercises 520

Chapter 19 Measuring the Price Level and Inflation 523

The Consumer Price Index: Measuring the Price Level 524
Inflation 526

Adjusting for Inflation 527
Deflating a Nominal Quantity 528
Indexing to Maintain Buying Power 530

ECONOMIC NATURALIST 19.1: Every few years there is a well-publicized battle in Congress over whether the minimum wage should be raised. Why do these heated legislative debates recur so regularly? 531

Does the CPI Measure “True” Inflation? 531

ECONOMIC NATURALIST 19.2: Why is inflation in the health care sector apparently high? 534

The Costs of Inflation: Not What You Think 534

The True Costs of Inflation 536
“Noise” in the Price System 536
Distortions of the Tax System 537

“Shoe-Leather” Costs 538
Unexpected Redistribution of Wealth 539
Interference with Long-Run Planning 540

Hyperinflation 541

ECONOMIC NATURALIST 19.3: How costly is high inflation? 542

Inflation and Interest Rates 542
Inflation and the Real Interest Rate 542
The Fisher Effect 545

Summary 546
Key Terms 547
Review Questions 547
Problems 547

Answers to In-Chapter Exercises 550

PART 6 The Economy in the Long Run

Chapter 20 Economic Growth, Productivity, and Living Standards 555

The Remarkable Rise in Living Standards: The Record 557
Why “Small” Differences in Growth Rates Matter 558

ECONOMIC NATURALIST 20.1: China as Number One? 560

Why Nations Become Rich: The Crucial Role of Average Labor Productivity 561

The Determinants of Average Labor Productivity 563
Human Capital 564

ECONOMIC NATURALIST 20.2: Why did West Germany and Japan recover so successfully from the devastation of World War II? 565

Physical Capital 566
Land and Other Natural Resources 568
Technology 568

ECONOMIC NATURALIST 20.3: Why has U.S. labor productivity grown so rapidly since 1995? 569

Entrepreneurship and Management 570

ECONOMIC NATURALIST 20.4: Why did medieval China stagnate economically? 571

The Political and Legal Environment 571

ECONOMIC NATURALIST 20.5: Why did communism fail? 572

The Costs of Economic Growth 574

Promoting Economic Growth 575

Policies to Increase Human Capital 575

ECONOMIC NATURALIST 20.6: Why do almost all countries provide free public education? 575

Policies That Promote Saving and Investment 576

Policies That Support Research and Development 576

The Legal and Political Framework 577

The Poorest Countries: A Special Case? 577

Are There Limits to Growth? 578

ECONOMIC NATURALIST 20.7: Why is the air quality so poor in Mexico City? 579

Summary 581

Key Terms 581

Review Questions 581

Problems 582

Answers to In-Chapter Exercises 584

Chapter 21 Workers, Wages, and Unemployment in the Modern Economy 585

Five Important Labor Market Trends 586

Trends in Real Wages 586

Trends in Employment and Unemployment 587

Supply and Demand in the Labor Market 588

Wages and the Demand for Labor 588

Shifts in the Demand for Labor 590

The Supply of Labor 593

Shifts in the Supply of Labor 594

Explaining the Trends in Real Wages and Employment 595

ECONOMIC NATURALIST 21.1: Why have real wages increased by so much in the industrialized countries? 595

ECONOMIC NATURALIST 21.2: Since the 1970s, real wage growth in the United States has slowed, while employment has expanded rapidly. What accounts for these trends? 596

Increasing Wage Inequality: The Effects of Globalization 598

ECONOMIC NATURALIST 21.3: Why has the gap between the wages of skilled and unskilled workers widened in recent years? (1) Globalization 598

Increasing Wage Inequality: Technological Change 600

ECONOMIC NATURALIST 21.4: Why has the gap between the wages of less-skilled and higher-skilled workers widened in recent years? (2) Technological change 600

Unemployment 603

Types of Unemployment and Their Costs 603

Impediments to Full Employment 605

ECONOMIC NATURALIST 21.5: Why are unemployment rates so high in western Europe? 608
Summary 609
Key Terms 610
Review Questions 610
Problems 611
Answers to In-Chapter Exercises 613

