

Contents

Preface viii

PART 1 What Is Economics?

Introduction

An Engine for Growth and Discovery / 1

A Day in the Megacity 1

The Invisible Hand 2

My Benefit, Your Cost 3

Good Times, Bad Times 3

Onward and Upward 4

An Engine for Discovery 4

Chapter 1

First Principles / 5

Common Ground 5

Principles That Underlie Individual Choice: The Core of Economics 6

Principle #1: Choices Are Necessary Because Resources Are Scarce 6

Principle #2: The True Cost of Something Is Its Opportunity Cost 7

Principle #3: "How Much" Is a Decision at the Margin 8

Principle #4: People Usually Respond to Incentives, Exploiting Opportunities to Make Themselves Better Off 9

For Inquiring Minds Using Incentives to Break the Cycle of Poverty 9

ECONOMICS in Action Boy or Girl? It Depends on the Cost 10

Interaction: How Economies Work 11

Principle #5: There Are Gains from Trade 11

Principle #6: Markets Move Toward Equilibrium 12

Principle #7: Resources Should Be Used Efficiently to Achieve Society's Goals 13

Principle #8: Markets Usually Lead to Efficiency 14

Principle #9: When Markets Don't Achieve Efficiency, Government Intervention Can Improve Society's Welfare 15

ECONOMICS in Action The Fundamental Law of Traffic Congestion 15

Economy-Wide Interactions 16

Principle #10: One Person's Spending Is Another Person's Income 17

Principle #11: Overall Spending Sometimes Gets Out of Line with the Economy's Productive Capacity 17

Principle #12: Government Policies Can Change Spending 18

ECONOMICS in Action Adventures in Babysitting 18

BUSINESS CASE How Priceline Revolutionized the Travel Industry 20

Chapter 2

Economic Models: Trade-offs and Trade / 25

From Kitty Hawk to Dreamliner 25

Models in Economics: Some Important Examples 26

For Inquiring Minds The Model That Ate the Economy 26

Trade-offs: The Production Possibility Frontier 27

Comparative Advantage and Gains from Trade 32

Comparative Advantage and International Trade, in Reality 36

GLOBAL COMPARISON Pajama Republics 37

Transactions: The Circular-Flow Diagram 37

ECONOMICS in Action Rich Nation, Poor Nation 39

Using Models 40

Positive versus Normative Economics 40

When and Why Economists Disagree 41

For Inquiring Minds When Economists Agree 42

ECONOMICS in Action Economists: What Are They Good For? 42

BUSINESS CASE Efficiency, Opportunity Cost, and the Logic of Lean Production 44

Chapter 2

Appendix: Graphs in Economics / 49

Getting the Picture 49

Graphs, Variables, and Economic Models 49

How Graphs Work 49

Two-Variable Graphs 49

Curves on a Graph 51

A Key Concept: The Slope of a Curve 52

The Slope of a Linear Curve 52

Horizontal and Vertical Curves and Their Slopes 53

The Slope of a Nonlinear Curve 54
Calculating the Slope Along a Nonlinear Curve 54
Maximum and Minimum Points 56

Calculating the Area Below or Above a Curve 57

Graphs That Depict Numerical Information 58

Types of Numerical Graphs 58
Problems in Interpreting Numerical Graphs 60

PART 2 Supply and Demand

Chapter 3

Supply and Demand / 65

A Natural Gas Boom 65

Supply and Demand: A Model of a Competitive Market 66

The Demand Curve 66

The Demand Schedule and the Demand Curve 67
Shifts of the Demand Curve 68

GLOBAL COMPARISON Pay More, Pump Less 68

Understanding Shifts of the Demand Curve 71

ECONOMICS *in Action* Beating the Traffic 76

The Supply Curve 76

The Supply Schedule and the Supply Curve 77
Shifts of the Supply Curve 78
Understanding Shifts of the Supply Curve 79

ECONOMICS *in Action* Only Creatures Small and Pampered 83

Supply, Demand, and Equilibrium 84

Finding the Equilibrium Price and Quantity 84
1. Why Do All Sales and Purchases in a Market Take Place at the Same Price? 85
2. Why Does the Market Price Fall If It Is Above the Equilibrium Price? 86
3. Why Does the Market Price Rise If It Is Below the Equilibrium Price? 86
Using Equilibrium to Describe Markets 87

ECONOMICS *in Action* The Price of Admission 87

Changes in Supply and Demand 88

What Happens When the Demand Curve Shifts 89
What Happens When the Supply Curve Shifts 90
Simultaneous Shifts of Supply and Demand Curves 91

ECONOMICS *in Action* The Cotton Panic and Crash of 2011 92

Competitive Markets—and Others 93

BUSINESS CASE Uber Gives Riders a Lesson in Supply and Demand 94

Chapter 4

Consumer and Producer Surplus / 101

Making Gains by the Book 101

Consumer Surplus and the Demand Curve 102

Willingness to Pay and the Demand Curve 102
Willingness to Pay and Consumer Surplus 102
How Changing Prices Affect Consumer Surplus 105

