

11e

ECONOMICS



Roger A. Arnold

Dear Student,

With a knowledge of economics, you have a much better chance of understanding what is going on in the world you inhabit than you do without a knowledge of economics. Economics has the ability to make visible what was once invisible. It has a way of opening up our eyes to what we couldn't see before.

Other subjects are capable of opening up worlds to us. But what is special about economics, is that so much of the world you live in every day – the world of buying and selling, getting a job, paying your rent, taking out a mortgage, getting an education, earning an income, and the world of economic growth, ups and downs in the economy, and financial crises — becomes more clear once we know economics. Economics helps us to understand the world we actually inhabit every day of our lives. If there is such a thing as the “real world,” then it is the real world to which economics addresses itself.

So, is it worth learning economics? Yes, without a doubt. But don't think that learning economics comes without effort. First, you can't read an economics textbook the way you read a novel. You have to read, think, and study. To aid in this endeavor, we need to tell you how this book is set up.

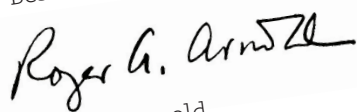
There are three major parts of the book that you should be aware of before you start to read and study. First, there is the main content of the book — the words and diagrams in each chapter. It is the “meat and potatoes” of the economics course. You need to read this material more than once. When it comes to learning the economics contained in the diagrams, go slowly. Look at a curve in the diagram and tell yourself what it says. Each diagram tells a story — from beginning to end. Learn to tell yourself that story as you go through each diagram.

Second, there are various boxed and stand-alone features in each chapter — such as *Economics24/7*, *Thinking Like an Economist*, *Office Hours*, and *Finding Economics*. It is in the features where we step away from the “meat and potatoes” of the text and start applying what we have learned there. Applying what you know is an extremely important part of learning economics. Don't think the boxed and stand-alone features are peripheral to the main material and therefore can be ignored. The features are the material in different form.

Third, there are numerous instructional videos that go with this book. *Video Office Hours* takes the material in each chapter and goes over key topics, much the way your instructor might do in class. *Video Questions and Problems* addresses questions and solves problems step-by-step and can be a valuable resource for you in working through similar assignments. *Working with Diagrams* builds, explains, and works with many of the exhibits in the text and can help you learn to tell the “story” of the diagram, frame by frame.

Keep in mind that it takes sustained effort — and some dedicated patience — to learn economics. But, as we said before, the effort is well worth it. The best of luck as you begin your study of economics.

Best Wishes,



Roger A. Arnold





Economics

11e

Roger A. Arnold

California State University
San Marcos



Australia • Brazil • Canada • Mexico • Singapore • Spain • United Kingdom • United States

Economics 11e**Roger A. Arnold**

Editorial Director: Erin Joyner

Editor in Chief: Joe Sabatino

Executive Editor: Mike Worls

Editorial Assistant: Elizabeth Beiting-Lipps

Sr. Developmental Editor: Jennifer Thomas

Sr. Market Brand Manager: John Carey

Brand Manager: Robin Lefevre

Marketing Coordinator: Chris Walz

Sr. Marketing Communications Manager:
Sarah Greber

Sr. Content Project Manager: Cliff Kallemeyn

Media Editor: Anita Verma

CL Manufacturing Buyer: Kevin Kluck

Compositor: MPS Limited

Sr. Art Director: Michelle Kunkler

Cover and Internal Designer: Red Hangar
DesignCover Image: © Comstock Images/Getty
Images, Inc.

© 2014, 2011 South-Western, Cengage Learning

ALL RIGHTS RESERVED. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, Web distribution, information storage and retrieval systems, or in any other manner—except as may be permitted by the license terms herein.

For product information and technology assistance, contact us at
Cengage Learning Customer & Sales Support, 1-800-354-9706

For permission to use material from this text or product,
submit all requests online at www.cengage.com/permissions
Further permissions questions can be e-mailed to
permissionrequest@cengage.com.

ExamView® is a registered trademark of elnstruction Corp. Windows is a registered trademark of the Microsoft Corporation used herein under license. Macintosh and Power Macintosh are registered trademarks of Apple Computer, Inc. used herein under license.

© 2014 Cengage Learning. All Rights Reserved.

Cengage Learning WebTutor™ is a trademark of Cengage Learning.

Library of Congress Control Number: 2012952308

Student Edition ISBN 13: 978-1-133-18975-6

Student Edition ISBN 10: 1-133-18975-X

South-Western Cengage Learning5191 Natorp Boulevard
Mason, OH 45040
USA

Cengage Learning products are represented in Canada by Nelson Education, Ltd.

For your course and learning solutions, visit www.cengage.comPurchase any of our products at your local college store or at our preferred
online store www.cengagebrain.com

This is an electronic version of the print textbook. Due to electronic rights restrictions, some third party content may be suppressed. Editorial review has deemed that any suppressed content does not materially affect the overall learning experience. The publisher reserves the right to remove content from this title at any time if subsequent rights restrictions require it. For valuable information on pricing, previous editions, changes to current editions, and alternate formats, please visit www.cengage.com/highered to search by ISBN#, author, title, or keyword for materials in your areas of interest.

*To
Sheila, Daniel,
and David*

Brief Contents

AN INTRODUCTION TO ECONOMICS

Part 1 Economics: The Science of Scarcity

- Chapter 1 What Economics Is About 1
- Appendix A Working with Diagrams 26
- Appendix B Should You Major in Economics? 34
- Chapter 2 Production Possibilities Frontier Framework 42
- Chapter 3 Supply and Demand: Theory 57
- Chapter 4 Prices: Free, Controlled, and Relative 90
- Chapter 5 Supply, Demand, and Price: Applications 107

MACROECONOMICS

Part 2 Macroeconomic Fundamentals

- Chapter 6 Macroeconomic Measurements, Part I: Prices and Unemployment 129
- Chapter 7 Macroeconomic Measurements, Part II: GDP and Real GDP 144

Part 3 Macroeconomic Stability, Instability, and Fiscal Policy

- Chapter 8 Aggregate Demand and Aggregate Supply 165
- Chapter 9 Classical Macroeconomics and the Self-Regulating Economy 195
- Chapter 10 Keynesian Macroeconomics and Economic Instability: A Critique of the Self-Regulating Economy 217
- Chapter 11 Fiscal Policy and the Federal Budget 246

Part 4 Money, The Economy, and Monetary Policy

- Chapter 12 Money, Banking, and the Financial System 269
- Chapter 13 The Federal Reserve System 287
- Appendix C The Market for Reserves (or the Federal Funds Market) 304
- Chapter 14 Money and the Economy 308
- Chapter 15 Monetary Policy 335
- Appendix D Bond Prices and the Interest Rate 357

Part 5 Expectations and Growth

- Chapter 16 Expectations Theory and the Economy 360
- Chapter 17 Economic Growth: Resources, Technology, Ideas, and Institutions 384

Part 6 The Financial Crisis of 2007–2009

- Chapter 18 The Financial Crisis of 2007–2009 402

Part 7 Government and the Economy

- Chapter 19 Debates in Macroeconomics Over the Role and Effects of Government 425

MICROECONOMICS

Part 8 Microeconomic Fundamentals

- Chapter 20 Elasticity 441
- Chapter 21 Consumer Choice: Maximizing Utility and Behavioral Economics 468
- Appendix E Budget Constraint and Indifference Curve Analysis 487
- Chapter 22 Production and Costs 495

Part 9 Product Markets and Policies

- Chapter 23 Perfect Competition 526
- Chapter 24 Monopoly 554
- Chapter 25 Monopolistic Competition, Oligopoly, and Game Theory 576
- Chapter 26 Government and Product Markets: Antitrust and Regulation 599

Part 10 Factor Markets and Related Issues

- Chapter 27 Factor Markets: With Emphasis on the Labor Market 618
- Chapter 28 Wages, Union, and Labor 642
- Chapter 29 The Distribution of Income and Poverty 657
- Chapter 30 Interest, Rent, and Profit 674

Part 11 Market Failure, Public Choice, and Special-Interest-Group Politics

- Chapter 31 Market Failure: Externalities, Public Goods, and Asymmetric Information 694
- Chapter 32 Public Choice and Special-Interest-Group Politics 721

Part 12 Economics Theory-Building and Everyday Life

- Chapter 33 Building Theories to Explain Everyday Life: From Observations to Questions to Theories to Predictions 741

THE GLOBAL ECONOMY

Part 13 International Economics and Globalization

- Chapter 34 International Trade 763
- Chapter 35 International Finance 781
- Chapter 36 Globalization and International Impacts on the Economy 799