Chapter 22 Saving and Capital Formation 617

Saving and Wealth 618

Stocks and Flows 619

Capital Gains and Losses 620

ECONOMIC NATURALIST 22.1: The bull market and household wealth 621

Why Do People Save? 622

ECONOMIC NATURALIST 22.2: Household saving in Japan 623

Saving and the Real Interest Rate 624

Saving, Self-Control, and Demonstration Effects 625

ECONOMIC NATURALIST 22.3: Why do U.S. households save so little? 627

National Saving and Its Components 628

The Measurement of National Saving 629

Private and Public Components of National Saving 630

Public Saving and the Government Budget 631

Is Low Household Saving a Problem? 634

Investment and Capital Formation 635

ECONOMIC NATURALIST 22.4: Why has investment in computers increased so much in recent decades? 637

Saving, Investment, and Financial Markets 638

ECONOMIC NATURALIST 22.5: How can we increase national saving? 641

Summary 641

Key Terms 642

Review Questions 642

Problems 642

Answers to In-Chapter Exercises 645

Chapter 23 Money, Prices, and the Federal Reserve 647

Money and Its Uses 648

ECONOMIC NATURALIST 23.1: Private money: Ithaca Hours and LETS 649

Measuring Money 650

Commercial Banks and the Creation of Money 651

The Money Supply with Both Currency and Deposits 655

The Federal Reserve System 656

The History and Structure of the Federal Reserve System 657

Controlling the Money Supply with Open-Market Operations 658

The Fed's Role in Stabilizing Financial Markets: Banking Panics 659

ECONOMIC NATURALIST 23.2: The banking panics of 1930–1933 and the money supply 660

Money and Prices 662

Velocity 663

Money and Inflation in the Long Run 663

Summary 665

Key Terms 666

Review Questions 666
Problems 667
Answers to In-Chapter Exercises 668

Chapter 24 Financial Markets and International Capital Flows 671

The Financial System and the Allocation of Saving to Productive Uses 672

The Banking System 673

ECONOMIC NATURALIST 24.1: How has the banking crisis in Japan affected the Japanese economy? 674

Bonds and Stocks 675

Bond Markets, Stock Markets, and the Allocation of Savings 679

ECONOMIC NATURALIST 24.2: Why did the U.S. stock market rise sharply in the 1990s, then fall in the new millennium? 681

International Capital Flows 682

Capital Flows and the Balance of Trade 683

The Determinants of International Capital Flows 685

Saving, Investment, and Capital Inflows 686

ECONOMIC NATURALIST 24.3: Why did the Argentine economy collapse in 2001–2002? 688

The Saving Rate and the Trade Deficit 689

ECONOMIC NATURALIST 24.4: Why is the U.S. trade deficit so large? 690

Summary 692

Key Terms 692

Review Questions 693

Problems 693

Answers to In-Chapter Exercises 695

PART 7 The Economy in the Short Run

Chapter 25 Short-Term Economic Fluctuations: An Introduction 699

Recessions and Expansions 701

ECONOMIC NATURALIST 25.1: Calling the 2001 recession 703

Some Facts about Short-Term Economic Fluctuations 704

Output Gaps and Cyclical Unemployment 707

Potential Output and the Output Gap 707

The Natural Rate of Unemployment and Cyclical Unemployment 709

ECONOMIC NATURALIST 25.2: Why has the natural rate of unemployment in the United States apparently declined? 709

Okun's Law 710

ECONOMIC NATURALIST 25.3: Why did the Federal Reserve take measures to slow down the economy in 1999 and 2000? 712

Why Do Short-Term Fluctuations Occur? A Preview and a Parable 713

ECONOMIC NATURALIST 25.4: Why did the Coca-Cola Company test a vending machine that "knows" when the weather is hot? 715