For Inquiring Minds A Matter of Life and Death 107

ECONOMICS *in Action* When Money Isn't Enough 108

Producer Surplus and the Supply Curve 108

Cost and Producer Surplus 108
How Changing Prices Affect Producer Surplus 111

ECONOMICS *in Action* High Times Down on the Farm 112

Consumer Surplus, Producer Surplus, and the Gains from Trade 113

The Gains from Trade 113
The Efficiency of Markets 114
Equity and Efficiency 118

ECONOMICS *in Action* Take the Keys, Please 118

A Market Economy 119

Why Markets Typically Work So Well 119
A Few Words of Caution 120

ECONOMICS *in Action* A Great Leap—Backward 121

BUSINESS CASE Ticket Prices and Music's Reigning Couple, Jay-Z and Beyoncé 123

Chapter 5

Price Controls and Quotas: Meddling with Markets / 129

Big City, Not So Bright Ideas 129

Why Governments Control Prices 130

Price Ceilings 130

Modeling a Price Ceiling 131
How a Price Ceiling Causes Inefficiency 132

For Inquiring Minds Winners, Losers, and Rent Control 134

For Inquiring Minds Mumbai's Rent-Control Millionaires 136

So Why Are There Price Ceilings? 136

ECONOMICS *in Action* Why Price Controls in Venezuela Proved Useless 137

Price Floors 138

How a Price Floor Causes Inefficiency 140

GLOBAL COMPARISON Check Out Our Low, Low Wages! 143

So Why Are There Price Floors? 143

ECONOMICS in Action The Rise and Fall of the Unpaid Intern 143

Controlling Quantities 144

The Anatomy of Quantity Controls 145

The Costs of Quantity Controls 148

ECONOMICS in Action Crabbing, Quotas, and Saving Lives in Alaska 149

BUSINESS CASE Why Taxi Medallion Lenders Are Feeling Like Roadkill 151

Chapter 6

Elasticity / 157

The Taken for a Ride 157

Defining and Measuring Elasticity 158

Calculating the Price Elasticity of Demand 158

An Alternative Way to Calculate Elasticities: The Midpoint Method 159

ECONOMICS in Action Estimating Elasticities 161

Interpreting the Price Elasticity of Demand 161

How Elastic Is Elastic? 162

Price Elasticity Along the Demand Curve 166

What Factors Determine the Price Elasticity of Demand? 166

ECONOMICS in Action Responding to Your Tuition Bill 169

Other Demand Elasticities 170

The Cross-Price Elasticity of Demand 170

The Income Elasticity of Demand 171

For Inquiring Minds Will China Save the U.S. Farming Sector? 171

GLOBAL COMPARISON Food's Bite in World Budgets 172

ECONOMICS in Action Spending It 172

The Price Elasticity of Supply 173

Measuring the Price Elasticity of Supply 173

What Factors Determine the Price Elasticity of Supply? 175

ECONOMICS in Action China and the Global Commodities Glut of 2016 175

An Elasticity Menagerie 177

BUSINESS CASE The Airline Industry: Fly Less, Charge More 178

PART 3 Individuals and Markets

Chapter 7

Taxes / 183

The Founding Taxers 183

The Economics of Taxes: A Preliminary View 184

The Effect of an Excise Tax on Quantities and Prices 184
Price Elasticities and Tax Incidence 187

ECONOMICS in Action Who Pays the FICA? 189

The Benefits and Costs of Taxation 190

The Revenue from an Excise Tax 190

Tax Rates and Revenue 191

The Costs of Taxation 193

For Inquiring Minds French Tax Rates and L'Arc Laffer 193
Elasticities and the Deadweight Loss of a Tax 196

ECONOMICS in Action Taxing Tobacco 198

Tax Fairness and Tax Efficiency 199

Two Principles of Tax Fairness 199

Equity versus Efficiency 200

ECONOMICS in Action Federal Tax Philosophy 201

Understanding the Tax System 202

Tax Bases and Tax Structure 202

Equity, Efficiency, and Progressive Taxation 203

Taxes in the United States 204

GLOBAL COMPARISON You Think You Pay High Taxes? 205
Different Taxes, Different Principles 205