WEB CHAPTERS

- Chapter 37 The Economic Case For and Against Government: Five Topics Considered 830
- Chapter 38 Stocks, Bonds, Futures, and Options 851
- Chapter 39 Agriculture: Problems, Policies, and Unintended Effects 870
- Self-Test Appendix 831
- Glossary 858
- Index 869

AN INTRODUCTION TO ECONOMICS

Part 1 Economics: The Science of Scarcity

ECONOMICS 24/7

Low Admission Rates at Yale 6

What Does Scarcity Have to Do with the Number of Friends You Have? 9

Why Did the British Soldiers Wear Red Uniforms? 10

When Are People the Most Likely to “Lose” Library Books? The Case of Alchian and Allen’s University Economics 19

Office Hours

“I Don’t Believe That Every Time a Person Does Something, He Compares the Marginal Benefits and Costs” 21

CHAPTER 1: WHAT ECONOMICS IS ABOUT 1

Your Life, 2014–2024 1

A Definition of Economics 2

Goods and Bads 2 Resources 2 Scarcity and a Definition of Economics 2
The Counterintuitive in Economics 3

Key Concepts in Economics 5

Opportunity Cost 5 Opportunity Cost and Behavior 7 Benefits and Costs 7
Decisions Made at the Margin 8 Efficiency 10 Economics Is About
Incentives 12 Unintended Effects 12 Exchange 14

The Market and Government 14

Ceteris Paribus and Theory 16

Ceteris Paribus Thinking 16 What Is a Theory? 17

Economic Categories 20

Positive and Normative Economics 20 Microeconomics and Macroeconomics 20

Chapter Summary 22

Key Terms and Concepts 23

Video Questions and Problems 24

Questions and Problems 24

Working with Numbers and Graphs 25

APPENDIX A: WORKING WITH DIAGRAMS 26

Slope of a Line 27

Slope of a Line Is Constant 28

Slope of a Curve 28

The 45-Degree Line 28

Pie Charts 30

Bar Graphs 30

Line Graphs 31

APPENDIX B: SHOULD YOU MAJOR IN ECONOMICS? 34

Five Myths About Economics and Being an Economics Major 35

What Awaits You As an Economics Major? 38

What Do Economists Do? 39

Places to Find More Information 41

Concluding Remarks 41

ECONOMICS 24/7

*The PPF and Your
Grades* 49

*Political Debates Explained
in Terms of the PPF* 52

Office Hours

*“What Purpose Does the
PPF Serve?”* 54

ECONOMICS 24/7

Disney World Ticket Prices 60

*iPods and the Law of
Demand* 64

*The Dowry and Marriage
Market Disequilibrium* 78

*When Might You Buy
More Than You Want to
Buy?* 81

*“Sorry, but This Flight Has
Been Overbooked”* 83

Office Hours

*“I Thought Prices Equalled
Costs Plus 10 Percent”* 86

ECONOMICS 24/7

*A Price Ceiling in the
Kidney Market* 95

1973 and 1979 96

*Will a Soda Tax Reduce
Obesity?* 101

*Relative Prices and Having
Children* 103

**CHAPTER 2: PRODUCTION POSSIBILITIES
FRONTIER FRAMEWORK 42****The Production Possibilities Frontier 42**

The Straight-Line PPF: Constant Opportunity Costs 42 The Bowed-Outward (Concave-Downward) PPF: Increasing Opportunity Costs 43 Law of Increasing Opportunity Costs 44 Economic Concepts in a PPF Framework 45

Specialization and Trade Can Move Us Beyond Our PPF 50

A Simple Two-Person PPF Model 50 On or Beyond the PPF? 53

Chapter Summary 55**Key Terms and Concepts 55****Video Questions and Problems 55****Questions and Problems 55****Working with Numbers and Graphs 56****CHAPTER 3: SUPPLY AND DEMAND: THEORY 57****What Is Demand? 57**

The Law of Demand 58 Four Ways to Represent the Law of Demand 58 Why Does Quantity Demanded Go Down as Price Goes Up? 59 Individual Demand Curve and Market Demand Curve 60 A Change in Quantity Demanded Versus a Change in Demand 61 What Factors Cause the Demand Curve to Shift? 63 Movement Factors and Shift Factors 66

Supply 68

The Law of Supply 68 Why Most Supply Curves Are Upward Sloping 68 Changes in Supply Mean Shifts in Supply Curves 69 What Factors Cause the Supply Curve to Shift? 70 A Change in Supply versus a Change in Quantity Supplied 72

The Market: Putting Supply and Demand Together 73

Supply and Demand at Work at an Auction 73 Moving to Equilibrium: What Happens to Price When There Is a Surplus or a Shortage? 74 Speed of Moving to Equilibrium 76 Moving to Equilibrium: Maximum and Minimum Prices 76 The Connection Between Equilibrium and Predictions 76 Equilibrium in Terms of Consumers' and Producers' Surplus 77 What Can Change Equilibrium Price and Quantity? 82

Epilogue: Who Feeds Cleveland? 84**Chapter Summary 87****Key Terms and Concepts 87****Video Questions and Problems 88****Questions and Problems 88****Working with Numbers and Graphs 89****CHAPTER 4: PRICES: FREE, CONTROLLED, AND RELATIVE 90****Price 90**

Price as a Rationing Device 90 Price as a Transmitter of Information 91

Price Controls 92

Price Ceiling 92 Price Floor: Definition and Effects 97

Two Prices: Absolute and Relative 100

Absolute (Money) Price and Relative Price 100 Taxes on Specific Goods and Relative Price Changes 102

Office Hours

*“I Thought Price
Ceilings Were Good for
Consumers”* 104

Chapter Summary 105
Key Terms and Concepts 105
Video Questions and Problems 105
Questions and Problems 105
Working with Numbers and Graphs 106

CHAPTER 5: SUPPLY, DEMAND, AND PRICE: APPLICATIONS 107

Application 1: Why Is It So Hard to Get Tickets to the Taping of *The Big Bang Theory*? 107
Application 2: Government, Easier Loans, and Housing Prices 109
Application 3: Southwest Airlines and the Price of an Aisle Seat 109
Application 4: What Will Happen to the Price of Marijuana If the Purchase and Sale of Marijuana Are Legalized? 111
Application 5: Speculators, Price Variability, and Patterns 111
Application 6: Why Is Medical Care So Expensive? 112
Application 7: Why Do Colleges Use GPAs, ACTs, and SATs for Purposes of Admission? 115
Application 8: Supply and Demand on a Freeway 116
Application 9: Are Renters Better Off? 117
Application 10: Do You Pay for Good Weather? 119
Application 11: College Superathletes 120
Application 12: 10 a.m. Classes in College 122
Application 13: Salsa, Chips, and Beer 123
Chapter Summary 125
Video Questions and Problems 126
Questions and Problems 126
Working with Numbers and Graphs 127

Office Hours

*“Doesn’t High Demand
Mean High Quantity
Demanded?”* 124

MACROECONOMICS**Part 2 Macroeconomics Fundamentals****ECONOMICS 24/7**

*Economics at the
Movies* 133

Woodstock, 1969 134

*What Was a Penny
Worth?* 137

*Information, Culture, and
Unemployment* 139

Office Hours

*“Is There More Than One
Reason the Unemployment
Rate Will Fall?”* 141

**CHAPTER 6: MACROECONOMIC MEASUREMENTS,
PART I: PRICES AND UNEMPLOYMENT 129****Measuring the Price Level 129**

Computing the Price Level Using the CPI 129 Inflation and the CPI 131 GDP Implicit Price Deflator 133 Converting Dollars from One Year to Another 133

Measuring Unemployment 135

Who Are the Unemployed? 135 The Unemployment and Employment Rates 136 Common Misconceptions About the Unemployment and Employment Rates 136 Reasons for Unemployment 137 Discouraged Workers 137 Types of Unemployment 138 The Natural Unemployment Rate and Full Employment 140 Cyclical Unemployment 140

Chapter Summary 142**Key Terms and Concepts 142****Video Questions and Problems 142**

Questions and Problems 143
Working with Numbers and Graphs 143

CHAPTER 7: MACROECONOMIC MEASUREMENTS, PART II: GDP AND REAL GDP 144

ECONOMICS 24/7

Gross Family Product 147

*Happiness and the
Economist 148*

1820 154

*GDP: Proceed with
Caution 155*

Office Hours

*“Why Do We Use the
Expenditure Approach to
Measure Production?” 160*

Gross Domestic Product 144

Calculating GDP 144 Final Goods and Intermediate Goods 145 What GDP Omits 146 GDP Is Not Adjusted for Bads Generated in the Production of Goods 146 Per Capita GDP 147 Is Either GDP or Per Capita GDP a Measure of Happiness or Well-Being? 148

