

PART ONE
INTRODUCTION 37

CHAPTER 1 ♦ WHAT IS ECONOMICS? 37

Definition of Economics 38

Two Big Economic Questions 39
 What, How, and For Whom? 39
 Do Choices Made in the Pursuit of Self-Interest
 also Promote the Social Interest? 41

The Economic Way of Thinking 45
 A Choice Is a Tradeoff 45
 Making a Rational Choice 45
 Benefit: What You Gain 45
 Cost: What You *Must* Give Up 45
 How Much? Choosing at the Margin 46
 Choices Respond to Incentives 46

Economics as Social Science and Policy Tool 47
 Economist as Social Scientist 47
 Economist as Policy Adviser 47

Economists in the Economy 48
 Jobs for an Economics Major 48
 Will Jobs for Economics Majors Grow? 48
 Earnings of Economics Majors 49
 Skills Needed for Economics Jobs 49

*Worked Problem, Summary (Key Points and Key Terms),
 Study Plan Problems and Applications, and Additional
 Problems and Applications appear at the end of each chapter.*

APPENDIX Graphs in Economics 53

Graphing Data 53
 Graphing Economic Data 54
 Scatter Diagrams 54

Graphs Used in Economic Models 56
 Variables That Move in the Same Direction 56
 Variables That Move in Opposite Directions 57
 Variables That Have a Maximum or a
 Minimum 58
 Variables That Are Unrelated 59

The Slope of a Relationship 60
 The Slope of a Straight Line 60
 The Slope of a Curved Line 61

Graphing Relationships Among More Than Two
 Variables 62
Ceteris Paribus 62
 When Other Things Change 63

MATHEMATICAL NOTE

Equations of Straight Lines 64

■ AT ISSUE, 44

■ ECONOMICS IN THE NEWS, 42, 50

CHAPTER 2 ♦ THE ECONOMIC PROBLEM 69**Production Possibilities and Opportunity Cost 70**

- Production Possibilities Frontier 70
- Production Efficiency 71
- Tradeoff Along the *PPF* 71
- Opportunity Cost 71

Using Resources Efficiently 73

- The *PPF* and Marginal Cost 73
- Preferences and Marginal Benefit 74
- Allocative Efficiency 75

Gains from Trade 76

- Comparative Advantage and Absolute Advantage 76
- Achieving the Gains from Trade 78
- The Liz-Joe Economy and its *PPF* 80

Economic Growth 81

- The Cost of Economic Growth 81
- A Nation's Economic Growth 82
- Changes in What We Produce 82

Economic Coordination 84

- Firms 84
- Markets 84
- Property Rights 84
- Money 84
- Circular Flows Through Markets 84
- Coordinating Decisions 85

■ **ECONOMICS IN ACTION, 82**■ **ECONOMICS IN THE NEWS, 72, 86****PART ONE WRAP-UP**

- Understanding the Scope of Economics
Your Economic Revolution 93

- Talking with
Esther Duflo 94

**PART TWO
HOW MARKETS WORK 95****CHAPTER 3 ♦ DEMAND AND SUPPLY 95****Markets and Prices 96****Demand 97**

- The Law of Demand 97
- Demand Curve and Demand Schedule 97
- A Change in Demand 98
- A Change in the Quantity Demanded Versus a
Change in Demand 100

Supply 102

- The Law of Supply 102
- Supply Curve and Supply Schedule 102
- A Change in Supply 103
- A Change in the Quantity Supplied Versus a
Change in Supply 104

Market Equilibrium 106

- Price as a Regulator 106
- Price Adjustments 107

Predicting Changes in Price and Quantity 108

- An Increase in Demand 108
- A Decrease in Demand 108
- An Increase in Supply 110
- A Decrease in Supply 110
- Changes in Both Demand and Supply 112

MATHEMATICAL NOTE**Demand, Supply, and Equilibrium 116**■ **ECONOMICS IN THE NEWS, 109, 111, 114**

CHAPTER 4 ♦ ELASTICITY 123

- Price Elasticity of Demand 124
 - Calculating Price Elasticity of Demand 124
 - Inelastic and Elastic Demand 125
 - The Factors that Influence the Elasticity of Demand 126
 - Elasticity Along a Linear Demand Curve 127
 - Total Revenue and Elasticity 128
 - Your Expenditure and Your Elasticity 130
- More Elasticities of Demand 131
 - Income Elasticity of Demand 131
 - Cross Elasticity of Demand 132
- Elasticity of Supply 134
 - Calculating the Elasticity of Supply 134
 - The Factors That Influence the Elasticity of Supply 135
- ECONOMICS IN ACTION, 129, 131, 132
- ECONOMICS IN THE NEWS, 130, 133, 138