For Inquiring Minds Taxing Income versus Taxing Consumption 205

ECONOMICS in Action State Tax Choices 206

BUSINESS CASE Microsoft's Internal Carbon Tax 207

Chapter 8

International Trade / 213

The Everywhere Phone 213

Comparative Advantage and International Trade 214

Production Possibilities and Comparative Advantage, Revisited 215

The Gains from International Trade 217

Comparative Advantage versus Absolute Advantage 218

GLOBAL COMPARISON Productivity and Wages Around the World 220

Sources of Comparative Advantage 220

For Inquiring Minds Increasing Returns to Scale and International Trade 222

ECONOMICS in Action How Hong Kong Lost Its Shirts 222

Supply, Demand, and International Trade 223

The Effects of Imports 224

The Effects of Exports 226

International Trade and Wages 227

ECONOMICS in Action Trade, Wages, and Land Prices in the Nineteenth Century 229

The Effects of Trade Protection 230

The Effects of a Tariff 230

The Effects of an Import Quota 232

ECONOMICS in Action Trade Protection in the United States 233

The Political Economy of Trade Protection 233

Arguments for Trade Protection 234

The Politics of Trade Protection 234

International Trade Agreements and the World Trade Organization 234

Challenges to Globalization 236

ECONOMICS in Action Solar Disputes 237

BUSINESS CASE Li & Fung: From Guangzhou to You 238

PART 4 Economics and Decision Making

Chapter 9

Decision Making by Individuals and Firms / 245

Making Decisions in Good Times and Bad 245

Costs, Benefits, and Profits 246

Explicit versus Implicit Costs 246

Accounting Profit versus Economic Profit 247

Making “Either–Or” Decisions 249

ECONOMICS in Action Airbnb and the Rising Cost of Privacy 250

Making “How Much” Decisions: The Role of Marginal Analysis 250

Marginal Cost 251

Marginal Benefit 253

Marginal Analysis 254

GLOBAL COMPARISON House Sizes Around the World 257

A Principle with Many Uses 257

ECONOMICS in Action The Cost of a Life 258

Sunk Costs 259

ECONOMICS in Action Biotech: The World’s Biggest Loser 260

Behavioral Economics 260

Rational, but Human, Too 261

Irrationality: An Economist’s View 262

For Inquiring Minds In Praise of Hard Deadlines 263

Rational Models for Irrational People? 264

ECONOMICS in Action “The Jingle Mail Blues” 265

BUSINESS CASE J.C. Penney’s One-Price Strategy Upsets Its Customers 266

Chapter 9

Appendix: How to Make Decisions Involving Time: Understanding Present Value / 271

How to Calculate the Present Value of a One-Year Project 271

How to Calculate the Present Value of Multiyear Projects 272

How to Calculate the Present Value of Projects with Revenues and Costs 273

PART 5 The Consumer

Chapter 10

The Rational Consumer / 275

The Absolute Last Bite 275

Utility: Getting Satisfaction 276

Utility and Consumption 276

The Principle of Diminishing Marginal Utility 277

ECONOMICS in Action Is Salmon a Luxury? It Depends 278

Budgets and Optimal Consumption 279

Budget Constraints and Budget Lines 279

Optimal Consumption Choice 281

For Inquiring Minds Food for Thought on Budget Constraints 283

ECONOMICS in Action The Great Condiment Craze 283

Spending the Marginal Dollar 284

Marginal Utility per Dollar 284

Optimal Consumption 286

ECONOMICS in Action Buying Your Way Out of Temptation 287

From Utility to the Demand Curve 288

Marginal Utility, the Substitution Effect, and the Law of Demand 288

The Income Effect 289

ECONOMICS in Action Lower Gasoline Prices and the Urge to Splurge 290

BUSINESS CASE Freedom from Fries 291

Chapter 10

Appendix: Consumer Preferences and Consumer Choice / 297

Mapping the Utility Function 297

Indifference Curves 297

Properties of Indifference Curves 300

Indifference Curves and Consumer Choice 301

- The Marginal Rate of Substitution 302
- The Tangency Condition 305
- The Slope of the Budget Line 306
- Prices and the Marginal Rate of Substitution 307
- Preferences and Choices 308

Using Indifference Curves: Substitutes and Complements 310

- Perfect Substitutes 310
- Perfect Complements 312
- Less Extreme Cases 312

Prices, Income, and Demand 313

- The Effects of a Price Increase 313
- Income and Consumption 314
- Income and Substitution Effects 317

PART 6 The Production Decision

Chapter 11

Behind the Supply Curve: Inputs and Costs / 323

The Farmer's Margin 323

The Production Function 324

- Inputs and Output 324

GLOBAL COMPARISON Wheat Yields Around the World 326

- From the Production Function to Cost Curves 328

ECONOMICS *in Action* Finding the Optimal Team Size 330

Two Key Concepts: Marginal Cost and Average Cost 331

- Marginal Cost 331
- Average Total Cost 333
- Minimum Average Total Cost 336
- Does the Marginal Cost Curve Always Slope Upward? 337

ECONOMICS *in Action* Smart Grid Economics 338

Short-Run versus Long-Run Costs 339

- Returns to Scale 342
- Summing Up Costs: The Short and Long of It 343

ECONOMICS *in Action* How the Sharing Economy Reduces Fixed Cost 343

BUSINESS CASE Amazon's Invasion of the Bots 345

Chapter 12

Perfect Competition and the Supply Curve / 351

Deck the Halls 351

Perfect Competition 352

- Defining Perfect Competition 352
- Two Necessary Conditions for Perfect Competition 352
- Free Entry and Exit 353

For Inquiring Minds What's a Standardized Product? 354

ECONOMICS *in Action* Pay for Delay 354

Production and Profits 355

- Using Marginal Analysis to Choose the Profit-Maximizing Quantity of Output 355
- When Is Production Profitable? 358
- The Short-Run Production Decision 361
- Changing Fixed Cost 364
- Summing Up: The Perfectly Competitive Firm's Profitability and Production Conditions 364

ECONOMICS *in Action* Farmers Know How 365

The Industry Supply Curve 366

- The Short-Run Industry Supply Curve 366
- The Long-Run Industry Supply Curve 367
- The Cost of Production and Efficiency in Long-Run Equilibrium 371

ECONOMICS *in Action* Thirsty? From Global Wine Glut to Shortage 372

BUSINESS CASE Bricks-and-Mortar Retailers Go Toe to Toe with Mobile Shopping Apps 373