The Expenditure Approach to Computing GDP for a Real-World Economy 149

Computing GDP Using the Expenditure Approach 150 Common Misconceptions About Increases in GDP 151

The Income Approach to Computing GDP for a Real-World Economy 152

Computing National Income 153 From National Income to GDP: Making Some Adjustments 154 Other National Income Accounting Measurements 156 Net Domestic Product 156 Personal Income 156 Disposable Income 157

Real GDP 157

Why We Need Real GDP 157 Computing Real GDP 158 The General Equation for Real GDP 158 What Does It Mean If Real GDP Is Higher in One Year Than in Another? 158 Real GDP, Economic Growth, and Business Cycles 159

Chapter Summary 162

Key Terms and Concepts 163

Video Questions and Problems 163

Questions and Problems 163

Working with Numbers and Graphs 164

Part 3 Macroeconomic Stability, Instability, and Fiscal Policy

CHAPTER 8: AGGREGATE DEMAND AND AGGREGATE SUPPLY 165

A Way to View the Economy 165

Aggregate Demand 166

Why Does the Aggregate Demand Curve Slope Downward? 167 An Important Word on the Three Effects 168 A Change in Quantity Demanded of Real GDP Versus a Change in Aggregate Demand 168 Changes in Aggregate Demand: Shifts in the AD Curve 170 How Spending Components Affect Aggregate Demand 171 Why Is There More Total Spending? 172 Factors That Can Change C , I , G , and NX ($EX - IM$) and Therefore Can Change AD (Shift the AD Curve) 173 Can a Change in the Money Supply Change Aggregate Demand? 177 If Consumption Rises, Does Some Other Spending Component Have to Decline? 177

Short-Run Aggregate Supply 179

Short-Run Aggregate Supply Curve: What It Is and Why It Is Upward Sloping 179 What Puts the “Short Run” in the $SRAS$ Curve? 181 Changes in Short-Run Aggregate Supply: Shifts in the $SRAS$ Curve 181 Something More to Come: Peoples’ Expectations 184

Putting AD and $SRAS$ Together: Short-Run Equilibrium 184

How Short-Run Equilibrium in the Economy Is Achieved 184 Thinking in Terms of Short-Run Equilibrium Changes in the Economy 185 An Important Exhibit 187

Long-Run Aggregate Supply 188

ECONOMICS 24/7

*Greece, Debt, Drachmas,
and Euros 178*

*Subprime Lending, House
Price Declines, and Loan
Defaults 183*

*Your First Job After College
May Depend on the AD
and $SRAS$ Curves 188*

*Reality Can Be Messy, and
Correct Predictions Can Be
Difficult to Make 190*

Office Hours

“What Purpose Does the AD–AS Framework Serve?” 191

ECONOMICS 24/7

Is Saving the Same as “Not Spending”? 198

March 11, 2011 207

If the Economy Is Removing Itself from a Recessary Gap, Where Is the Declining Price Level? 212

Office Hours

“Do Economists Really Know What the Natural Unemployment Rate Equals?” 213

ECONOMICS 24/7

The Financial and Economic Crisis of 2007–2009: Can a Housing Bust Lead to an Imploding Economy? 222

Was Keynes a Revolutionary in Economics? 225

The Economics of Spring Break 230

Going from the Short Run to the Long Run 188 Short-Run Equilibrium, Long-Run Equilibrium, and Disequilibrium 189

Chapter Summary 191**Key Terms and Concepts 192****Video Questions and Problems 193****Questions and Problems 193****Working with Numbers and Graphs 194****CHAPTER 9: CLASSICAL MACROECONOMICS AND THE SELF-REGULATING ECONOMY 195****The Classical View 195**

Classical Economists and Say’s Law 195

Classical Economists and Interest Rate Flexibility 196

Classical Economists on Prices and Wages: Both Are Flexible 198

Three States of the Economy 199

Real GDP and Natural Real GDP: Three Possibilities 199 The Labor Market and the Three States of the Economy 200 Common Misconceptions About the Unemployment Rate and the Natural Unemployment Rate 202

The Self-Regulating Economy 204

What Happens If a Self-Regulating Economy Is in a Recessary Gap? 205 What Happens If the Economy Is in an Inflationary Gap? 206 The Self-Regulating Economy: A Recap 208 Policy Implication of Believing the Economy Is Self-Regulating 208 Changes in a Self-Regulating Economy: Short Run and Long Run 209 A Recap of Classical Macroeconomics and a Self-Regulating Economy 210 Business-Cycle Macroeconomics and Economic-Growth Macroeconomics 210

Chapter Summary 214**Key Terms and Concepts 215****Video Questions and Problems 215****Questions and Problems 215****Working with Numbers and Graphs 216****CHAPTER 10: KEYNESIAN MACROECONOMICS AND ECONOMIC INSTABILITY: A CRITIQUE OF THE SELF-REGULATING ECONOMY 217****Questioning the Classical Position and the Self-Regulating Economy 217**

Keynes’s Criticism of Say’s Law in a Money Economy 218 Keynes on Wage Rates 219 Different Markets, Different Rates of Adjustment 219 Keynes on Prices 221 Is It a Question of the Time It Takes for Wages and Prices to Adjust? 223

The Simple Keynesian Model 226

Assumptions 226 The Consumption Function 226 Consumption and Saving 227 The Multiplier 228 The Multiplier and Reality 230

The Simple Keynesian Model in the AD–AS Framework 231

Shifts in the Aggregate Demand Curve 231 The Keynesian Aggregate Supply Curve 231 The Economy in a Recessary Gap 233 Government’s Role in the Economy 233 The Theme of the Simple Keynesian Model 234

The Simple Keynesian Model in the TE–TP Framework 235

Deriving a Total Expenditures (TE) Curve 235 What Will Shift the TE Curve? 237 Comparing Total Expenditures (TE) and Total Production (TP) 237 Moving from Disequilibrium to Equilibrium 238 The Economy in a Recessary Gap

Office Hours

Does a Lot Depend on Whether Wages are Flexible or Inflexible?" 242

Two Plumbers, New Year's Eve, and Progressive Taxation 250

Unemployment Compensation Benefits, Searching for Work, and the Unemployment Rate 260

Office Hours

"Is There a Looming Fiscal Crisis?" 265

ECONOMICS 24/7

English and Money 272

eBay and Match.com 275

Economics on the Yellow Brick Road 277

The FDIC and Intended and Unintended Effects 281

The Financial Crisis, Risky Loans, and Bank Insolvency 283

and the Role of Government 240 Equilibrium in the Economy 240 The Theme of the Simple Keynesian Model 241

Chapter Summary 243

Key Terms and Concepts 243

Video Questions and Problems 244

Questions and Problems 244

Working with Numbers and Graphs 245

CHAPTER 11: FISCAL POLICY AND THE FEDERAL BUDGET 246

The Federal Budget 246

Government Expenditures 246 Government Tax Revenues 247 Social Security, Medicare, and Medicaid in the Future 248 Budget Projections 248 Budget Deficit, Surplus, or Balance 250 Structural and Cyclical Deficits 251 The Public Debt 251 Valued-Added Tax 252 Tax Deductions Versus Subsidies 254

Fiscal Policy 255

Some Relevant Fiscal Policy Terms 255 Two Important Notes 255

Demand-Side Fiscal Policy 255

Shifting the Aggregate Demand Curve 255 Fiscal Policy: Keynesian Perspective (Economy Is Not Self-Regulating) 256 Crowding Out: Questioning Expansionary Fiscal Policy 257 Lags and Fiscal Policy 259 Crowding Out, Lags, and the Effectiveness of Fiscal Policy 261

Supply-Side Fiscal Policy 261

Marginal Tax Rates and Aggregate Supply 261 The Laffer Curve: Tax Rates and Tax Revenues 262 Fiscal Policy and Expectations 264

Chapter Summary 266

Key Terms and Concepts 267

Video Questions and Problems 267

Questions and Problems 267

Working with Numbers and Graphs 268

Part 4 Money, The Economy, and Monetary Policy

CHAPTER 12: MONEY, BANKING, AND THE FINANCIAL SYSTEM 269

Money: What Is It and How Did It Come to Be? 269

Money: A Definition 269 Three Functions of Money 270 From a Barter to a Money Economy: The Origins of Money 270 Money, Leisure, and Output 272

