

Economics

TENTH EDITION

David C. Colander

Middlebury College



Brief Contents

PART I INTRODUCTION: THINKING LIKE AN ECONOMIST

- I Economics and Economic Reasoning 4
- 2 The Production Possibility Model, Trade, and Globalization 24
Appendix: Graphish: The Language of Graphs 42
- 3 Economic Institutions 51
Appendix: The History of Economic Systems 71
- 4 Supply and Demand 77
- 5 Using Supply and Demand 100
Appendix: Algebraic Representation of Supply, Demand, and Equilibrium 116

PART II MICROECONOMICS

- I **THE POWER OF TRADITIONAL ECONOMIC MODELS**
- 6 Describing Supply and Demand: Elasticities 122
- 7 Taxation and Government Intervention 142
- 8 Market Failure versus Government Failure 162
- 8W Politics and Economics: The Case of Agricultural Markets 183
- II **INTERNATIONAL ECONOMIC POLICY ISSUES**
- 9 Comparative Advantage, Exchange Rates, and Globalization 184
- 10 International Trade Policy 203
- III **PRODUCTION AND COST ANALYSIS**
- 11 Production and Cost Analysis I 224
- 12 Production and Cost Analysis II 243
Appendix: Isocost/Isoquant Analysis 260
- IV **MARKET STRUCTURE**
- 13 Perfect Competition 265
- 14 Monopoly and Monopolistic Competition 285
Appendix: The Algebra of Competitive and Monopolistic Firms 310
- 15 Oligopoly and Antitrust Policy 312
- 16 Real-World Competition and Technology 331
- V **FACTOR MARKETS**
- 17 Work and the Labor Market 351
Appendix: Derived Demand 375
- 17W Nonwage and Asset Income: Rents, Profits, and Interest 381
- 18 Who Gets What? The Distribution of Income 382
- VI **CHOICE AND DECISION MAKING**
- 19 The Logic of Individual Choice: The Foundation of Supply and Demand 407

- 20 Appendix: Indifference Curve Analysis 427
- 20 **Game Theory, Strategic Decision Making, and Behavioral Economics 432**
Appendix: Game Theory and Oligopoly 452

VII MODERN ECONOMIC THINKING

- 21 Thinking Like a Modern Economist 457
- 22 Behavioral Economics and Modern Economic Policy 483
- 23 Microeconomic Policy, Economic Reasoning, and Beyond 501

PART III MACROECONOMICS

I MACROECONOMIC BASICS

- 24 Economic Growth, Business Cycles, and Unemployment 522
- 25 Measuring and Describing the Aggregate Economy 543

II POLICY MODELS

- 26 The Keynesian Short-Run Policy Model: Demand-Side Policies 567
- 26W The Multiplier Model 593
- 27 The Classical Long-Run Policy Model: Growth and Supply-Side Policies 594

III FINANCE, MONEY, AND THE ECONOMY

- 28 The Financial Sector and the Economy 615
Appendix: A Closer Look at Financial Assets and Liabilities 636
- 29 Monetary Policy 642
- 30 Financial Crises, Panics, and Unconventional Monetary Policy 664

IV TAXES, BUDGETS, AND FISCAL POLICY

- 31 Deficits and Debt: The Austerity Debate 684
- 32 The Fiscal Policy Dilemma 700

V MACROECONOMIC PROBLEMS

- 33 Jobs and Unemployment 719
- 34 Inflation, Deflation, and Macro Policy 737

VI INTERNATIONAL MACROECONOMIC POLICY ISSUES

- 35 International Financial Policy 759
Appendix: History of Exchange Rate Systems 783
- 36 Macro Policy in a Global Setting 786
- 37 Structural Stagnation and Globalization 801
Appendix: Creating a Targeted Safety Net to Help the Least Well Off 823
- 38 Macro Policy in Developing Countries 825

Contents

PART I

INTRODUCTION: THINKING LIKE AN ECONOMIST

1 Economics and Economic Reasoning 4

What Economics Is 4

- Scarcity 5
- Microeconomics and Macroeconomics 5

A Guide to Economic Reasoning 6

- Marginal Costs and Marginal Benefits 7
- The Economic Decision Rule 8
- Economics and Passion 8
- Opportunity Cost 9

Economic Forces, Social Forces, and Political Forces 11

- Economic and Market Forces 11
- Social and Political Forces 11

Using Economic Insights 13

- The Invisible Hand Theorem 14
- Economic Theory and Stories 15
- Economic Institutions 15

Economic Policy Options 16

- Objective Policy Analysis 17
- Policy and Social and Political Forces 19

Conclusion 19

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 20–23

2 The Production Possibility Model, Trade, and Globalization 24

The Production Possibilities Model 24

- A Production Possibility Curve for an Individual 24
- Increasing Opportunity Costs of the Trade-off 25

Comparative Advantage 27

- Efficiency 28
- Distribution and Productive Efficiency 28
- Examples of Shifts in the PPC 30