PART 7 Market Structure: Beyond Perfect Competition

Chapter 13

Monopoly / 379

Everybody Must Get Stones 379

Types of Market Structure 380

The Meaning of Monopoly 381

- Monopoly: Our First Departure from Perfect Competition 381
- What Monopolists Do 381
- Why Do Monopolies Exist? 383

GLOBAL COMPARISON The Price We Pay 385

ECONOMICS *in Action* The Monopoly That Wasn't: China and the Market for Rare Earths 386

How a Monopolist Maximizes Profit 387

- The Monopolist's Demand Curve and Marginal Revenue 387
- The Monopolist's Profit-Maximizing Output and Price 390
- Monopoly versus Perfect Competition 391
- Monopoly: The General Picture 392

ECONOMICS *in Action* Shocked by the High Price of Electricity 393

Monopoly and Public Policy 394

Welfare Effects of Monopoly 395

Preventing Monopoly 396

Dealing with Natural Monopoly 396

ECONOMICS in Action The (R)Evolution of the American High-Speed Internet Market 400

Price Discrimination 401

The Logic of Price Discrimination 402

Price Discrimination and Elasticity 403

Perfect Price Discrimination 404

ECONOMICS in Action Sales, Factory Outlets, and Ghost Cities 406

BUSINESS CASE Amazon and Hachette Go to War 408

Chapter 14

Oligopoly / 415

Regulators Give Bridgestone a Flat Tire 415

The Prevalence of Oligopoly 416

ECONOMICS in Action Is It a Beer-opoly or Not? 417

Understanding Oligopoly 418

A Duopoly Example 418

Collusion and Competition 419

ECONOMICS in Action The Case Against Chocolate Producers Melts 420

Games Oligopolists Play 421

The Prisoners' Dilemma 422

For Inquiring Minds Prisoners of the Arms Race and the Resurgent Cold War 424

Overcoming the Prisoners' Dilemma: Repeated Interaction and Tacit Collusion 425

ECONOMICS in Action The Demise of OPEC 427

Oligopoly in Practice 428

The Legal Framework 428

GLOBAL COMPARISON Contrasting Approaches to Antitrust Regulation 429

Tacit Collusion and Price Wars 430

Product Differentiation and Price Leadership 431

How Important Is Oligopoly? 432

ECONOMICS in Action The Price Wars of Christmas 433

BUSINESS CASE Virgin Atlantic Blows the Whistle . . . or Blows It? 435

Chapter 15

Monopolistic Competition and Product Differentiation / 441

Fast-Food Differentiation 441

The Meaning of Monopolistic Competition 442

Large Numbers 442

Differentiated Products 442

Free Entry and Exit in the Long Run 443

Monopolistic Competition: In Sum 443

Product Differentiation 443

Differentiation by Style or Type 443

Differentiation by Location 444

Differentiation by Quality 444

Product Differentiation: In Sum 444

ECONOMICS in Action Abbondanza! 445

Understanding Monopolistic Competition 446

Monopolistic Competition in the Short Run 446

Monopolistic Competition in the Long Run 447

ECONOMICS in Action Hits and Flops in the App Store 449

Monopolistic Competition versus Perfect Competition 450

Price, Marginal Cost, and Average Total Cost 450

Is Monopolistic Competition Inefficient? 452

Controversies About Product Differentiation 453

The Role of Advertising 453

Brand Names 454

ECONOMICS in Action The Perfume Industry: Leading Consumers by the Nose 455

BUSINESS CASE The Dollar Shave Club: How to Avoid a Case of Razor Burn 456

PART 8 Microeconomics and Public Policy

Chapter 16

Externalities / 459

Trouble Underfoot 459

External Costs and Benefits 460

For Inquiring Minds Talking, Texting, and Driving 460

Pollution: An External Cost 461

The Socially Optimal Quantity of Pollution 461

Why a Market Economy Produces Too Much Pollution 462

Private Solutions to Externalities 463

ECONOMICS in Action How Much Does Your Electricity Really Cost? 465

Policies Toward Pollution 466

Environmental Standards 466

Emissions Taxes 466

GLOBAL COMPARISON Economic Growth and Greenhouse Gases in Six Countries 467

Tradable Emissions Permits 468

Comparing Environmental Policies with an Example 469

The Economics of Climate Change and the Great Energy Transition 470

ECONOMICS in Action Cap and Trade 471

Positive Externalities 472

Preserved Farmland: An External Benefit 473

Positive Externalities in Today's Economy 474

ECONOMICS in Action The Impeccable Economic Logic of Early-Childhood Intervention Programs 475

Network Externalities 475

The External Benefits of a Network Externality 476

ECONOMICS in Action The Microsoft Case 477

BUSINESS CASE Snapchat and Instagram: Not Your Grandmother's Social Networking Platforms 479

Chapter 17

Public Goods and Common Resources / 483

The Great Stink 483

Private Goods—and Others 484

Characteristics of Goods 484

Why Markets Can Supply Only Private Goods Efficiently 485

ECONOMICS in Action From Mayhem to Renaissance 486

Public Goods 486

Providing Public Goods 487

How Much of a Public Good Should Be Provided? 488

For Inquiring Minds Voting as a Public Good 488

GLOBAL COMPARISON Voting as a Public Good: The Global Perspective 490

Cost-Benefit Analysis 491

ECONOMICS in Action American Infrastructure Gets a D+ 491

Common Resources 493

The Problem of Overuse 493

The Efficient Use and Maintenance of a Common Resource 494

For Inquiring Minds When Fertile Farmland Turned to Dust 495

ECONOMICS in Action Saving the Oceans with ITQs 496

Artificially Scarce Goods 496

ECONOMICS in Action Twenty-First Century Piracy 497

BUSINESS CASE Mauricedale Game Ranch and Hunting Endangered Animals to Save Them 499