CHAPTER 5 ♦ EFFICIENCY AND EQUITY 145

- Resource Allocation Methods 146
 - Market Price 146
 - Command 146
 - Majority Rule 146
 - Contest 146
 - First-Come, First-Served 146
 - Lottery 147
 - Personal Characteristics 147
 - Force 147
- Benefit, Cost, and Surplus 148
 - Demand, Willingness to Pay, and Value 148
 - Individual Demand and Market Demand 148
 - Consumer Surplus 149
 - Supply and Marginal Cost 149
 - Supply, Cost, and Minimum Supply-Price 150
 - Individual Supply and Market Supply 150
 - Producer Surplus 151
- Is the Competitive Market Efficient? 152
 - Efficiency of Competitive Equilibrium 152
 - Market Failure 154
 - Sources of Market Failure 154
 - Alternatives to the Market 155
- Is the Competitive Market Fair? 156
 - It's Not Fair if the *Result* Isn't Fair 156
 - It's Not Fair if the *Rules* Aren't Fair 158
 - Case Study: A Generator Shortage in a Natural Disaster 158
- ECONOMICS IN ACTION, 153
- AT ISSUE, 159
- ECONOMICS IN THE NEWS, 160

CHAPTER 6 ♦ GOVERNMENT ACTIONS IN MARKETS 167

- A Housing Market with a Rent Ceiling 168
 - A Housing Shortage 168
 - Increased Search Activity 168
 - A Black Market 168
 - Inefficiency of a Rent Ceiling 169
 - Are Rent Ceilings Fair? 170
- A Labor Market with a Minimum Wage 171
 - Minimum Wage Brings Unemployment 171
 - Is the Minimum Wage Fair? 171
 - Inefficiency of a Minimum Wage 172
- Taxes 173
 - Tax Incidence 173
 - Equivalence of a Tax on Buyers and Sellers 174
 - Taxes and Efficiency 175
 - Tax Influence of the Elasticity of Demand 176
 - Tax Influence of the Elasticity of Supply 177
 - Taxes and Fairness 178
 - The Big Tradeoff 178
- Production Quotas and Subsidies 179
 - Production Quotas 179
 - Subsidies 180
- Markets for Illegal Goods 182
 - A Free Market for a Drug 182
 - A Market for an Illegal Drug 182
 - Legalizing and Taxing Drugs 183
- ECONOMICS IN ACTION, 170, 178, 181
- AT ISSUE, 172
- ECONOMICS IN THE NEWS, 184

CHAPTER 7 ♦ GLOBAL MARKETS IN ACTION 191

- How Global Markets Work 192
 - International Trade Today 192
 - What Drives International Trade? 192
 - Why the United States Imports T-Shirts 193
 - Why the United States Exports Airplanes 194
- Winners, Losers, and the Net Gain from Trade 195
 - Gains and Losses from Imports 195
 - Gains and Losses from Exports 196
 - Gains for All 196
- International Trade Restrictions 197
 - Tariffs 197
 - Import Quotas 200
 - Other Import Barriers 203
 - Export Subsidies 203
- The Case Against Protection 204
 - Helps an Infant Industry Grow 204
 - Counteracts Dumping 204
 - Saves Domestic Jobs 204
 - Allows Us to Compete with Cheap Foreign Labor 204
 - Penalizes Lax Environmental Standards 205
 - Prevents Rich Countries from Exploiting Developing Countries 205
 - Reduces Offshore Outsourcing that Sends Good U.S. Jobs to Other Countries 205
 - Avoiding Trade Wars 206
 - Why Is International Trade Restricted? 206
 - Compensating Losers 207
- ECONOMICS IN ACTION, 192, 198, 203
- AT ISSUE, 206
- ECONOMICS IN THE NEWS, 202, 208

PART TWO WRAP-UP

- Understanding How Markets Work
The Amazing Market 215
- Talking with
Susan Athey 216

**PART THREE
HOUSEHOLDS' CHOICES 217**

CHAPTER 8 ♦ UTILITY AND DEMAND 217

Consumption Choices 218

- Consumption Possibilities 218
- Preferences 219

Utility-Maximizing Choice 221

- A Spreadsheet Solution 221
- Choosing at the Margin 222
- The Power of Marginal Analysis 224
- Revealing Preferences 224