Defining the Money Supply 273

M1 273 Money Is More Than Currency 274 M2 274 Where Do Credit Cards Fit In? 275

How Banking Developed 276

The Early Bankers 276 The Bank's Reserves and More 276

The Financial System 278

Direct and Indirect Finance 279 Adverse Selection and Moral Hazard Problems 279 A Thought Experiment: No Financial Intermediaries 280 The Bank's Balance Sheet 281 A Bank's Business: Turning Liabilities into Assets 281

Chapter Summary 284

Key Terms and Concepts 285

Office Hours

“I Thought Money Had to Be Backed by Gold to Have Value” 283

ECONOMICS 24/7

Inside an FOMC Meeting 289

Some History of the Fed 291

Flying in with the Money³ 299

Office Hours

“Can Something I Do End Up Changing the Money Supply?” 301

ECONOMICS 24/7

The California Gold Rush, or Really Expensive Apples 311

Grade Inflation: It’s All Relative 321

Hyperinflation 324

Office Hours

“What Is the Current Expected Inflation Rate?” 331

Video Questions and Problems 285

Questions and Problems 285

Working with Numbers and Graphs 286

CHAPTER 13: THE FEDERAL RESERVE SYSTEM 287

The Structure and Functions of the Federal Reserve System (the Fed) 287

The Structure of the Fed 287 Functions of the Fed 288 Common Misconceptions About the U.S. Treasury and the Fed 290

The Money Supply Expansion Process 291

A Quick Review of Reserves, Required Reserves, and Excess Reserves 291 The Money Supply Expansion Process 292 The Money Supply Contraction Process 295

Other Fed Tools and Recent Fed Actions 296

The Required Reserve Ratio 296 The Discount Window and the Federal Funds Market 297 The Fed and the Federal Funds Rate Target 297 Dealing with a Financial Crisis 298

What Is Free Banking? 299

Chapter Summary 301

Key Terms and Concepts 302

Video Questions and Problems 302

Questions and Problems 303

Working with Numbers and Graphs 303

APPENDIX C: THE MARKET FOR RESERVES (OR THE FEDERAL FUNDS MARKET) 304

The Demand for Reserves 304

The Supply of Reserves 305

Two Different Supply Curves for Reserves 305

The Corridor and Changing the Federal Funds Rate 307

CHAPTER 14: MONEY AND THE ECONOMY 308

Money and the Price Level 308

The Equation of Exchange 308 From the Equation of Exchange to the Simple Quantity Theory of Money 309 The Simple Quantity Theory of Money in an $AD-AS$ Framework 311 Dropping the Assumptions that V and Q Are Constant 313

Monetarism 314

The Four Monetarist Positions 314 Monetarism and $AD-AS$ 315 The Monetarist View of the Economy 317

Inflation 317

One-Shot Inflation 318 Continued Inflation 320 Can You Get Rid of Inflation with Price Controls? 323

Money and Interest Rates 325

What Economic Variables Does a Change in the Money Supply Affect? 325 The Money Supply, the Loanable Funds Market, and Interest Rates 326 What Happens to the Interest Rate as the Money Supply Changes? 329 The Nominal and Real Interest Rates 330

Chapter Summary 331

Key Terms and Concepts 332

ECONOMICS 24/7

The Fed Can't Always Be Sure Banks Will Lend **344**

Monetary Policy and Blue Eyes **346**

Who Gets the Money First, and What Happens to Relative Prices? **349**

Office Hours

"Does Monetary Policy Always Have the Same Effects?" **353**

Video Questions and Problems 332

Questions and Problems 333

Working with Numbers and Graphs 333

CHAPTER 15: MONETARY POLICY 335

Transmission Mechanisms 335

The Money Market in the Keynesian Transmission Mechanism 335 The Keynesian Transmission Mechanism: Indirect 336 The Keynesian Mechanism May Get Blocked 337 The Monetarist Transmission Mechanism: Direct 340

Monetary Policy and the Problem of Inflationary and Recessionary Gaps 341

A Different View of the Economy: Patterns of Sustainable Specialization and Trade (PSST) 343 Monetary Policy and the Activist–Nonactivist Debate 345 The Case for Activist (or Discretionary) Monetary Policy 346 The Case for Nonactivist (Rules-Based) Monetary Policy 347

Nonactivist Monetary Proposals 349

Constant-Money-Growth-Rate Rule 349 Predetermined-Money-Growth-Rate Rule 350 The Fed and the Taylor Rule 350 Inflation Targeting 351 Nominal GDP Targeting 351

Chapter Summary 354

Key Terms and Concepts 354

Video Questions and Problems 355

Questions and Problems 355

Working with Numbers and Graphs 356

APPENDIX D: BOND PRICES AND THE INTEREST RATE 357

Part 5 Expectations and Growth

ECONOMICS 24/7

Deficits, Money, Expectations, and Unintended Effects **375**

The Money Supply, an Increase in Productivity, and What You Think **376**

Office Hours

"Does New Classical Theory Call the Effects of Fiscal and Monetary Policy into Question?" **380**

CHAPTER 16: EXPECTATIONS THEORY AND THE ECONOMY 360

Phillips Curve Analysis 360

The Phillips Curve 360 Samuelson and Solow: The Americanization of the Phillips Curve 361

The Controversy Begins: Are There Really Two Phillips Curves? 362

Things Aren't Always as We Think 362 Friedman and the Natural Rate Theory 363 How Do People Form Their Expectations? 365

Rational Expectations and New Classical Theory 366

Rational Expectations 366 Do People Really Anticipate Policy? 367 Price Level Expectations and the *SRAS* Curve 368 Expected and Actual Price Levels 369 New Classical Economics and Four Different Cases 370 Comparing Exhibits 9 and 10 376

New Keynesians and Rational Expectations 377

Looking at Things from the Supply Side: Real Business Cycle Theorists 378

Chapter Summary 381

Key Terms and Concepts 382

Video Questions and Problems 382

Questions and Problems 382

Working with Numbers and Graphs 383

ECONOMICS 24/7*Growth and Morality* 390*Economic Freedom and Growth Rates* 395*Religious Beliefs and Economic Growth* 396**Office Hours***“What Is the Difference Between Business Cycle Macroeconomics and Economic Growth Macroeconomics?”* 398**CHAPTER 17: ECONOMIC GROWTH: RESOURCES, TECHNOLOGY, IDEAS, AND INSTITUTIONS 384****A Few Basics About Economic Growth 384**

Do Economic Growth Rates Matter? 384

A Production Function and Economic Growth 386The Graphical Representation of the Production Function 386 From the Production Function to the *LRAS* Curve 388 Emphasis on Labor 388 Emphasis on Capital 390 Emphasis on Other Resources: Natural Resources and Human Capital 392 Emphasis on the Technology Coefficient and Ideas 392 Discovery and Ideas 393 Expanding Our Horizons 393 Institutions Matter 394**Chapter Summary 399****Key Terms and Concept 399****Video Questions and Problems 399****Questions and Problems 400****Working with Numbers and Graphs 400****Part 6 The Financial Crisis of 2007–2009****CHAPTER 18: THE FINANCIAL CRISIS OF 2007–2009 402****Recent Economic Events 402****The Financial Crisis as a Balance Sheet Problem 403**

Which Assets Were Risky? 404 Three Questions 405

The Fed, Interest Rates, and Housing Prices 406

The Global Savings Glut and Low Interest Rates 406 Our Story So Far 407

The Taylor Rule and Interest Rates 408

Alan Greenspan Responds 409 Rising House Prices, Delinquency Rates, and Foreclosures 410

The Politics of Housing 411

The Community Reinvestment Act 411

Fannie Mae and Freddie Mac 412**The Role of Leverage and Regulatory Capital Arbitrage 412**

Leverage 412 Regulatory Capital Arbitrage 413 Where We Are So Far 416 House Prices Decline 416 Domino Effects 417 How the Real Sector Affects the Financial Sector 417 The Government Response 418 The Great Recession 418

Chapter Summary 422**Key Terms and Concepts 423****Video Questions and Problems 423****Questions and Problems 424****Working with Numbers and Graphs 424****Part 7 Government and the Economy****CHAPTER 19: DEBATES IN MACROECONOMICS OVER THE ROLE AND EFFECTS OF GOVERNMENT 425****Macroeconomics and Government: The Debate 425****Tax Cuts, Tax Revenue, and Budget Deficits 426**