Trade and Comparative Advantage 30

- Markets, Specialization, and Growth 32
- The Benefits of Trade 32

Globalization and the Law of One Price 34

- Globalization 34
- Exchange Rates and Comparative Advantage 36
- The Law of One Price 37
- Globalization and the Timing of Benefits of Trade 37

Conclusion 38

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 38–41

Appendix: Graphish: The Language of Graphs 42

3 Economic Institutions 51

Economic Systems 52

- How Markets Work 52
- What's Good about the Market? 53
- Capitalism and Socialism 53

Economic Institutions in a Market Economy 55

- Business 56
- Households 59

The Roles of Government 61

- Government as an Actor 61
- Government as a Referee 62
- Specific Roles for Government 63
- Market Failures and Government Failures 65

Global Institutions 66

- Global Corporations 66
- Coordinating Global Issues 66

Conclusion 67

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 68–71

Appendix: The History of Economic Systems 71

4 Supply and Demand 77

Demand 77

- The Law of Demand 78
- The Demand Curve 78

Shifts in Demand versus Movements along a Demand Curve 79
 Some Shift Factors of Demand 80
 The Demand Table 81
 From a Demand Table to a Demand Curve 81
 Individual and Market Demand Curves 82

Supply 84

The Law of Supply 84
 The Supply Curve 85
 Shifts in Supply versus Movements along a Supply Curve 85
 Shift Factors of Supply 86
 The Supply Table 87
 From a Supply Table to a Supply Curve 87
 Individual and Market Supply Curves 87

The Interaction of Supply and Demand 88

Equilibrium 89
 The Graphical Interaction of Supply and Demand 90
 What Equilibrium Isn't 90
 Political and Social Forces and Equilibrium 91
 Shifts in Supply and Demand 92

A Limitation of Supply/Demand Analysis 94

Conclusion 94

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 95–99

5 Using Supply and Demand 100

Real-World Supply and Demand Applications 100

Government Intervention: Price Ceilings and Price Floors 103

Price Ceilings 103
 Price Floors 105

Government Intervention: Excise Taxes and Tariffs 107

Government Intervention: Quantity Restrictions 108

Third-Party-Payer Markets 110

Conclusion 111

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 111–115

Appendix: Algebraic Representation of Supply, Demand, and Equilibrium 116

PART II

MICROECONOMICS

SECTION I

THE POWER OF TRADITIONAL ECONOMIC MODELS

6 Describing Supply and Demand: Elasticities 122

Price Elasticity 122

What Information Price Elasticity Provides 123
 Classifying Demand and Supply as Elastic or Inelastic 123
 Elasticity Is Independent of Units 123
 Calculating Elasticities 124
 Other Examples 126
 Elasticity Is Not the Same as Slope 126
 Five Terms to Describe Elasticity 128

Substitution and Elasticity 128

Substitution and Demand 129
 How Substitution Factors Affect Specific Decisions 130

Elasticity, Total Revenue, and Demand 131

Total Revenue along a Demand Curve 132

Income and Cross-Price Elasticity 133

Income Elasticity of Demand 133
 Cross-Price Elasticity of Demand 134
 Some Examples 135

The Power of Supply/Demand Analysis 136

When Should a Supplier Not Raise Price? 136
 Elasticity and Shifting Supply and Demand 137

Conclusion 137

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 138–141

7 Taxation and Government Intervention 142

Producer and Consumer Surplus 142

Burden of Taxation 144

Who Bears the Burden of a Tax? 146
 Tax Incidence and Current Policy Debates 148

Government Intervention as Implicit Taxation 150

Price Ceilings and Floors 150
 The Difference between Taxes and Price Controls 151

Rent Seeking, Politics, and Elasticities 151

- Inelastic Demand and Incentives to Restrict Supply 153
- Inelastic Supplies and Incentives to Restrict Prices 154
- The Long-Run/Short-Run Problem of Price Controls 154

Conclusion 157

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 157–161

8 Market Failure versus Government Failure 162**Externalities 162**

- A Negative Externality Example 164
- A Positive Externality Example 165

Alternative Methods of Dealing with Externalities 165

- Direct Regulation 165
- Incentive Policies 166
- Voluntary Reductions 168
- The Optimal Policy 168

Public Goods 169

- The Market Value of a Public Good 169
- Excludability and the Costs of Pricing 171

Informational and Moral Hazard Problems 172

- Signaling and Screening 173
- Policies to Deal with Informational Problems 173

Government Failure and Market Failures 176**Conclusion 178**

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 178–182

8W Politics and Economics: The Case of Agricultural Markets 183 and 8W-1**The Good/Bad Paradox in Agriculture 8W-2**

- The Long-Run Decline of Farming 8W-2
- The Short-Run Cyclical Problem Facing Farmers 8W-3
- The Difficulty of Coordinating Farm Production 8W-4
- Ways around the Good/Bad Paradox 8W-4
- The General Rule of Political Economy 8W-4