Predictions of Marginal Utility Theory 225

- A Fall in the Price of a Movie 225
- A Rise in the Price of Soda 227
- A Rise in Income 228
- The Paradox of Value 229
- Temperature: An Analogy 230

New Ways of Explaining Consumer Choice 232

- Behavioral Economics 232
- Neuroeconomics 233
- Controversy 233

- ECONOMICS IN ACTION, 230
- ECONOMICS IN THE NEWS, 234

**CHAPTER 9 ♦ POSSIBILITIES, PREFERENCES,
AND CHOICES 241**

Consumption Possibilities 242

- Budget Line 242
- Budget Equation 243

Preferences and Indifference Curves 245

- Marginal Rate of Substitution 246
- Degree of Substitutability 247

Predicting Consumer Choices 248

- Best Affordable Choice 248
- A Change in Price 249
- A Change in Income 251
- Substitution Effect and Income Effect 252

- ECONOMICS IN ACTION, 250
- ECONOMICS IN THE NEWS, 254

PART THREE WRAP-UP

- Understanding Households' Choices
- Making the Most of Life 261

- Talking with
- Steven D. Levitt 262

PART FOUR
FIRMS AND MARKETS 263

**CHAPTER 10 ♦ ORGANIZING
 PRODUCTION 263**

- The Firm and Its Economic Problem 264
 - The Firm's Goal 264
 - Accounting Profit 264
 - Economic Accounting 264
 - A Firm's Opportunity Cost of Production 264
 - Economic Accounting: A Summary 265
 - The Firm's Decisions 265
 - The Firm's Constraints 266
- Technological and Economic Efficiency 267
 - Technological Efficiency 267
 - Economic Efficiency 267
- Information and Organization 269
 - Command Systems 269
 - Incentive Systems 269
 - The Principal–Agent Problem 269
 - Coping with the Principal–Agent Problem 269
 - Types of Business Organization 270
 - Pros and Cons of Different Types of Firms 271
- Markets and the Competitive Environment 273
 - Measures of Concentration 274
 - Limitations of a Concentration Measure 276
- Produce or Outsource? Firms and Markets 278
 - Firm Coordination 278
 - Market Coordination 278
 - Why Firms? 278
- ECONOMICS IN ACTION, 272, 275, 277, 279
- ECONOMICS IN THE NEWS, 270, 280

CHAPTER 11 ♦ OUTPUT AND COSTS 287

- Decision Time Frames 288
 - The Short Run 288
 - The Long Run 288
- Short-Run Technology Constraint 289
 - Product Schedules 289
 - Product Curves 289
 - Total Product Curve 290
 - Marginal Product Curve 290
 - Average Product Curve 292
- Short-Run Cost 293
 - Total Cost 293
 - Marginal Cost 294
 - Average Cost 294
 - Marginal Cost and Average Cost 294
 - Why the Average Total Cost Curve Is U-Shaped 294
 - Cost Curves and Product Curves 296
 - Shifts in the Cost Curves 298
- Long-Run Cost 300
 - The Production Function 300
 - Short-Run Cost and Long-Run Cost 300
 - The Long-Run Average Cost Curve 302
 - Economies and Diseconomies of Scale 302
- ECONOMICS IN ACTION, 292, 303
- ECONOMICS IN THE NEWS, 296, 304

CHAPTER 12 ♦ PERFECT COMPETITION 311

- What Is Perfect Competition? 312
 - How Perfect Competition Arises 312
 - Price Takers 312
 - Economic Profit and Revenue 312
 - The Firm's Decisions 313
- The Firm's Output Decision 314
 - Marginal Analysis and the Supply Decision 315
 - Temporary Shutdown Decision 316
 - The Firm's Supply Curve 317
- Output, Price, and Profit in the Short Run 318
 - Market Supply in the Short Run 318
 - Short-Run Equilibrium 319
 - A Change in Demand 319
 - Profits and Losses in the Short Run 319
 - Three Possible Short-Run Outcomes 320
- Output, Price, and Profit in the Long Run 321
 - Entry and Exit 321
 - A Closer Look at Entry 322
 - A Closer Look at Exit 322
 - Long-Run Equilibrium 323
- Changes in Demand and Supply as Technology Advances 324
 - A Decrease in Demand 324
 - An Increase in Demand 325
 - Technological Advances Change Supply 326
- Competition and Efficiency 328
 - Efficient Use of Resources 328
 - Choices, Equilibrium, and Efficiency 328
- ECONOMICS IN ACTION, 321, 323
- ECONOMICS IN THE NEWS, 325, 327, 330