ECONOMICS 24/7

*What Does a Stimulus Bill
Look Like?* 431

Office Hours

*“What Kinds of Debates
Do Macroeconomists
Have?”* 436

- The Economy: Self-Regulating or Not?** 427
- More Government Spending or a Cut in Taxes: Which Gives a Bigger Bang for the Buck?** 427
- More Government Spending or a Cut in Taxes: The Size and Scope of Government** 428
- The Degree of Crowding Out** 429
- The Politics of Government Spending** 429
- Monetary Policy: Rules Versus Discretion** 430
- Bailouts** 432
- Demand-Side and Supply-Side Views of the Economy and Government Tools to Change Real GDP** 433
- Chapter Summary** 437
- Key Terms and Concepts** 438
- Video Questions and Problems** 438
- Questions and Problems** 438
- Working with Numbers and Graphs** 439

MICROECONOMICS**Part 8 Microeconomic Fundamentals****ECONOMICS 24/7**

Drug Busts and Crime 448

*Elasticity and the Issue of
How Much?* 449

*Mad Men and Price
Elasticity of Demand* 454

*House Prices and the
Elasticity of Supply* 459

Office Hours

*“What Is the Relationship
Between Different Price
Elasticities of Demand and
Total Revenue?”* 464

CHAPTER 20: ELASTICITY 441**Elasticity: Part 1 441**

Price Elasticity of Demand 441 Elasticity Is Not Slope 443 From Perfectly Elastic to Perfectly Inelastic Demand 443 Price Elasticity of Demand and Total Revenue (Total Expenditure) 446 Elastic Demand and Total Revenue 446

Elasticity: Part 2 451

Price Elasticity of Demand Along a Straight-Line Demand Curve 451 Determinants of Price Elasticity of Demand 452

Other Elasticity Concepts 455

Cross Elasticity of Demand 455 Income Elasticity of Demand 456 Price Elasticity of Supply 457 Price Elasticity of Supply and Time 460

The Relationship Between Taxes and Elasticity 460

Who Pays the Tax? 460 Elasticity and the Tax 461 Degree of Elasticity and Tax Revenue 462

Chapter Summary 464**Key Terms and Concepts 465****Video Questions and Problems 466****Questions and Problems 466****Working with Numbers and Graphs 467****CHAPTER 21: CONSUMER CHOICE: MAXIMIZING UTILITY AND BEHAVIORAL ECONOMICS 468****Utility Theory 468**

Utility: Total and Marginal 468 Law of Diminishing Marginal Utility 469 The Solution to the Diamond-Water Paradox 471

Consumer Equilibrium and Demand 473

ECONOMICS 24/7

Why Did I Buy the Gym Membership? 472

How You Pay for Good Weather 475

Do Rats Maximize Utility? 476

Which Is Better: A Tax Rebate or a Tax Bonus? 478

\$40 and Two People 481

Office Hours

“Is There an Indirect Way of Proving the Law of Diminishing Marginal Utility?” 483

ECONOMICS 24/7

High School Students, Staying Out Late, and More 506

What Matters to Global Competitiveness? 513

Producing a Grade in a College Course 515

Adding One More Person to a Caribbean Cruise 517

Office Hours

“What Is the Difference Between the Law of Diminishing Marginal Returns and Diseconomies of Scale?” 522

Equating Marginal Utilities per Dollar 473 Maximizing Utility and the Law of Demand 474 Should the Government Provide the Necessities of Life for Free? 474

Behavioral Economics 477

Are People Willing to Reduce Others' Incomes? 477 Is \$1 Always \$1? 477 Coffee Mugs and the Endowment Effect 479 Does the Endowment Effect Hold Only for New Traders? 480 Framing 481 Neuroeconomics 482

Chapter Summary 484**Key Terms and Concepts 485****Video Questions and Problems 485****Questions and Problems 485****Working with Numbers and Graphs 486****APPENDIX E: BUDGET CONSTRAINT AND INDIFFERENCE CURVE ANALYSIS 487****The Budget Constraint 487****Indifference Curves 488****The Indifference Map And The Budget Constraint Come Together 492****From Indifference Curves to a Demand Curve 493****CHAPTER 22: PRODUCTION AND COSTS 495****Why Firms Exist 495**

The Market and the Firm: Invisible Hand Versus Visible Hand 495 The Alchian and Demsetz Answer 496 Shirking in a Team 496 Ronald Coase on Why Firms Exist 497 Markets: Outside and Inside the Firm 497 Two Sides to Every Business Firm 498 More on Total Cost 498 Accounting Profit Versus Economic Profit 499 Zero Economic Profit Is Not as Bad as It Sounds 499

Production 500

Common Misconception About the Short Run and Long Run 501 Production in the Short Run 501 Whose Marginal Productivity Are We Talking About? 502 Marginal Physical Product and Marginal Cost 503 Average Productivity 505 Costs of Production: Total, Average, Marginal 507 The *AVC* and *ATC* Curves in Relation to the *MC* Curve 509 Tying Short-Run Production to Costs 512 One More Cost Concept: Sunk Cost 514

Production and Costs in the Long Run 518

Long-Run Average Total Cost Curve 518 Economies of Scale, Diseconomies of Scale, and Constant Returns to Scale 519 Why Economies of Scale? 520 Why Diseconomies of Scale? 520 Minimum Efficient Scale and Number of Firms in an Industry 521 Shifts in Cost Curves 521 Taxes 521 Input Prices 521 Technology 521

Chapter Summary 523**Key Terms and Concepts 523****Video Questions and Problems 524****Questions and Problems 524****Working with Numbers and Graphs 525****Part 9 Product Markets and Policies****CHAPTER 23: PERFECT COMPETITION 526****The Theory of Perfect Competition 526**

A Perfectly Competitive Firm Is a Price Taker 527 The Demand Curve for a Perfectly Competitive Firm Is Horizontal 527 Common Misconceptions About Demand Curves 528

ECONOMICS 24/7

Joe DiMaggio, Larry Doby, Willie Stargell, and Ted Williams Stamps 537

Executive Pay and Corporate Jets 538

Is it “Sellers Against Buyers” or “Sellers Against Sellers”? 546

How Is High-Quality Land like a Genius Software Engineer? 547

Office Hours

“Do You Have to Know the $MR = MC$ Condition to Be Successful in Business?” 549

ECONOMICS 24/7

Monopoly and the Boston Tea Party 556

Rent Seeking and Real Estate Commissions 566

Religion and Monopoly 567

Why Do District Attorneys Plea-Bargain? 569

Do Colleges and Universities Price Discriminate? 571

Buying a Computer and Getting a Printer for \$100 Less Than the Retail Price 572

Office Hours

“Does the Single-Price Monopolist Lower Price Only on the Additional Unit?” 573

The Marginal Revenue Curve of a Perfectly Competitive Firm Is the Same as Its Demand Curve 529 Theory and Real-World Markets 529

Perfect Competition in the Short Run 530

What Level of Output Does the Profit-Maximizing Firm Produce? 530 The Perfectly Competitive Firm and Resource Allocative Efficiency 531 To Produce or Not to Produce: That Is the Question 532 Common Misconceptions over the Shutdown Decision 534 The Perfectly Competitive Firm’s Short-Run Supply Curve 535 From Firm to Market (Industry) Supply Curve 535 Why Is the Market Supply Curve Upward Sloping? 538

Perfect Competition in the Long Run 539

The Conditions of Long-Run Competitive Equilibrium 539 The Perfectly Competitive Firm and Productive Efficiency 541 Industry Adjustment to an Increase in Demand 541 Profit from Two Perspectives 544 Industry Adjustment to a Decrease in Demand 545 Differences in Costs, Differences in Profits: Now You See It, Now You Don’t 545 Profit and Discrimination 547

Topics for Analysis in the Theory of Perfect Competition 548

Do Higher Costs Mean Higher Prices? 548 Will the Perfectly Competitive Firm Advertise? 549 Supplier-Set Price Versus Market-Determined Price: Collusion or Competition? 549

Chapter Summary 550**Key Terms and Concepts 551****Video Questions and Problems 551****Questions and Problems 552****Working with Numbers and Graphs 552****CHAPTER 24: MONOPOLY 554****The Theory of Monopoly 554**

Barriers to Entry: A Key to Understanding Monopoly 554 What Is the Difference Between a Government Monopoly and a Market Monopoly? 556