Four Price Support Options 8W-5

- Supporting the Price by Regulatory Measures 8W-6
- Providing Economic Incentives to Reduce Supply 8W-8
- Subsidizing the Sale of the Good 8W-8
- Buying Up and Storing, Giving Away, or Destroying the Good 8W-9
- Which Group Prefers Which Option? 8W-9

Economics, Politics, and Real-World Policies 8W-10

- Interest Groups 8W-10
- International Issues 8W-11

Conclusion 8W-12

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 8W-12–8W-15

SECTION II

INTERNATIONAL ECONOMIC POLICY ISSUES

9 Comparative Advantage, Exchange Rates, and Globalization 184**The Principle of Comparative Advantage 184**

- The Gains from Trade 184
- Dividing Up the Gains from Trade 186

Why Economists and Laypeople Differ in Their Views of Trade 188

- Gains Are Often Stealth 188
- Opportunity Cost Is Relative 188
- Trade Is Broader Than Manufactured Goods 188
- Trade Has Distributional Effects 189

Sources of U.S. Comparative Advantage 190

- Some Concerns about the Future 192
- Inherent and Transferable Sources of Comparative Advantages 192
- The Law of One Price 192
- How the United States Gained and Is Now Losing Sources of Comparative Advantage 193
- Methods of Equalizing Trade Balances 193

Determination of Exchange Rates and Trade 194

- Exchange Rates and Trade 196
- Some Complications in Exchange Rates 197

Conclusion 198

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 198–202

10 International Trade Policy 203**The Nature and Patterns of Trade 203**

- Increasing but Fluctuating World Trade 203
- Differences in the Importance of Trade 203
- What and with Whom the United States Trades 204
- Debtor and Creditor Nations 206

Varieties of Trade Restrictions 208

- Tariffs and Quotas 208
- Voluntary Restraint Agreements 210

Embargoes 210
 Regulatory Trade Restrictions 211
 Nationalistic Appeals and “Buy Domestic”
 Requirements 211

Reasons for Trade Restrictions 211

Unequal Internal Distribution of the
 Gains from Trade 212
 Hagglng by Companies over the
 Gains from Trade 213
 Hagglng by Countries over Trade Restrictions 214
 Specialized Production 214
 Macroeconomic Costs of Trade 216
 National Security 216
 International Politics 216
 Increased Revenue Brought in by Tariffs 217
 Why Economists Generally Oppose
 Trade Restrictions 217

Institutions Supporting Free Trade 218

Conclusion 220

*Summary, Key Terms, Questions and Exercises, Questions
 from Alternative Perspectives, Issues to Ponder, Answers to
 Margin Questions 221–223*

SECTION III PRODUCTION AND COST ANALYSIS

11 Production and Cost Analysis I 224

The Role of the Firm 225

Firms Maximize Profit 225
 The Difference between Economists’ Profits and
 Accountants’ Profits 225

The Production Process 227

The Long Run and the Short Run 228
 Production Tables and Production Functions 228
 The Law of Diminishing Marginal Productivity 229

The Costs of Production 230

Fixed Costs, Variable Costs, and Total Costs 230
 Average Costs 231
 Marginal Cost 232

Graphing Cost Curves 233

Total Cost Curves 233
 Average and Marginal Cost Curves 234

Intermission 237

*Summary, Key Terms, Questions and Exercises, Questions
 from Alternative Perspectives, Issues to Ponder, Answers to
 Margin Questions 238–242*

12 Production and Cost Analysis II 243

Technical Efficiency and Economic Efficiency 243

The Shape of the Long-Run Cost Curve 244

Economies of Scale 244
 Diseconomies of Scale 246
 Constant Returns to Scale 248
 The Importance of Economies and
 Diseconomies of Scale 248
 Envelope Relationship 248

Entrepreneurial Activity and the Supply Decision 250

Using Cost Analysis in the Real World 251

Economies of Scope 251
 Learning by Doing and Technological Change 252
 Many Dimensions 255
 Unmeasured Costs 255
 The Standard Model as a Framework 256

Conclusion 256

*Summary, Key Terms, Questions and Exercises, Questions
 from Alternative Perspectives, Issues to Ponder, Answers to
 Margin Questions 257–260*

Appendix: Isocost/Isoquant Analysis 260

SECTION IV MARKET STRUCTURE

13 Perfect Competition 265

Perfect Competition as a Reference Point 265

Conditions for Perfect Competition 265
 Demand Curves for the Firm and the Industry 266

The Profit-Maximizing Level of Output 266

Marginal Revenue 267
 Marginal Cost 267
 Profit Maximization: $MC = MR$ 268
 The Marginal Cost Curve Is the Supply Curve 269
 Firms Maximize Total Profit 270

Total Profit at the Profit-Maximizing Level of Output 271

Determining Profit from a Table of Costs and
 Revenue 271
 Determining Profit from a Graph 272
 The Shutdown Point 274
 Short-Run Market Supply and Demand 275
 Long-Run Competitive Equilibrium: Zero Profit 275