Chapter 18

The Economics of the Welfare State / 505

The Coming of Obamacare 505

Poverty, Inequality, and Public Policy 506

The Logic of the Welfare State 506

The Problem of Poverty 507

For Inquiring Minds Justice and the Welfare State 507

Economic Inequality 510

Economic Insecurity 512

GLOBAL COMPARISON Income, Redistribution, and Inequality in Rich Countries 513

ECONOMICS in Action Long-term Trends in Income Inequality in the United States 513

The U.S. Welfare State 515

Means-Tested Programs 516

Social Security and Unemployment Insurance 517

The Effects of the Welfare State on Poverty and Inequality 517

ECONOMICS in Action Welfare State Programs and Poverty Rates in the Great Recession, 2007–2010 518

The Economics of Health Care 519

The Need for Health Insurance 519

For Inquiring Minds A California Death Spiral 521

Government Health Insurance 521

Health Care in Other Countries 522

The Affordable Care Act 523

ECONOMICS in Action What Medicaid Does 526

The Debate over the Welfare State 527

Problems with the Welfare State 527

The Politics of the Welfare State 528

ECONOMICS in Action French Family Values 529

BUSINESS CASE Ruby Hill Farm: The ACA and Freedom to Farm 530

PART 9 Factor Markets and Risk

Chapter 19

Factor Markets and the Distribution of Income / 535

The Value of a Degree 535

The Economy's Factors of Production 536

The Factors of Production 536

Why Factor Prices Matter: The Allocation of Resources 536

Factor Incomes and the Distribution of Income 536

For Inquiring Minds The Factor Distribution of Income and Social Change in the Industrial Revolution 537

ECONOMICS in Action The Factor Distribution of Income in the United States 537

Marginal Productivity and Factor Demand 538

- Value of the Marginal Product 538
- Value of the Marginal Product and Factor Demand 540
- Shifts of the Factor Demand Curve 542
- The Marginal Productivity Theory of Income Distribution 543
- The Markets for Land and Capital 545
- The Marginal Productivity Theory of Income Distribution 546

ECONOMICS in Action Help Wanted at Flex! 547

Is the Marginal Productivity Theory of Income Distribution Really True? 548

- Wage Disparities in Practice 548
- Marginal Productivity and Wage Inequality 549
- Market Power 551
- Efficiency Wages 551
- Discrimination 552