Monopoly Pricing and Output Decisions 557

The Monopolist’s Demand and Marginal Revenue 557 The Monopolist’s Demand and Marginal Revenue Curves Are Not the Same 558 Price and Output for a Profit-Maximizing Monopolist 558 Comparing the Demand Curve in Perfect Competition with the Demand Curve in Monopoly 560 If a Firm Maximizes Revenue, Does It Automatically Maximize Profit Too? 560

Perfect Competition and Monopoly 562

Price, Marginal Revenue, and Marginal Cost 562 Monopoly, Perfect Competition, and Consumers’ Surplus 562 Monopoly or Nothing? 563

The Case Against Monopoly 564

The Deadweight Loss of Monopoly 564 Rent Seeking 565 X-Inefficiency 567

Price Discrimination 567

Types of Price Discrimination 568 Why a Monopolist Wants to Price Discriminate 568 Conditions of Price Discrimination 568 About Price Discrimination: Does Your Lower Price Mean My Higher Price? 568 Moving to $P = MC$ Through Price Discrimination 570 Coupons and Price Discrimination 570

Chapter Summary 574**Key Terms and Concepts 574****Video Questions and Problems 574**

Questions and Problems 574
Working with Numbers and Graphs 575

CHAPTER 25: MONOPOLISTIC COMPETITION, OLIGOPOLY, AND GAME THEORY

ECONOMICS 24/7

The People Wear Prada 580

How Is a New Year's Resolution Like a Cartel Agreement? 584

Grade Inflation at College 593

Office Hours

"Are Firms (as Sellers) Price Takers or Price Searchers?" 596

The Theory of Monopolistic Competition 576

The Monopolistic Competitor's Demand Curve 576 The Relationship Between Price and Marginal Revenue for a Monopolistic Competitor 577 Output, Price, and Marginal Cost for the Monopolistic Competitor 577 Will There Be Profits in the Long Run? 577 Excess Capacity: What Is It, and Is It "Good" or "Bad"? 578 The Monopolistic Competitor and Two Types of Efficiency 579

Oligopoly: Assumptions and Real-World Behavior 580

The Concentration Ratio 581

Price and Output Under the Cartel Theory 581

The Cartel Theory 581

Game Theory, Oligopoly, and Contestable Markets 584

Prisoner's Dilemma 585 Oligopoly Firms' Cartels and the Prisoner's Dilemma 587 Are Markets Contestable? 588 Necessary and Sufficient Conditions and Efficiency 589

A Review of Market Structures 589

Applications of Game Theory 590

Grades and Partying 590 The Arms Race 592 Speed Limit Laws 592 Global Warming, Climate Change, and Prisoner's Dilemma 593 The Fear of Guilt as an Enforcement Mechanism 594

Chapter Summary 597

Key Terms and Concepts 597

Video Questions and Problems 597

Questions and Problems 598

Working with Numbers and Graphs 598

CHAPTER 26: GOVERNMENT AND PRODUCT MARKETS: ANTITRUST AND REGULATION 599

ECONOMICS 24/7

Thomas Edison and Hollywood 601

E-books, Apple, and Amazon 604

High-Priced Ink Cartridges and Expensive Minibars 607

Macs, PCs, and People Who Are Different 608

Office Hours

"What Is the Advantage of the Herfindahl Index?" 614

Antitrust 599

Antitrust Acts 599 Unsettled Points in Antitrust Policy 602 Antitrust and Mergers 605 Common Misconceptions About Antitrust Policy 606 Network Monopolies 606

Regulation 609

The Case of Natural Monopoly 609 Regulating the Natural Monopoly 609 Regulating Industries That Are Not Natural Monopolies 611 Theories of Regulation 612 The Costs and Benefits of Regulation 612 Some Effects of Regulation Are Unintended 613 Deregulation 613

Chapter Summary 615

Key Terms and Concepts 616

Video Questions and Problems 616

Questions and Problems 616

Working with Numbers and Graphs 617

Part 10 Factor Markets and Related Issues

ECONOMICS 24/7

Why Jobs Don't Always Move to a Low-Wage Country 626

Adam Smith's Philosopher and Street Porter 629

The Wage Rate for a Street-Level Pusher in a Drug Gang 634

It's a Party Every Night 635

Who Pays the Social Security Tax? 636

Office Hours

"Why Do Economists Think in Twos?" 638

ECONOMICS 24/7

Technology, the Price of Competing Factors, and Displaced Workers 647

Are You Ready for Some Football? 652

Office Hours

"Don't Higher Wages Reduce Profits?" 654

CHAPTER 27: FACTOR MARKETS: WITH EMPHASIS ON THE LABOR MARKET 618

Factor Markets 618

The Demand for a Factor 618 Marginal Revenue Product: Two Ways to Calculate It 619 The *MRP* Curve Is the Firm's Factor Demand Curve 619 Value Marginal Product 620 An Important Question: Is $MRP = VMP$? 621 Marginal Factor Cost: The Firm's Factor Supply Curve 622 How Many Units of a Factor Should a Firm Buy? 623 When There Is More Than One Factor, How Much of Each Factor Should the Firm Buy? 623

The Labor Market 624

Shifts in a Firm's *MRP*, or Factor Demand, Curve 625 Market Demand for Labor 626 The Elasticity of Demand for Labor 627 Market Supply of Labor 628 An Individual's Supply of Labor 629 Shifts in the Labor Supply Curve 630 Putting Supply and Demand Together 631 Why Do Wage Rates Differ? 631 Why Demand and Supply Differ Among Labor Markets 632 Why Did You Choose Your Major? 633 Marginal Productivity Theory 634

Labor Markets and Information 637

Screening Potential Employees 637 Promoting from Within 637 Discrimination or an Information Problem? 637

Chapter Summary 639

Key Terms and Concepts 639

Video Questions and Problems 639

Questions and Problems 640

Working with Numbers and Graphs 640

CHAPTER 28: WAGES, UNIONS, AND LABOR 642

Objectives of Labor Unions 642

Employment for All Members 642 Maximizing the Total Wage Bill 642 Maximizing Income for a Limited Number of Union Members 643 Wage–Employment Trade-Off 643

Practices of Labor Unions 644

Affecting Elasticity of Demand for Union Labor 644 Affecting the Demand for Union Labor 645 Affecting the Supply of Union Labor 645 Affecting Wages Directly: Collective Bargaining 646 Strikes 647

Effects of Labor Unions 648

The Case of Monopsony 648 Unions' Effects on Wages 649 Unions' Effects on Prices 651 Unions' Effects on Productivity and Efficiency: Two Views 651

Chapter Summary 655

Key Terms and Concepts 655

Video Questions and Problems 655

Questions and Problems 656

Working with Numbers and Graphs 656

CHAPTER 29: THE DISTRIBUTION OF INCOME AND POVERTY 657

Some Facts About Income Distribution 657

Who Are the Rich, and How Rich Are They? 657 The Effect of Age on the Income Distribution 658 A Simple Equation 660

ECONOMICS 24/7

Statistics Can Mislead If You Don't Know How They Are Made **661**

Winner-Take-All Markets **666**

Office Hours

Are the Number of Persons in Each Fifth the Same? **671**

ECONOMICS 24/7

Is the Car Worth Buying? **679**

Investment, Present Value, and Interest Rates **680**

Grain Prices and Land Rent **682**

Office Hours

"How Is Present Value Used in the Courtroom?" **690**

Measuring Income Equality 661

The Lorenz Curve 661 The Gini Coefficient 662 A Limitation of the Gini Coefficient 664 Common Misconceptions About Income Inequality 664

Why Income Inequality Exists 665

Factors Contributing to Income Inequality 665 Income Differences: Some Are Voluntary, Some Are Not 668

Poverty 669

What Is Poverty? 669 Limitations of the Official Poverty Income Statistics 669 Who Are the Poor? 670 What Is the Justification for Government Redistributing Income? 670

Chapter Summary 672**Key Terms and Concepts 673****Video Questions and Problems 673****Questions and Problems 673****Working with Numbers and Graphs 673****CHAPTER 30: INTEREST, RENT, AND PROFIT 674****Interest 674**

Loanable Funds: Demand and Supply 674 The Price for Loanable Funds and the Return on Capital Goods Tend to Equality 676 Why Do Interest Rates Differ? 676 Nominal and Real Interest Rates 677 Present Value: What Is Something Tomorrow Worth Today? 678

Rent 681

David Ricardo, the Price of Grain, and Land Rent 681 The Supply Curve of Land Can Be Upward Sloping 683 Economic Rent and Other Factors of Production 683 Economic Rent and Baseball Players: Perspective Matters 684 Competing for Artificial and Real Rents 684 Do People Overestimate Their Worth to Others, or Are They Simply Seeking Economic Rent? 685