Adjustment from the Short Run to the Long Run 277

An Increase in Demand 277
 Long-Run Market Supply 278
 An Example in the Real World 279

Conclusion 280

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 280–284

14 Monopoly and Monopolistic Competition 285**The Key Difference between a Monopolist and a Perfect Competitor 285****A Model of Monopoly 286**

Determining the Monopolist's Price and Output

Numerically 286

Determining Price and Output Graphically 287

Comparing Monopoly and Perfect Competition 289

An Example of Finding Output and Price 289

Profits and Monopoly 290

Welfare Loss from Monopoly 292

The Normal Monopolist 292

The Price-Discriminating Monopolist 293

Barriers to Entry and Monopoly 294

Natural Ability 296

Natural Monopolies 296

Government-Created Monopolies 298

Government Policy and Monopoly: AIDS Drugs 298

Monopolistic Competition 299

Characteristics of Monopolistic Competition 299

Advertising and Monopolistic Competition 301

Output, Price, and Profit of a Monopolistic

Competitor 302

Comparing Monopoly, Monopolistic Competition and

Perfect Competition 303

Conclusion 304

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 305–310

Appendix: The Algebra of Competitive and Monopolistic Firms 310

15 Oligopoly and Antitrust Policy 312**The Distinguishing Characteristics of Oligopoly 312****Models of Oligopoly Behavior 313**

The Cartel Model 313

The Contestable Market Model 315

Comparison of the Contestable Market Model and the

Cartel Model 316

Classifying Industries and Markets in Practice 317

The North American Industry Classification System 317

Empirical Measures of Industry Structure 319

Conglomerate Firms and Bigness 320

Oligopoly Models and Empirical Estimates of Market Structure 320

Antitrust Policy 321

Judgment by Performance or Structure? 321

Standard Oil: Judging Market Competitiveness by Performance 322

The ALCOA Case: Judging Market Competitiveness by Structure 322

Judging Markets by Structure and Performance: The Reality 322

The Role of Antitrust in Today's Economy 324

Assessment of U.S. Antitrust Policy 326

Conclusion 326

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 327–330

16 Real-World Competition and Technology 331**The Goals of Real-World Firms and the Monitoring Problem 332**

Short-Run versus Long-Run Profit 332

The Problem with Profit Maximization 332

What Do Real-World Firms Maximize? 334

The Lazy Monopolist and X-Inefficiency 335

The Fight between Competitive and Monopolistic Forces 337

How Monopolistic Forces Affect Perfect Competition 337

Economic Insights and Real-World Competition 338

How Competitive Forces Affect Monopoly 338

Competition and Natural Monopoly 339

How Firms Protect Their Monopolies 341

Cost/Benefit Analysis of Creating and Maintaining Monopolies 341

Establishing Market Position 342

Technology, Efficiency, and Market Structure 343

Perfect Competition and Technology 343

Monopolistic Competition and Technology 344

Monopoly and Technology 344

Oligopoly and Technology 344

Network Externalities, Standards, and Technological Lock-In 345

Conclusion 346

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 347–350

SECTION V FACTOR MARKETS

17 Work and the Labor Market 351

The Supply of Labor 352

- Real Wages and the Opportunity Cost of Work 353
- The Supply of Labor and Nonmarket Activities 353
- Income Taxation, Work, and Leisure 354
- The Elasticity of the Supply of Labor 355
- Immigration and the International Supply of Labor 356

The Derived Demand for Labor 356

- Factors Influencing the Elasticity of Demand for Labor 357
- Labor as a Factor of Production 357
- Shift Factors of Demand 357

Determination of Wages 360

- Imperfect Competition and the Labor Market 361
- Political and Social Forces and the Labor Market 362
- Fairness and the Labor Market 363

Discrimination and the Labor Market 364

- Three Types of Direct Demand-Side Discrimination 365
- Institutional Discrimination 366

The Evolution of Labor Markets 367

- Evolving Labor Laws 367
- Unions and Collective Bargaining 368
- The Labor Market and You 369

Conclusion 370

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 371–374

Appendix: Derived Demand 375

17W Nonwage and Asset Income: Rents, Profits, and Interest 381 and 17W-1

Rent 17W-2

- The Effect of a Tax on Land 17W-3
- Quasi Rents 17W-4
- Rent Seeking and Institutional Constraints 17W-5

Profit 17W-6

- Profit, Entrepreneurship, and Disequilibrium Adjustment 17W-6
- Market Niches, Profit, and Rent 17W-6

Interest 17W-7

- The Present Value Formula 17W-8
- Some Rules of Thumb for Determining Present Value 17W-8
- The Importance of Present Value 17W-10

The Marginal Productivity Theory of Income Distribution 17W-11

Conclusion 17W-12

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 17W-12–17W-14

18 Who Gets What? The Distribution of Income 382

Measuring the Distribution of Income, Wealth, and Poverty 383

- The Lorenz Curve 383
- U.S. Income Distribution over Time 384
- Defining Poverty 386
- International Dimensions of Income Inequality 389
- The Distribution of Wealth 391