Summary 716

Key Terms 716

Review Questions 716

Problems 717

Answers to In-Chapter Exercises 718

Chapter 26 **Spending and Output in the Short Run** 719

The Keynesian Model's Crucial Assumption: Firms Meet Demand at Preset Prices 722

ECONOMIC NATURALIST 26.1: Will new technologies eliminate menu costs? 723

Planned Aggregate Expenditure 723

Planned Spending versus Actual Spending 724

Hey, Big Spender! Consumer Spending and the Economy 725

ECONOMIC NATURALIST 26.2: What effect did the 2000–2002 decline in U.S. stock market values have on consumption spending? 726

Planned Aggregate Expenditure and Output 728

Short-Run Equilibrium Output 730

Planned Spending and the Output Gap 733

ECONOMIC NATURALIST 26.3: Why was the deep Japanese recession of the 1990s bad news for the rest of East Asia? 737

ECONOMIC NATURALIST 26.4: What caused the 2001 recession in the United States? 737

The Multiplier 738

Stabilizing Planned Spending: The Role of Fiscal Policy 739

Government Purchases and Planned Spending 739

ECONOMIC NATURALIST 26.5: Why is Japan building roads nobody wants to use? 741

ECONOMIC NATURALIST 26.6: Does military spending stimulate the economy? 741

Taxes, Transfers, and Aggregate Spending 743

ECONOMIC NATURALIST 26.7: Why did the federal government send out millions of \$300 and \$600 checks to households in 2001? 745

Fiscal Policy as a Stabilization Tool: Three Qualifications 746

Fiscal Policy and the Supply Side 746

The Problem of Deficits 746

The Relative Inflexibility of Fiscal Policy 746

Summary 747

Key Terms 748

Review Questions 748

Problems 749

Answers to In-Chapter Exercises 751

Appendix A: An Algebraic Solution of the Basic Keynesian Model 753

Appendix B: The Multiplier in the Basic Keynesian Model 757

Chapter 27 **Stabilizing the Economy: The Role of the Fed** 759

The Federal Reserve and Interest Rates 760

The Demand for Money 760

Macroeconomic Factors That Affect the Demand for Money 763

The Money Demand Curve 764

ECONOMIC NATURALIST 27.1: Why does the average Argentine hold more U.S. dollars than the average U.S. citizen? 766

The Supply of Money and Money Market Equilibrium 767

How the Fed Controls the Nominal Interest Rate 768

ECONOMIC NATURALIST 27.2: What's so important about the federal funds rate? 770

A Second Way the Fed Controls the Money Supply: Discount Window Lending 771

A Third Way of Controlling the Money Supply: Changing Reserve Requirements 772

Can the Fed Control the Real Interest Rate? 772

The Effects of Federal Reserve Actions on the Economy 773

Planned Aggregate Expenditure and the Real Interest Rate 774

The Fed Fights a Recession 776

ECONOMIC NATURALIST 27.3: How did the Fed respond to recession and the terror attacks in 2001? 778

The Fed Fights Inflation 778

ECONOMIC NATURALIST 27.4: Why did the Fed raise interest rates in 2004 and 2005? 780

ECONOMIC NATURALIST 27.5: Why does news of inflation hurt the stock market? 780

ECONOMIC NATURALIST 27.6: Should the Federal Reserve respond to changes in stock prices? 781

The Fed's Monetary Policy Reaction Function 782

ECONOMIC NATURALIST 27.7: What is the Taylor rule? 786

Summary 786

Key Terms 787

Review Questions 787

Problems 788

Answers to In-Chapter Exercises 790

Appendix: Monetary Policy in the Basic Keynesian Model 793

Chapter 28 Inflation, Aggregate Supply, and Aggregate Demand 795

Inflation, Spending, and Output: The Aggregate Demand Curve 796

Inflation, the Fed, and the AD Curve 797

Other Reasons for the Downward Slope of the AD Curve 798

Shifts of the Aggregate Demand Curve 799

Shifts of the AD Curve versus Movements along the AD Curve 802

Inflation and Aggregate Supply 804

Inflation Inertia 804

The Output Gap and Inflation 807

The Aggregate Demand–Aggregate Supply Diagram 808

The Self-Correcting Economy 811

Sources of Inflation 812

Excessive Aggregate Spending 812

ECONOMIC NATURALIST 28.1: How did inflation get started in the United States in the 1960s? 814