CHAPTER 13 ♦ MONOPOLY 337

- Monopoly and How It Arises 338
 - How Monopoly Arises 338
 - Monopoly Price-Setting Strategies 339
- A Single-Price Monopoly's Output and Price Decision 340
 - Price and Marginal Revenue 340
 - Marginal Revenue and Elasticity 341
 - Price and Output Decision 342
- Single-Price Monopoly and Competition Compared 344
 - Comparing Price and Output 344
 - Efficiency Comparison 345
 - Redistribution of Surpluses 346
 - Rent Seeking 346
 - Rent-Seeking Equilibrium 346
- Price Discrimination 347
 - Two Ways of Price Discriminating 347
 - Increasing Profit and Producer Surplus 348
 - A Price-Discriminating Airline 348
 - Efficiency and Rent Seeking with Price Discrimination 351
- Monopoly Regulation 353
 - Efficient Regulation of a Natural Monopoly 353
 - Second-Best Regulation of a Natural Monopoly 354
- ECONOMICS IN ACTION, 339, 351
- ECONOMICS IN THE NEWS, 352, 356

CHAPTER 14 ♦ MONOPOLISTIC COMPETITION 363

- What Is Monopolistic Competition? 364
 - Large Number of Firms 364
 - Product Differentiation 364
 - Competing on Quality, Price, and Marketing 364
 - Entry and Exit 365
 - Examples of Monopolistic Competition 365
- Price and Output in Monopolistic Competition 366
 - The Firm's Short-Run Output and Price Decision 366
 - Profit Maximizing Might Be Loss Minimizing 366
 - Long Run: Zero Economic Profit 367
 - Monopolistic Competition and Perfect Competition 368
 - Is Monopolistic Competition Efficient? 369
- Product Development and Marketing 370
 - Product Development 370
 - Advertising 370
 - Using Advertising to Signal Quality 372
 - Brand Names 373
 - Efficiency of Advertising and Brand Names 373
- ECONOMICS IN ACTION, 365, 371
- ECONOMICS IN THE NEWS, 374

CHAPTER 15 ♦ OLIGOPOLY 381

- What Is Oligopoly? 382
 - Barriers to Entry 382
 - Small Number of Firms 383
 - Examples of Oligopoly 383
 - Oligopoly Games 384
 - What Is a Game? 384
 - The Prisoners' Dilemma 384
 - An Oligopoly Price-Fixing Game 386
 - A Game of Chicken 391
 - Repeated Games and Sequential Games 392
 - A Repeated Duopoly Game 392
 - A Sequential Entry Game in a Contestable Market 394
 - Antitrust Law 396
 - The Antitrust Laws 396
 - Price Fixing Always Illegal 397
 - Three Antitrust Policy Debates 397
 - Mergers and Acquisitions 399
 - ECONOMICS IN ACTION, 383, 390, 398, 399
 - ECONOMICS IN THE NEWS, 393, 400
- PART FOUR WRAP-UP**
- Understanding Firms and Markets
 - Managing Change and Limiting Market Power 407
 - Talking with
 - Thomas Hubbard 408

**PART FIVE
MARKET FAILURE AND
GOVERNMENT 409**

**CHAPTER 16 ♦ PUBLIC CHOICES,
PUBLIC GOODS, AND
HEALTHCARE 409**

- Public Choices 410
 - Why Governments? 410
 - Public Choice and the Political Marketplace 410
 - Political Equilibrium 411
 - What Is a Public Good? 412
 - A Fourfold Classification 412
 - The Things Our Governments Buy 412
- Providing Public Goods 414
 - The Free-Rider Problem 414
 - Marginal Social Benefit from a Public Good 414
 - Marginal Social Cost of a Public Good 415
 - Efficient Quantity of a Public Good 415
 - Inefficient Private Provision 415
 - Efficient Public Provision 415
 - Inefficient Public Overprovision 417
- The Economics of Healthcare 418
 - Healthcare Market Failure 418
 - Alternative Public Choice Solutions 419
 - Better Solutions? 423
- ECONOMICS IN ACTION, 410, 413, 416, 419, 421
- AT ISSUE, 422
- ECONOMICS IN THE NEWS, 424