Socioeconomic Dimensions of Income and Wealth Inequality 392

- Income Distribution According to Socioeconomic Characteristics 392
- Income Distribution According to Class 393

Income Distribution and Fairness 395

- Philosophical Debates about Equality and Fairness 395
- Fairness and Equality 396
- Fairness as Equality of Opportunity 396

The Problems of Redistributing Income 397

- Three Important Side Effects of Redistributive Programs 397
- Politics, Income Redistribution, and Fairness 398
- Income Redistribution Policies 398
- How Successful Have Income Redistribution Programs Been? 402

Conclusion 403

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 403–406

SECTION VI CHOICE AND DECISION MAKING

19 The Logic of Individual Choice: The Foundation of Supply and Demand 407

Rational Choice Theory 407

- Total Utility and Marginal Utility 408
- Diminishing Marginal Utility 410
- Rational Choice and Marginal Utility 410

Maximizing Utility and Equilibrium 412

- An Example of Maximizing Utility 413
- Extending the Principle of Rational Choice 414

Rational Choice and the Laws of Demand and Supply 415

- The Law of Demand 415
- Income and Substitution Effects 416
- The Law of Supply 417
- Opportunity Cost 418

Applying Economists' Theory of Choice to the Real World 418

- The Cost of Decision Making 418
- Given Tastes 419
- Utility Maximization 421

Conclusion 422

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 423–426

Appendix: Indifference Curve Analysis 427

20 Game Theory, Strategic Decision Making, and Behavioral Economics 432**Game Theory and the Economic Way of Thinking 432**

- Game Theory and Economic Modeling 433
- The Game Theory Framework 433
- The Prisoner's Dilemma 434
- Dominant Strategies and Nash Equilibrium 436

An Overview of Game Theory as a Tool in Studying Strategic Interaction 437

- Some Specific Games 438
- Strategies of Players 438

Informal Game Theory and Modern Behavioral Economics 441

- Informal Game Theory 442
- Real-World Applications of Informal Game Theory 443
- An Application of Game Theory: Auction Markets 445

Game Theory and the Challenge to Standard Economic Assumptions 445

- Fairness 446
- Endowment Effects 446
- Framing Effects 446
- Behavioral Economics and the Traditional Model 447
- The Importance of the Traditional Model: Money Is Not Left on the Table 447

Conclusion 448

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 448–452

Appendix: Game Theory and Oligopoly 452

**SECTION VII
MODERN ECONOMIC THINKING****21 Thinking Like a Modern Economist 457****The Nature of Economists' Models 458**

- Scientific and Engineering Models 459
- Behavioral and Traditional Building Blocks 459
- Behavioral Economic Models 459
- The Advantages and Disadvantages of Modern Traditional and Behavioral Models 462

Behavioral and Traditional Informal (Heuristic) Models 464

- The Armchair Economist: Heuristic Models Using Traditional Building Blocks 464
- The Economic Naturalist: Heuristic Models Using Behavioral Building Blocks 467
- The Limits of Heuristic Models 468

Empirical and Formal Models 469

- The Importance of Empirical Work in Modern Economics 469
- The Role of Formal Models 472

What Difference Does All This Make to Policy? 478**Conclusion 479**

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 479–482

22 Behavioral Economics and Modern Economic Policy 483**Behavioral Economic Policy in Perspective 483**

- Behavioral Economics and Economic Engineering 483
- Economists as Mechanism Design Engineers 484
- Behavioral Economics and Mechanism Design 486
- Policy Implications of Traditional Economics 487

Choice Architecture and Behavioral Economic Policy 488

- Nudge Policy and Libertarian Paternalism 489
- When Are Nudges Needed? 490
- Two Types of Nudges 491

The Problems of Implementing Nudges 492

- Distinguishing a Nudge from a Push 493
- Behavioral and Traditional Economic Policy Frames 494

Concerns about Behavioral Economic Policies 495

- Few Policies Meet Libertarian Paternalism Criterion 495
- Designing Helpful Policies Is Complicated 495
- It Isn't Clear Government Knows Better 496

Government Policy May Make the Situation Worse 496
 A Changing View of Economists: From Pro-market
 Advocates to Economic Engineers 497

Conclusion 497

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 498–500

23 Microeconomic Policy, Economic Reasoning, and Beyond 501

Economists' Differing Views about Social Policy 502

How Economists' Value Judgments Creep into Policy
 Proposals 502
 The Need for a Worldview 503
 Agreement among Economists about Social Policy 504

Economists' Cost/Benefit Approach to Government Regulation 504

The Value of Life 505
 Comparing Costs and Benefits of Different
 Dimensions 507
 Putting Cost/Benefit Analysis in Perspective 507
 The Problem of Other Things Changing 508
 The Cost/Benefit Approach in Context 508

Failure of Market Outcomes 509

Distribution 509
 Consumer Sovereignty and Rationality Problems 511
 Inalienable Rights 512