For Inquiring Minds How Labor Works the German Way 553

- So Does Marginal Productivity Theory Work? 553

ECONOMICS in Action Marginal Productivity and the “1%” 554

The Supply of Labor 554

- Work versus Leisure 554
- Wages and Labor Supply 555

For Inquiring Minds Why You Can’t Find a Cab When It’s Raining 557

- Shifts of the Labor Supply Curve 557

GLOBAL COMPARISON The Overworked American? 558

ECONOMICS in Action The Decline of the Summer Job 559

BUSINESS CASE Walmart Gives a Hike 560

Chapter 19

Appendix: Indifference Curve Analysis of Labor Supply / 565

The Time Allocation Budget Line 565

The Effect of a Higher Wage Rate 566

Indifference Curve Analysis 569

Chapter 20

Uncertainty, Risk, and Private Information / 571

Extreme Weather 571

The Economics of Risk Aversion 572

- Expectations and Uncertainty 572
- The Logic of Risk Aversion 573

For Inquiring Minds The Paradox of Gambling 577

- Paying to Avoid Risk 577

ECONOMICS in Action Warranties 578

Buying, Selling, and Reducing Risk 578

Trading Risk 579

Making Risk Disappear: The Power of Diversification 582

For Inquiring Minds Those Pesky Emotions 584

The Limits of Diversification 584

ECONOMICS in Action When Lloyd’s Almost Lost It 585

Private Information: What You Don’t Know Can Hurt You 586

Adverse Selection: The Economics of Lemons 587

Moral Hazard 588

ECONOMICS in Action Franchise Owners Try Harder 590

BUSINESS CASE PURE—An Insurance Company That Withstands Hurricanes 591

PART 10 Introduction to Macroeconomics

Chapter 21

Macroeconomics: The Big Picture / 597

Greek Tragedies 597

The Nature of Macroeconomics 598

Macroeconomic Questions 598

Macroeconomics: The Whole Is Greater Than the Sum of Its Parts 598

Macroeconomics: Theory and Policy 599

ECONOMICS in Action Fending Off Depression 600

The Business Cycle 601

Charting the Business Cycle 602

The Pain of Recession 603

For Inquiring Minds Defining Recessions and Expansions 604

Taming the Business Cycle 604

GLOBAL COMPARISON Slumps Across the Atlantic 604

ECONOMICS in Action Comparing Recessions 605

Long-Run Economic Growth 605

ECONOMICS in Action A Tale of Two Countries 606

Inflation and Deflation 607

The Causes of Inflation and Deflation 608

The Pain of Inflation and Deflation 608

ECONOMICS in Action A Fast (Food) Measure of Inflation 609

International Imbalances 609

ECONOMICS in Action Greece’s Costly Surplus 610

BUSINESS CASE The Business Cycle and the Decline of Montgomery Ward 611

Chapter 22

GDP and the CPI: Tracking the Macroeconomy / 617

China Hits the Big Time 617

The National Accounts 618

Following the Money: The Expanded Circular-Flow Diagram 618

Gross Domestic Product 619

Calculating GDP 620

For Inquiring Minds Our Imputed Lives 622

What GDP Tells Us 625

For Inquiring Minds Gross What? 625

Real GDP: A Measure of Aggregate Output 626

Calculating Real GDP 626

What Real GDP Doesn't Measure 627

GLOBAL COMPARISON GDP and the Meaning of Life 628

ECONOMICS *in Action* Miracle in Venezuela? 628

Price Indexes and the Aggregate Price Level 629

Market Baskets and Price Indexes 629

The Consumer Price Index 631

Other Price Measures 631

ECONOMICS *in Action* Indexing to the CPI 633

BUSINESS CASE Betting on Bad Numbers 634

Chapter 23

Unemployment and Inflation / 641

Liftoff 641

The Unemployment Rate 642

Defining and Measuring Unemployment 642

The Significance of the Unemployment Rate 643

Growth and Unemployment 645

ECONOMICS *in Action* Failure to Launch 647

The Natural Rate of Unemployment 648

Job Creation and Job Destruction 648

Frictional Unemployment 648

Structural Unemployment 649

The Natural Rate of Unemployment 653

Changes in the Natural Rate of Unemployment 653

ECONOMICS *in Action* Structural Unemployment in Spain 655

Inflation and Deflation 655

The Level of Prices Doesn't Matter . . . 656

. . . But the Rate of Change of Prices Does 656

Winners and Losers from Inflation 659

Inflation Is Easy; Disinflation Is Hard 660

ECONOMICS *in Action* Israel's Experience with Inflation 661

BUSINESS CASE TaskRabbit 662

PART 11 Long-Run Economic Growth

Chapter 24

Long-Run Economic Growth / 667

Airpocalypse Now 667

Comparing Economies Across Time and Space 668

Real GDP per Capita 668

Growth Rates 670

ECONOMICS *in Action* An Economic Breakthrough in Bangladesh 671

The Sources of Long-Run Growth 672

The Crucial Importance of Productivity 672

Explaining Growth in Productivity 672

Accounting for Growth: The Aggregate Production Function 673

What About Natural Resources? 677