CHAPTER 17 ♦ EXTERNALITIES 431

- Externalities in Our Lives 432
 - Negative Production Externalities 432
 - Positive Production Externalities 432
 - Negative Consumption Externalities 432
 - Positive Consumption Externalities 432
- Negative Externality: Pollution 434
 - Private, External, and Social Cost 434
 - Establish Property Rights 435
 - Mandate Clean Technology 436
 - Tax or Cap and Price Pollution 437
 - Coping with Global Externalities 440
- Negative Externality: The Tragedy of the Commons 441
 - Unsustainable Use of a Common Resource 441
 - Inefficient Use of a Common Resource 442
 - Achieving an Efficient Outcome 444
- Positive Externality: Knowledge 446
 - Private Benefits and Social Benefits 446
 - Government Actions in the Market with External Benefits 447
 - Illustrating an Efficient Outcome 447
 - Bureaucratic Inefficiency and Government Failure 448
- ECONOMICS IN ACTION, 433, 438, 440, 443, 445, 449
- AT ISSUE, 439
- ECONOMICS IN THE NEWS, 450

PART FIVE WRAP-UP >

- Understanding Market Failure and Government
- We, the People, ... 457
- Talking with Caroline M. Hoxby 458

PART SIX
FACTOR MARKETS, INEQUALITY,
AND UNCERTAINTY 459

CHAPTER 18 ♦ MARKETS FOR FACTORS OF PRODUCTION 459

- The Anatomy of Factor Markets 460
 - Markets for Labor Services 460
 - Markets for Capital Services 460
 - Markets for Land Services and Natural Resources 460
 - Entrepreneurship 460
- The Demand for a Factor of Production 461
 - Value of Marginal Product 461
 - A Firm's Demand for Labor 461
 - A Firm's Demand for Labor Curve 462
 - Changes in a Firm's Demand for Labor 463
- Labor Markets 464
 - A Competitive Labor Market 464
 - Differences and Trends in Wage Rates 466
 - A Labor Market with a Union 467
- Capital and Natural Resource Markets 471
 - Capital Rental Markets 471
 - Land Rental Markets 471
 - Nonrenewable Natural Resource Markets 473

MATHEMATICAL NOTE

Present Value and Discounting 478

- ECONOMICS IN ACTION, 466, 475
- AT ISSUE, 469
- ECONOMICS IN THE NEWS, 472, 476

CHAPTER 19 ♦ ECONOMIC INEQUALITY 485

- Economic Inequality in the United States 486
 - The Distribution of Income 486
 - The Income Lorenz Curve 487
 - The Distribution of Wealth 488
 - Wealth or Income? 488
 - Annual or Lifetime Income and Wealth? 489
 - Trends in Inequality 489
 - Poverty 491
- Inequality in the World Economy 493
 - Income Distributions in Selected Countries 493
 - Global Inequality and Its Trends 494
- The Sources of Economic Inequality 495
 - Human Capital 495
 - Discrimination 496
 - Contests Among Superstars 497
 - Unequal Wealth 498
- Income Redistribution 499
 - Income Taxes 499
 - Income Maintenance Programs 499
 - Subsidized Services 499
 - The Big Tradeoff 500
- ECONOMICS IN ACTION, 490, 492, 500
- ECONOMICS IN THE NEWS, 502

CHAPTER 20 ♦ UNCERTAINTY AND INFORMATION 509

Decisions in the Face of Uncertainty 510

Expected Wealth 510

Risk Aversion 510

Utility of Wealth 510

Expected Utility 511

Making a Choice with Uncertainty 512

Buying and Selling Risk 513

Insurance Markets 513

A Graphical Analysis of Insurance 514

Risk That Can't Be Insured 515

Private Information 516

Asymmetric Information: Examples and Problems 516

The Market for Used Cars 516

The Market for Loans 519

The Market for Insurance 520

Uncertainty, Information, and the Invisible Hand 521

Information as a Good 521

Monopoly in Markets that Cope with Uncertainty 521

■ **ECONOMICS IN ACTION**, 515, 520

■ **ECONOMICS IN THE NEWS**, 522

PART SIX WRAP-UP >

Understanding Factor Markets, Inequality, and Uncertainty For Whom? 529

Talking with Raj Chetty 530

Glossary **G-1**

Index **I-1**

Credits **C-1**