Government Failure 514

Conclusion 515

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 516–519

PART III

MACROECONOMICS

SECTION I

MACROECONOMIC BASICS

24 Economic Growth, Business Cycles, and Unemployment 522

The Historical Development of Macroeconomics 523

From Classical to Keynesian Economics 523
 Classical Economics 523

Keynesian Economics 524
 The Merging of Classical and Keynesian Economics 525
 The Unraveling of the Keynesian/Classical Synthesis 525
 Two Frameworks: The Long Run and the
 Short Run 527

Growth 528

Global Experiences with Growth 529
 The Prospect for Future U.S. Growth 530

Business Cycles and Structural Stagnation 530

Describing the Business Cycle 531
 Structural Stagnation 533

Unemployment and Jobs 534

How Is Unemployment Measured? 535
 Unemployment as a Social Problem 537
 Unemployment as Government's Problem 538
 Underemployment as a Government Problem 539

Conclusion 539

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 540–542

25 Measuring and Describing the Aggregate Economy 543

Aggregate Accounting 544

Calculating GDP 544
 The Components of GDP 545
 Two Things to Remember about GDP 546
 Calculating GDP: Some Examples 549
 Some Complications 550

Calculating Aggregate Income 552

Equality of Aggregate Income, Output,
 and Production 553
 Adjusting for Global Dimensions
 of Production 554

Inflation: Distinguishing Real from Nominal 554

Real versus Nominal GDP 555
 Other Real-World Price indexes 556
 Other Real and Nominal Distinctions 558

Some Limitations of Aggregate Accounting 559

Comparing GDP among Countries 560
 GDP Measures Market Activity, Not Welfare 560
 Measurement Errors 560
 Misinterpretation of Subcategories 561
 Genuine Progress Indicator 561

Conclusion 562

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 563–566

SECTION II

POLICY MODELS

26 The Keynesian Short-Run Policy Model: Demand-Side Policies 567

The Key Insight of the Keynesian AS/AD Model 567

- Fixed Price Level 568
- The Paradox of Thrift 569
- Three Things to Remember about the Keynesian Model 569
- The Components of the AS/AD Model 570

The Aggregate Demand Curve 571

- The Slope of the AD Curve 571
- Dynamic Price Level Adjustment Feedback Effects 574
- Shifts in the AD Curve 574

The Aggregate Supply Curves 577

- The Short-Run Aggregate Supply Curve 577
- The Long-Run Aggregate Supply Curve 579

Equilibrium in the Aggregate Economy 581

- Integrating the Short-Run and Long-Run Frameworks 582
- The Recessionary Gap 582
- The Inflationary Gap 583
- The Economy beyond Potential 584
- Aggregate Demand Policy 584
- Some Additional Policy Examples 585

Limitations of the AS/AD Model 587

- How Feedback Effects Complicate the AS/AD Model 587
- Additional Complications That the AS/AD Model Misses 588
- Reality and Models 589

Conclusion 589

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 590–592

26W The Multiplier Model 593 and 26W-1

The Multiplier Model 26W-2

- Aggregate Production 26W-2
- Aggregate Expenditures 26W-3

Determining the Equilibrium Level of Aggregate Income 26W-8

- The Multiplier Equation 26W-9
- The Multiplier Process 26W-10
- The Circular Flow Model and the Intuition behind the Multiplier Process 26W-11
- The Multiplier Model in Action 26W-12

Fiscal Policy in the Multiplier Model 26W-15

- Fighting Recession: Expansionary Fiscal Policy 26W-15

Fighting Inflation: Contractionary

Fiscal Policy 26W-17

Using Taxes Rather Than Expenditures as the Tool of
Fiscal Policy 26W-18

Limitations of the Multiplier Model 26W-18

The Multiplier Model Is Not a Complete Model of the
Economy 26W-19

Shifts Are Sometimes Not as Great as the Model
Suggests 26W-19

Fluctuations Can Sometimes Be Greater than the Model
Suggests 26W-19

The Price Level Will Often Change in Response to Shifts
in Demand 26W-20

People's Forward-Looking Expectations Make the
Adjustment Process Much More Complicated 26W-20

Shifts in Expenditures Might Reflect Desired Shifts in
Supply and Demand 26W-20

Expenditures Depend on Much More Than Current
Income 26W-21

Conclusion 26W-21

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 26W-22–26W-25

Appendix A: An Algebraic Presentation of the Expanded Multiplier Model 26W-25

Appendix B: The Multiplier Model and the AS/AD Model 26W-29

27 The Classical Long-Run Policy Model: Growth, and Supply-Side Policies 594

General Observations about Growth 595

- Growth and the Economy's Potential Output 595
- The Benefits and Costs of Growth 596
- The Importance of Growth for Living Standards 597