ECONOMICS *in Action* The Rise, Fall, and Return of the Productivity Paradox 678

Why Growth Rates Differ 679

Explaining Differences in Growth Rates 679

The Role of Government in Promoting Economic Growth 681

For Inquiring Minds Inventing R&D 681

ECONOMICS *in Action* What's the Matter with Italy? 683

Success, Disappointment, and Failure 684

East Asia's Miracle 685

Latin America's Disappointment 686

Africa's Troubles and Promise 686

Left Behind by Growth? 687

ECONOMICS *in Action* Are Economies Converging? 688

Is World Growth Sustainable? 689

Natural Resources and Growth, Revisited 690

Economic Growth and the Environment 691

ECONOMICS *in Action* What Is the Cost of Limiting Carbon? 693

BUSINESS CASE Raising the Bar(code) 694

Chapter 25

Savings, Investment Spending, and the Financial System / 701

Paying for a Hidden Empire 701

Matching Up Savings and Investment Spending 702

The Savings–Investment Spending Identity 702

The Market for Loanable Funds 706

For Inquiring Minds Using Present Value 707

ECONOMICS in Action Sixty Years of U.S. Interest Rates 715

The Financial System 717

Three Tasks of a Financial System 718

Types of Financial Assets 719

Financial Intermediaries 721

GLOBAL COMPARISON Corporate Bonds in the United States and the Euro Area 723

ECONOMICS in Action Banks and the South Korean Miracle 724

Financial Fluctuations 724

The Demand for Stocks 725

For Inquiring Minds How Now, Dow Jones? 725

The Demand for Other Assets 726

Asset Price Expectations 727

For Inquiring Minds Behavioral Finance 728

Asset Prices and Macroeconomics 729

ECONOMICS in Action The Great American Housing Bubble 729

BUSINESS CASE Grameen Bank: Banking Against Poverty 731

PART 12 Short-Run Economic Fluctuations

Chapter 26

Income and Expenditure / 737

Hard Times in Helsinki 737

The Multiplier: An Informal Introduction 738

ECONOMICS in Action To Shale and Back 740

Consumer Spending 741

Current Disposable Income and Consumer Spending 741

Shifts of the Aggregate Consumption Function 744

ECONOMICS in Action Famous First Forecasting Failures 746

Investment Spending 747

1. The Interest Rate and Investment Spending 748

2. Expected Future Real GDP, Production Capacity, and Investment Spending 749

3. Inventories and Unplanned Investment Spending 749

ECONOMICS in Action Interest Rates and U.S. Housing 751

The Income–Expenditure Model 752

Planned Aggregate Spending and Real GDP 753

Income–Expenditure Equilibrium 754

The Multiplier Process and Inventory Adjustment 756

What About Exports and Imports? 759

ECONOMICS in Action Inventories and the End of a Recession 760

BUSINESS CASE What's Good for America Is Good for GM 762

Chapter 26

Appendix: Deriving the Multiplier Algebraically / 767

Chapter 27

Aggregate Demand and Aggregate Supply / 769

Different Generations, Different Policies 769

Aggregate Demand 770

Why Is the Aggregate Demand Curve Downward Sloping? 771

The Aggregate Demand Curve and the Income–Expenditure Model 772

Shifts of the Aggregate Demand Curve 774

Government Policies and Aggregate Demand 776

ECONOMICS in Action Moving Along the Aggregate Demand Curve, 1979–1980 777

Aggregate Supply 778

The Short-Run Aggregate Supply Curve 779

For Inquiring Minds What's Truly Flexible, What's Truly Sticky 781

Shifts of the Short-Run Aggregate Supply Curve 781

The Long-Run Aggregate Supply Curve 784

From the Short Run to the Long Run 786

ECONOMICS in Action Sticky Wages in the Great Recession 787

The AD–AS Model 788

Short-Run Macroeconomic Equilibrium 788

Shifts of Aggregate Demand: Short-Run Effects 789

Shifts of the SRAS Curve 790

Long-Run Macroeconomic Equilibrium 792

For Inquiring Minds Where's the Deflation? 793

ECONOMICS in Action Supply Shocks versus Demand Shocks in Practice 795

Macroeconomic Policy 796

Policy in the Face of Demand Shocks 796

For Inquiring Minds Keynes and the Long Run 796

Responding to Supply Shocks 797

ECONOMICS in Action Is Stabilization Policy Stabilizing? 798

BUSINESS CASE Toyota Makes Its Move 799

PART 13 Stabilization Policy

Chapter 28

Fiscal Policy / 805

Spending Our Way Out of a Recession 805

Fiscal Policy: The Basics 806

Taxes, Purchases of Goods and Services, Government Transfers, and Borrowing 806

The Government Budget and Total Spending 807

Expansionary and Contractionary Fiscal Policy 808

Can Expansionary Fiscal Policy Actually Work? 810

A Cautionary Note: Lags in Fiscal Policy 811

ECONOMICS in Action A Tale of Two Stimuli 812

Fiscal Policy and the Multiplier 813

Multiplier Effects of an Increase in Government Purchases of Goods and Services 813