Profit 685

Theories of Profit 685 Profit and Loss as Signals 687

The Entrepreneur 687

A Market 688 How Can the Entrepreneur Increase Trade? 688 Turning Potential Trades into Actual Trades 688 A Necessary Condition: Turning Potential Trades into Actual Trades in a Way That Is Acceptable to Consumers 689 Can Increasing Trades in One Area Reduce Trades in Another? 689 Entrepreneurs and No \$10 Bills on the Sidewalks 689 Uncertainty and the Entrepreneur 690

Chapter Summary 691**Key Terms and Concepts 692****Video Questions and Problems 692****Questions and Problems 692****Working with Numbers and Graphs 693****Part 11 Market Failure, Public Choice, and Special-Interest-Group Politics****CHAPTER 31: MARKET FAILURE: EXTERNALITIES, PUBLIC GOODS, AND ASYMMETRIC INFORMATION 694****Externalities 694**

Costs and Benefits of Activities 694 Marginal Costs and Benefits of Activities 695 Social Optimality, or Efficiency, Conditions 696 Three Categories of Activities 696

ECONOMICS 24/7

Switching Costs and Market Failure (Maybe) 697

“They Paved Paradise and Put Up a Parking Lot” 710

The Right Amount of National Defense 711

Arriving Late to Class, Grading on a Curve, and Studying Together for the Midterm 716

Office Hours

“Doesn’t It Seem Wrong to Let Some Business Firms Pay to Pollute?” 717

ECONOMICS 24/7

A Simple Majority Voting Rule: The Case of the Statue in the Public Square 724

Economic Illiteracy and Democracy 727

Inheritance, Heirs, and Why the Firstborn Became King or Queen 735

Office Hours

“Doesn’t Public Choice Paint a Bleak Picture of Politics and Government?” 737

Externalities in Consumption and in Production 696 Diagram of a Negative Externality 696 Diagram of a Positive Externality 698

Internalizing Externalities 700

Persuasion 700 Taxes and Subsidies 700 Assigning Property Rights 701 Voluntary Agreements 701 Combining Property Rights Assignments and Voluntary Agreements 702 Beyond Internalizing: Setting Regulations 703

Dealing with a Negative Externality in the Environment 703

Earth’s Temperature and Global Warming 703 What Is Global Warming, and What Controversies Do and Do Not Surround It? 704 Environmental Policy 705 Similarities and Differences Between Emission Taxes and Tradable Pollution Permits 707

Public Goods: Excludable and Nonexcludable 708

Goods 708 The Free Rider 709 Nonexcludable Versus Nonrivalrous 711

Asymmetric Information 712

Asymmetric Information in a Product Market 712 Asymmetric Information in a Factor Market 713 Is There Market Failure? 713 Adverse Selection 714 Moral Hazard 715

Chapter Summary 718**Key Terms and Concepts 719****Video Questions and Problems 719****Questions and Problems 720****Working with Numbers and Graphs 720****CHAPTER 32: PUBLIC CHOICE AND SPECIAL INTEREST-GROUP POLITICS 721****Public Choice Theory 721****The Political Market 722**

Moving Toward the Middle: The Median Voter Model 722 What Does the Theory Predict? 723

Voters and Rational Ignorance 725

The Costs and Benefits of Voting 725 Rational Ignorance 726

More About Voting 728

Example 1: Voting for a Nonexcludable Public Good 728 Example 2: Voting and Efficiency 729

Special Interest Groups 730

Information and Lobbying Efforts 730 Congressional Districts as Special Interest Groups 731 Public Interest Talk, Special Interest Legislation 731 Rent Seeking 732 Bringing About Transfers 733 Information, Rational Ignorance, and Seeking Transfers 733

Constitutional Economics 736**Chapter Summary 738****Key Terms and Concepts 739****Video Questions and Problems 739****Questions and Problems 739****Working with Numbers and Graphs 740****Part 12 Economics Theory-Building and Everyday Life****CHAPTER 33: BUILDING THEORIES TO EXPLAIN EVERYDAY LIFE: FROM OBSERVATIONS TO QUESTIONS TO THEORIES TO PREDICTIONS 741****A Different Kind of Chapter 741****The Process 742**

Office Hours*“Can Anyone Build a Theory?”* **760****Observation 1: The Birth Rates in Various Countries Are Different 743**

The Question 743 The Theory 743 The Predictions 743 A Detour: The Issue of Falsifiability (Refutability) 743

Observation/Thought 2: The Ethical Code of People Who Live in a Small Town Is Different from That of People Who Live in a Large City 744

The Question 744 The Theory 745 The Predictions 745

Observation/Thought 3: The Closer the Dollar Tuition the Student Pays Is to the Equilibrium Tuition, the More on Time and Responsive University Instructors Will Be for Office Hours 746

The Question 746 The Theory 746 The Predictions 747

Observation/Thought 4: Criminals Are Not Rational 748

The Question 748 The Theory 748 The Predictions 749 A Detour: Does Evidence Prove a Theory Correct? 749 Another Detour: After You Have One Theory That Explains and Predicts, Search for Another 750 A Final Detour: Why Prediction Is So Important, or Why Good-Sounding Stories Are Not Enough 751

Observation 5: More Students Wear Baseball Caps in Class on Exam Days Than on Other Days 752

The Question 752 The Theory 752 The Predictions 752

Observation 6: Houses in “Good” School Districts Are Often More Expensive Than Comparable Houses in “Bad” School Districts 753

The Question 753 The Theory 753 The Predictions 754

Observation/Thought 7: Are People Better Off with or Without Health Care Vouchers? 755

The Question 755 The Theory 755 The Predictions 756

Observation 8: People Who Give to Others Often Complain That They End Up Giving Too Much 756

The Question 756 The Theory 756 The Predictions 758

Chapter Summary 760**Video Questions and Problems 762****Questions and Problems 762****Working with Numbers and Graphs 762****THE GLOBAL ECONOMY****Part 13 International Economics and Globalization****ECONOMICS 24/7***Dividing the Work* **766***You’re Getting Better Because Others Are Getting Better* **768***Offshore Outsourcing, or Offshoring* **774***Which Goods Are Likely to Be Offshored?* **776****CHAPTER 34: INTERNATIONAL TRADE 763****International Trade Theory 763**

How Countries Know What to Trade 764 A Common Misconception About How Much We Can Consume 767 How Countries Know When They Have a Comparative Advantage 767

Trade Restrictions 769

The Distributional Effects of International Trade 769 Consumers’ and Producers’ Surpluses 769 The Benefits and Costs of Trade Restrictions 770 Why Nations Sometimes Restrict Trade 773

Chapter Summary 778**Key Terms and Concepts 779****Video Questions and Problems 779**

Office Hours

“Should We Impose Tariffs If They Impose Tariffs?” 777

ECONOMICS 24/7

The U.S. Dollar as the Primary Reserve Currency 787

Chinese Imports and the U.S. Economy 789

The European Debt Crisis and the Euro 795

Office Hours

“Why Is the Depreciation of One Currency Tied to the Appreciation of Another?” 796

ECONOMICS 24/7

Should You Leave a Tip? 801

Proper Business Etiquette Around the World 808

Will Globalization Change the Sound of Music? 812

How Hard Will It Be to Get into Harvard in 2025? 818

Office Hours

“Why Do Some People Favor Globalization and Others Do Not?”