Markets, Specialization, and Growth 598

- Economic Growth, Distribution, and Markets 599
- Per Capita Growth 600

The Sources of Growth 601

- Growth-Compatible Institutions 602
- Investment and Accumulated Capital 602
- Available Resources 604
- Technological Development 605
- Entrepreneurship 606

Turning the Sources of Growth into Growth 606

- Capital and Investment 607
- Technology 608
- Growth Policies 610

Conclusion 611

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 612–614

SECTION III**FINANCE, MONEY, AND THE ECONOMY****28 The Financial Sector and the Economy 615****The Definition and Functions of Money 616**

The U.S. Central Bank: The Fed 616
 Functions of Money 617
 Alternative Measures of Money 619
 Distinguishing between Money and Credit 620

Banks and the Creation of Money 622

How Banks Create Money 622
 The Process of Money Creation 624
 The Relationship between Reserves and Total Money 626
 Faith as the Backing of Our Money Supply 628

Why Is the Financial Sector Important to Macro? 628**The Role of Interest Rates in the Financial Sector 629**

Long- and Short-Term Interest Rates 630
 The Demand for Money and
 the Role of the Interest Rate 631
 Why People Hold Money 631
 The Many Interest Rates in the Economy 632

Conclusion 633

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 633–636

Appendix: A Closer Look at Financial Assets and Liabilities 636

29 Monetary Policy 642**How Monetary Policy Works in the Models 642****How Monetary Policy Works in Practice 644**

Monetary Policy and the Fed 644
 Structure of the Fed 644
 Duties of the Fed 647

The Tools of Conventional Monetary Policy 648

Open Market Operations 648
 The Reserve Requirement and the Money Supply 650
 Borrowing from the Fed and the Discount Rate 652
 The Fed Funds Market 652

The Complex Nature of Monetary Policy 653

The Taylor Rule 655
 Maintaining Policy Credibility 658

Conclusion 660

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 660–663

30 Financial Crises, Panics and Unconventional Monetary Policy 664**The Central Bank's Role in a Crisis 664**

Anatomy of a Financial Crisis 665
 The Financial Crisis: The Bubble Bursts 667
 The Fed as Lender of Last Resort 668

The Role of Leverage and Herding in a Crisis 668

Leverage 668
 Herding 669

The Problem of Regulating the Financial Sector 670

Regulation, Bubbles, and the Financial Sector 671
 The Law of Diminishing Control 673
 General Principles of Regulation 674

Monetary Policy in the Post-Financial Crisis Era 675

Unconventional Monetary Policy 676
 Criticisms of Unconventional Monetary Policy 679

Conclusion 680

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 681–683

SECTION IV**TAXES, BUDGETS, AND FISCAL POLICY****31 Deficits and Debt: The Austerity Debate 684****Defining Deficits and Surpluses 685**

Financing the Deficit 686
 Arbitrariness of Defining Deficits and Surpluses 686
 Many Right Definitions 686
 Deficits and Surpluses as Summary Measures 687
 Structural and Cyclical Deficits and Surpluses 687

Nominal and Real Deficits and Surpluses 688**Defining Debt and Assets 690**

Debt Management 690
 Difference between Individual and
 Government Debt 692

U.S. Government Deficits and Debt: The Historical Record 693

- The Debt Burden 694
- U.S. Debt Relative to Other Countries 694
- Interest Rates and Debt Burden 695

Conclusion 696

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 697–699

32 The Fiscal Policy Dilemma 700

Classical Economics and Sound Finance 700

- Ricardian Equivalence Theorem: Deficits Don't Matter 701
- The Sound-Finance Precept 701

Keynesian Economics and Functional Finance 702

Assumptions of the AS/AD Model 704

- Financing the Deficit Has No Offsetting Effects 704
- The Government Knows the Situation 706
- The Government Knows the Economy's Potential Income Level 706
- The Government Has Flexibility in Changing Spending and Taxes 707
- The Size of Government Debt Doesn't Matter 708
- Fiscal Policy Doesn't Negatively Affect Other Government Goals 710
- Summary of the Problems 710

Building Fiscal Policies into Institutions 711

- How Automatic Stabilizers Work 711
- State Government Finance and Procyclical Fiscal Policy 711
- The Negative Side of Automatic Stabilizers 713
- Modern Macro Policy Precepts 714

Conclusion 714

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 716–718

SECTION V

MACROECONOMIC PROBLEMS

33 Jobs and Unemployment 719

The Debate about the Nature and Measurement of Unemployment 721

- Entrepreneurship and Unemployment 721
- Microeconomic Categories of Unemployment 721

Unemployment and Potential Output 723

- Okun's Rule of Thumb 723
- Is Unemployment Structural or Cyclical? 724
- Why Has the Target Rate of Unemployment Changed over Time? 725
- Globalization, Immigration, and Jobs 726

Framing the Debate about Voluntary and Involuntary Unemployment 727

- Individual Responsibility and Unemployment 727
- Social Responsibility and Unemployment 728
- The Tough Policy Choices 728
- Summary of the Debate 729