Multiplier Effects of Changes in Government Transfers and Taxes 814

How Taxes Affect the Multiplier 815

ECONOMICS in Action Austerity and the Multiplier 816

The Budget Balance 817

The Budget Balance as a Measure of Fiscal Policy 818

The Business Cycle and the Cyclically Adjusted Budget Balance 818

Should the Budget Be Balanced? 820

ECONOMICS in Action Trying to Balance Budgets in a Recession 821

Long-Run Implications of Fiscal Policy 822

Deficits, Surpluses, and Debt 823

Potential Dangers Posed by Rising Government Debt 823

GLOBAL COMPARISON The American Way of Debt 824

Deficits and Debt in Practice 825

For Inquiring Minds What Happened to the Debt from World War II? 826

Implicit Liabilities 826

ECONOMICS in Action Reducing Implicit Liabilities 828

BUSINESS CASE Here Comes the Sun 829

Chapter 28

Appendix: Taxes and the Multiplier / 835

Chapter 29

Money, Banking, and the Federal Reserve System / 837

Not So Funny Money 837

The Meaning of Money 838

What Is Money? 838

Roles of Money 839

GLOBAL COMPARISON The Big Moneys 839

Types of Money 840

Measuring the Money Supply 841

For Inquiring Minds From Bucks to Bitcoin 842

ECONOMICS in Action The History of the Dollar 842

The Monetary Role of Banks 843

What Banks Do 844

The Problem of Bank Runs 845

Bank Regulation 846

ECONOMICS in Action It's a Wonderful Banking System 847

Determining the Money Supply 848

How Banks Create Money 848

Reserves, Bank Deposits, and the Money Multiplier 850

The Money Multiplier in Reality 851

ECONOMICS in Action Multiplying Money Down 852

The Federal Reserve System 853

The Structure of the Fed 853

What the Fed Does: Reserve Requirements and the Discount Rate 854

Open-Market Operations 855

For Inquiring Minds Who Gets the Interest on the Fed's Assets? 856

The European Central Bank 857

ECONOMICS in Action The Fed's Balance Sheet, Normal and Abnormal 858

The Evolution of the American Banking System 859

The Crisis in American Banking in the Early Twentieth Century 859

Responding to Banking Crises: The Creation of the Federal Reserve 860

The Savings and Loan Crisis of the 1980s 861

Back to the Future: The Financial Crisis of 2008 and Its Aftermath 862

ECONOMICS in Action Financial Regulation After the 2008 Crisis 864

BUSINESS CASE The Perfect Gift: Cash or a Gift Card? 866

Chapter 30

Monetary Policy / 871

The Most Powerful Person in Government 871

The Demand for Money 872

The Opportunity Cost of Holding Money 872

The Money Demand Curve 874

Shifts of the Money Demand Curve 875

ECONOMICS in Action A Yen for Cash 876

Money and Interest Rates 877

The Equilibrium Interest Rate 878

Two Models of Interest Rates? 879

Monetary Policy and the Interest Rate 879

Long-Term Interest Rates 881

ECONOMICS in Action Up the Down Staircase 882

Monetary Policy and Aggregate Demand 883

Expansionary and Contractionary Monetary Policy 883

Monetary Policy in Practice 883

The Taylor Rule Method of Setting Monetary Policy 884

Inflation Targeting 885

GLOBAL COMPARISON Inflation Targets 886

The Zero Lower Bound Problem 887

ECONOMICS in Action What the Fed Wants, the Fed Gets 888

Money, Output, and Prices in the Long Run 888

Short-Run and Long-Run Effects of an Increase in the Money Supply 889

Monetary Neutrality 890

Changes in the Money Supply and the Interest Rate in the Long Run 890

ECONOMICS in Action International Evidence of Monetary Neutrality 891

BUSINESS CASE Parking Your Money at PayPal 893

Chapter 30

Appendix: Reconciling the Two Models of the Interest Rate / 897

The Interest Rate in the Short Run 897

The Interest Rate in the Long Run 898

Chapter 31

Inflation, Disinflation, and Deflation / 901

Bringing a Suitcase to the Bank 901

Money and Inflation 902

The Classical Model of Money and Prices 902

The Inflation Tax 904

The Logic of Hyperinflation 905

ECONOMICS in Action Zimbabwe's Inflation 907

Moderate Inflation and Disinflation 907

The Output Gap and the Unemployment Rate 908

For Inquiring Minds Okun's Law 910

The Short-Run Phillips Curve 910

For Inquiring Minds The Aggregate Supply Curve and the Short-Run Phillips Curve 912

Inflation Expectations and the Short-Run Phillips Curve 913

ECONOMICS in Action The Phillips Curve in the Great Recession 915

Inflation and Unemployment in the Long Run 916

The Long-Run Phillips Curve 916

The Natural Rate of Unemployment, Revisited 917

GLOBAL COMPARISON Disinflation Around the World 918

The Costs of Disinflation 918

ECONOMICS in Action The Great Disinflation of the 1980s 919

Deflation 920

Debt Deflation 920

Effects of Expected Deflation 920

ECONOMICS in Action Is Europe Turning Japanese? 922

BUSINESS CASE Dining and Dollars in Buenos Aires 924

PART 14 Events and Ideas

Chapter 32

Macroeconomics: Events and Ideas / 929

Old Books and New Ideas 929

Classical Macroeconomics 930

Money and the Price Level 930

The Business Cycle 930

The Great Depression and the Keynesian Revolution 931

Keynes's Theory 931

For Inquiring Minds The Politics of Keynes 933

Policy to Fight Recessions 933

ECONOMICS in Action The End of the Great Depression 934

Challenges to Keynesian Economics 935

The Revival of Monetary Policy 935

Monetarism 935

Limits to Macroeconomic Policy: Inflation and the Natural Rate of Unemployment 937

The Political Business Cycle 938

ECONOMICS in Action The Fed's Flirtation with Monetarism 939

Rational Expectations, Real Business Cycles, and New Classical Macroeconomics 940

Rational Expectations 940

Real Business Cycles 941

For Inquiring Minds Supply-Side Economics 942

ECONOMICS in Action The 1970s in Reverse 942

The Great Moderation Consensus 943

Modern Macroeconomics After the Great Recession 944

The Economic Environment Post Recession 944

Stimulus versus Austerity 945

The Fed's Unconventional Monetary Policy 948

ECONOMICS in Action Japan's Escape Attempt 949

PART 15 The International Economy

Chapter 33

International Macroeconomics / 955

Switzerland Doesn't Want Your Money 955

Capital Flows and the Balance of Payments 956

Balance of Payments Accounts 956

For Inquiring Minds GDP, GNP, and the Current Account 958

Modeling the Financial Account 960

GLOBAL COMPARISON Big Surpluses 960

Underlying Determinants of International Capital Flows 961

Two-Way Capital Flows 961

ECONOMICS in Action The Golden Age of Capital Flows 962

The Role of the Exchange Rate 963

Understanding Exchange Rates 964

The Equilibrium Exchange Rate 964

Inflation and Real Exchange Rates 967

Purchasing Power Parity 969

For Inquiring Minds Burgernomics 969

ECONOMICS in Action Strong Dollar Woes 970

Exchange Rate Policy 971

Exchange Rate Regimes 972

How Can an Exchange Rate Be Held Fixed? 972

The Exchange Rate Regime Dilemma 974

For Inquiring Minds From Bretton Woods to the Euro 975

ECONOMICS in Action China Pegs the Yuan 976

Exchange Rates and Macroeconomic Policy 976

1. Devaluation and Revaluation of Fixed Exchange Rates 977

2. Monetary Policy Under Floating Exchange Rates 977

3. International Business Cycles 979

ECONOMICS in Action The Little Currency That Could 979

BUSINESS CASE A Yen for Japanese Cars 981

Macroeconomic Data Tables M-1

Solutions to Check Your Understanding Questions S-1

Glossary G-1

Index I-1