Inflation Shocks 815

ECONOMIC NATURALIST 28.2: Why did inflation escalate in the United States in the 1970s? 816

Shocks to Potential Output 817

ECONOMIC NATURALIST 28.3: Was Greenspan right in 1996? 818

Fiscal Policy and the Supply Side 820

ECONOMIC NATURALIST 28.4: Estimating your marginal tax rate 822

ECONOMIC NATURALIST 28.5: Why do Americans work more hours than Europeans? 824

Summary 826

Key Terms 827

Review Questions 827

Problems 827

Answers to In-Chapter Exercises 828

Chapter 29 The Practice and Pitfalls of Macroeconomic Policy 831

Reducing High Inflation 832

ECONOMIC NATURALIST 29.1: How was inflation conquered in the 1980s? 835

Keeping Inflation Low 836

ECONOMIC NATURALIST 29.2: Why did the Fed lower interest rates again in 2003? 839

ECONOMIC NATURALIST 29.3: Why has macroeconomic volatility in the United States declined so much since 1985? 841

ECONOMIC NATURALIST 29.4: Why didn't the oil price increases of 2003–2004 lead to a recession or a substantial increase in inflation? 842

The Core Rate of Inflation 843

Inflationary Expectations and Credibility 844

Central Bank Independence 844

Announcing a Numerical Inflation Target 845

ECONOMIC NATURALIST 29.5: Why shouldn't the inflation target be zero? 847

ECONOMIC NATURALIST 29.6: Was inflation almost too low in 2002–2003? 848

Central Bank Reputation 849

Policymaking: Art or Science? 850

Summary 852

Key Terms 853

Review Questions 853

Problems 853

Answers to In-Chapter Exercises 855

Appendix: The Algebra of Aggregate Demand and Aggregate Supply 857

PART 8 The International Economy

Chapter 30 Exchange Rates and the Open Economy 863

Exchange Rates 864

Nominal Exchange Rates 864

Flexible versus Fixed Exchange Rates 867

The Determination of the Exchange Rate in the Short Run 868

A Supply and Demand Analysis 868

ECONOMIC NATURALIST 30.1: The U.S. trade deficit and the value of the dollar 870

Changes in the Supply of Dollars 871

Changes in the Demand for Dollars 872

ECONOMIC NATURALIST 30.2: Does a strong currency imply a strong economy? 873

Monetary Policy and the Exchange Rate 873

ECONOMIC NATURALIST 30.3: Why did the dollar appreciate nearly 50 percent in the first half of the 1980s? 874

ECONOMIC NATURALIST 30.4: Why did the dollar depreciate more than 25 percent in 2002–2004? 874

The Exchange Rate as a Tool of Monetary Policy 875

Fixed Exchange Rates 876

How to Fix an Exchange Rate 876

ECONOMIC NATURALIST 30.5: Should China change the way it manages its exchange rate? 879

Speculative Attacks 880

ECONOMIC NATURALIST 30.6: Can a speculative attack occur under flexible exchange rates? 882

Monetary Policy and the Fixed Exchange Rate 883

ECONOMIC NATURALIST 30.7: What were the causes and consequences of the East Asian crisis of 1997–1998? 885

ECONOMIC NATURALIST 30.8: How did policy mistakes contribute to the Great Depression? 886

Should Exchange Rates Be Fixed or Flexible? 888

ECONOMIC NATURALIST 30.9: Why have 11 European countries adopted a common currency? 889

Determination of the Exchange Rate in the Long Run 890

The Real Exchange Rate 890

A Simple Theory of Exchange Rates: Purchasing Power Parity (PPP) 892

Shortcomings of the PPP Theory 895

Summary 896

Key Terms 897

Review Questions 897

Problems 898

Answers to In-Chapter Exercises 900

Glossary G-1

Index I-1