A Guaranteed-Job Proposal: Government as Employer of Last Resort 729

- The Design and Characteristics of the Program 730
- Why Don't the Guaranteed Jobs Do Something Useful? 731
- Paying for the Program 732
- Would Such a Plan Ever Be Implemented? 733

Conclusion 733

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 734–736

34 Inflation, Deflation, and Macro Policy 737

Defining Inflation 738

- Asset Price Inflation and Deflation 738

The Costs and Benefits of Inflation 741

- The Costs of Inflation 741
- The Benefits of (Low) Inflation 743
- The Danger of Accelerating Inflation 745

The Inflation Process and the Quantity Theory of Money 746

- Productivity, Inflation, and Wages 746
- The Quantity Theory of Money and Inflation 747
- The Declining Influence of the Quantity Theory 749

Inflation and the Phillips Curve Trade-Off 751

- The Long-Run and Short-Run Phillips Curves 751
- Global Competition and the Phillips Curve 754

Conclusion 755

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 755–758

SECTION VI INTERNATIONAL MACROECONOMIC POLICY ISSUES

35 International Financial Policy 759

The Balance of Payments 759

- The Current Account 761
- The Financial and Capital Account 761
- What Is Meant by a Balance of Payment Deficit or Surplus? 762

Exchange Rates 763

- Fundamental Forces Determining Exchange Rates 763
- Exchange Rate Dynamics 764
- Influencing Exchange Rates with Monetary and Fiscal Policy 767

The Problems of Determining the Appropriate Exchange Rate 771

- Purchasing Power Parity and Real Exchange Rates 771
- Criticisms of the Purchasing Power Parity Method 772
- Real Exchange Rates 773

Advantages and Disadvantages of Alternative Exchange Rate Systems 773

- Fixed Exchange Rates 774
- Flexible Exchange Rates 775
- Partially Flexible Exchange Rates 776
- Which View Is Right? 776
- Advantages and Disadvantages of a Common Currency: The Future of the Euro 776

Conclusion 779

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 779–783

Appendix: History of Exchange Rate Systems 783

36 Macro Policy in a Global Setting 786

The Ambiguous International Goals of Macroeconomic Policy 786

- The Exchange Rate Goal 786
- The Trade Balance Goal 787
- International versus Domestic Goals 788
- Balancing the Exchange Rate Goal with Domestic Goals 789

Monetary and Fiscal Policy and the Trade Deficit 790

- Monetary Policy's Effect on the Trade Balance 790
- Fiscal Policy's Effect on the Trade Balance 791

International Phenomena and Domestic Goals 791

- International Goals and Policy Alternatives 792

- International Monetary and Fiscal Coordination 792
- Coordination Is a Two-Way Street 793
- Crowding Out and International Considerations 794

Globalization, Macro Policy, and the U.S. Economy 794

- International Issues and Macro Policy 794
- Restoring International Trade Balance to the U.S. Economy 796

Conclusion 797

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 797–800

37 Structural Stagnation and Globalization 801

The Structural Stagnation Hypothesis 802

- Differentiating a Structural Stagnation from a Standard Recession 802
- Why the Assumed Underlying Growth Trend Is Important for Policy 803
- Structural Stagnation as a Cause for the Slow Recovery 805
- Structural Stagnation's Implications for Macro Policy 805
- Structural, not Secular, Stagnation 806

The AS/AD Model with Globalization 807

- Globalization Can Limit Potential Output 809
- International Adjustment Forces 810
- Why the Adjustments Did Not Occur 811
- Aggregate Demand Increases No Longer Cause Accelerating Inflation 811
- Summary: Globalization and Structural Imbalances 812

Structural Problems of Globalization 812

- Structural Change in the Nontradable Sector 813
- Globalization and Income Distribution 814
- Remembering the Benefits of Globalization 815
- The Future of Globalization 816

Policies to Deal with Structural Stagnation 817

- Shifting the World Supply Curve Up 817
- Shifting the Domestic SAS Curve Down 818
- The Problems with the Standard Political Solution 820

Conclusion 820

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 821–823

Appendix: Creating a Targeted Safety Net to Help the Least Well Off 823

38 Macro Policy in Developing Countries 825

Developing Countries in Perspective 825

Don't Judge Society by Its Income Alone 826

Some Comparative Statistics on Rich and

Poor Nations 827

Growth versus Development 828

Differing Goals 829

Differing Institutions 829

Monetary Policy in Developing Countries 832

Central Banks Are Less Independent 832

Focus on the International Sector and the Exchange

Rate Constraint 834

The Need for Creativity 836

Obstacles to Economic Development 836

Political Instability 837

Corruption 838

Lack of Appropriate Institutions 839

Lack of Investment 839

Inappropriate Education 842

Overpopulation 844

Health and Disease 845

Conclusion 846

Summary, Key Terms, Questions and Exercises, Questions from Alternative Perspectives, Issues to Ponder, Answers to Margin Questions 846–849

Glossary G-1

Colloquial Glossary CG-1

Index IND-1