Questions and Problems 779

Working with Numbers and Graphs 780

CHAPTER 35: INTERNATIONAL FINANCE 781

The Foreign Exchange Market 781

The Demand for Goods 781 The Demand for and Supply of Currencies 782

Flexible Exchange Rates 783

The Equilibrium Exchange Rate 783 Changes in the Equilibrium Exchange Rate 783 Factors That Affect the Equilibrium Exchange Rate 784

Fixed Exchange Rates 788

Fixed Exchange Rates and Overvalued/Undervalued Currency 788 What Is So Bad About an Overvalued Dollar? 790 Government Involvement in a Fixed Exchange Rate System 790 Options Under a Fixed Exchange Rate System 791

Fixed Exchange Rates Versus Flexible Exchange Rates 792

Promoting International Trade 792 Optimal Currency Areas 793

Chapter Summary 797

Key Terms and Concepts 797

Video Questions and Problems 797

Questions and Problems 798

Working with Numbers and Graphs 798

CHAPTER 36: GLOBALIZATION AND INTERNATIONAL IMPACTS ON THE ECONOMY 799

What Is Globalization? 799

A Smaller World 799 A World Economy 800

Two Ways to See Globalization 800

No Barriers 801 A Union of States 802

Globalization Facts 802

International Trade 802 Globalization Indices 803

The Movement Toward Globalization 807

The End of the Cold War 807 Advancing Technology 807 Policy Changes 809

Benefits and Costs of Globalization 809

The Benefits 809 The Costs 811

The Continuing Globalization Debate 813

More or Less Globalization: A Tug of War? 813

Less Globalization 814 More Globalization 814

International Factors and Aggregate Demand 815

Net Exports 815 The J-Curve 816

International Factors and Aggregate Supply 819

Foreign Input Prices 819 Why Foreign Input Prices Change 819

Factors That Affect Both Aggregate Demand and Aggregate Supply 820

The Exchange Rate 820 The Role That Interest Rates Play 821

Deficits: International Effects and Domestic Feedback 822

The Budget Deficit and Expansionary Fiscal Policy 822 The Budget Deficit and Contractionary Fiscal Policy 824 The Effects of Monetary Policy 824

Chapter Summary 827

Key Terms and Concepts 828

Video Questions and Problems 828
Questions and Problems 828
Working with Numbers and Graphs 829

WEB CHAPTERS

ECONOMICS 24/7

Culture as a Public Good 837

Office Hours

"I'm No Longer Sure What I Think." 847

ECONOMICS 24/7

Are Some Economists Poor Investors? 855

\$1.3 Quadrillion 861

What Do Private Equity Firms Do? 865

Office Hours

"I Have Three Questions." 867

CHAPTER 37: THE ECONOMIC CASE FOR AND AGAINST GOVERNMENT: FIVE TOPICS CONSIDERED 830

Economics and Government 830

The Economic Case for Government 831

Government Can Remove Individuals from a Prisoner's Dilemma Setting 831
 Externalities 835 Nonexcludable Public Goods 836 The Case for Smaller or Larger Government 838

The Economic Case Against Government 838

Unintended Effects of Government Actions 838 Government as Transfer Mechanism 841
 Economic Growth Versus Transfers 843 Following the Leader in Pushing for Transfers 845
 Divisive Society: A Nonexcludable Public Bad 846

Chapter Summary 848

Key Terms and Concepts 849

Video Questions and Problems 849

Questions and Problems 849

Working with Numbers and Graphs 850

CHAPTER 38: STOCKS, BONDS, FUTURES, AND OPTIONS 851

Financial Markets 851

Stocks 851

Where Are Stocks Bought and Sold? 852 The Dow Jones Industrial Average (DJIA) 852 How the Stock Market Works 854 Why Do People Buy Stock? 855 How to Buy and Sell Stock 856 Buying Stocks or Buying the Market 856 How to Read the Stock Market Page 857

Bonds 859

The Components of a Bond 859 Bond Ratings 860 Bond Prices and Yields (or Interest Rates) 860 Common Misconceptions About the Coupon Rate and Yield (Interest Rate) 861 Types of Bonds 862 How to Read the Bond Market Page 862 Risk and Return 863

Futures and Options 864

Futures 864 Options 866

Chapter Summary 868

Key Terms and Concepts 869

Video Questions and Problems 869

Questions and Problems 869

Working with Numbers and Graphs 869

CHAPTER 39: AGRICULTURE: PROBLEMS, POLICIES, AND UNINTENDED EFFECTS 870

Agriculture: The Issues 870

A Few Facts 870 Agriculture and Income Inelasticity 871 Agriculture and Price Inelasticity 872
 Price Variability and Futures Contracts 873 Can Bad Weather Be Good for Farmers? 873

ECONOMICS 24/7

*The Politics of
Agriculture* 877

Office Hours

*“Why Don’t Farmers Agree
to Cut Back Output?”* 878

Agricultural Policies 874

Price Supports 874 Restricting Supply 875 Target Prices and Deficiency
Payments 876 Production Flexibility Contract Payments, (Fixed) Direct Payments, and
Countercyclical Payments 877 Nonrecourse Commodity Loans 878

Chapter Summary 879

Key Terms and Concepts 879

Video Questions and Problems 880

Questions and Problems 880

Working with Numbers and Graphs 880

Self-Test Appendix 831

Glossary 858

Index 869

Ever wonder why you have the number of friends that you do? . . . If a tax on soda would really reduce obesity? . . . What is going on with the financial problems in Greece? . . . or whether a tax rebate is better than a tax bonus? **ECONOMICS** answers these questions and many more. Using intriguing pop culture examples, the eleventh edition is revised to include the most comprehensive coverage of the financial and economic crisis available in a principles of economics text. Self-tests help determine how well you're grasping the concepts, and CourseMate for Economics offers a graphing tutorial, quizzes, videos, and more. It's all carefully designed to help you get the best grade possible!

ECONOMICS, 11e continues to set the standard for thoroughly updated content and applications. An entirely new chapter has been added to the eleventh edition—“Building Theories to Explain Everyday Life: From Observations to Questions to Theories to Predictions.” This chapter is designed to demonstrate with interesting, everyday examples how economists build and test theories. Providing invaluable insight into “how economists think” while relating concepts to ideas you can easily reference from your life, this chapter is a unique perspective in the economics curriculum.

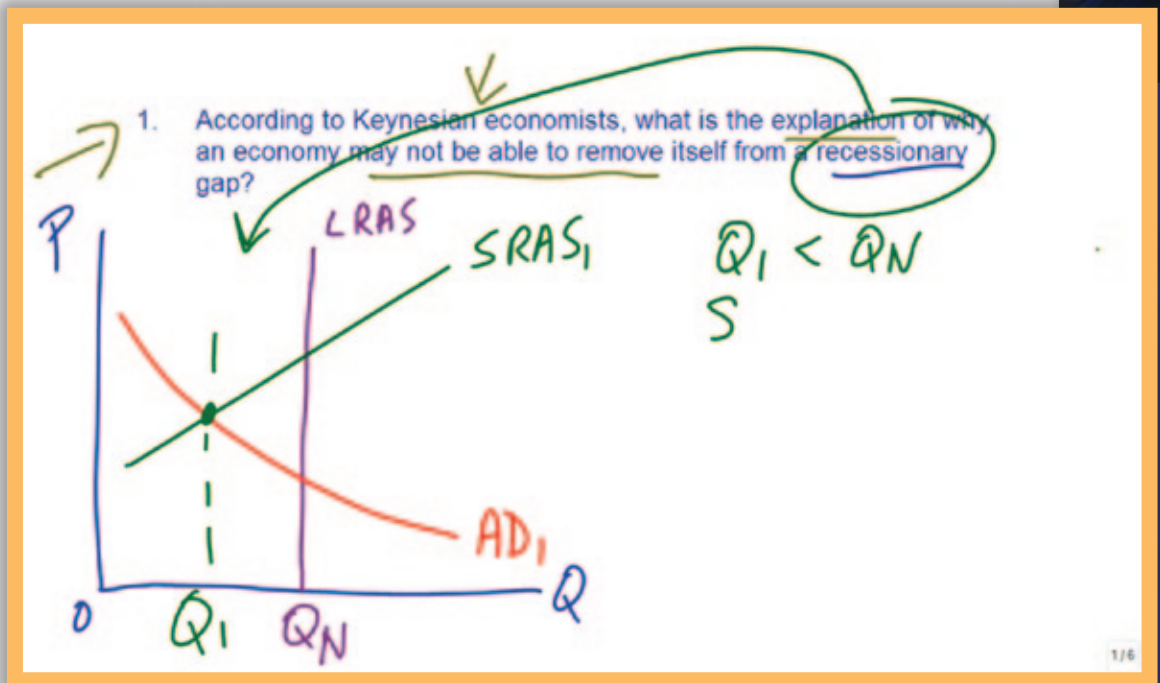
The eleventh edition has been completely updated with new applications, data, and details on the financial and economic crisis. There are more than 15 new Economics 24/7 features including Information, Culture, and Unemployment; Greece, Debt, Drachmas and Euros; Bubbles and Expectations, to name just a few. There are new applications on Speculators, Price Variability, and Patterns and Salsa, Chips, and Beer in the applications of supply and demand chapter. The eleventh edition also includes new sections on what seems counterintuitive in economics, the future of Social Security, Medicare and Medicaid, framing, and neuroeconomics. The chapter on monetary policy has been substantially revised to reflect current events and policy changes such as Patterns of Sustainable Specialization and Trade (PSST) and targeting of nominal GDP.



NEW!

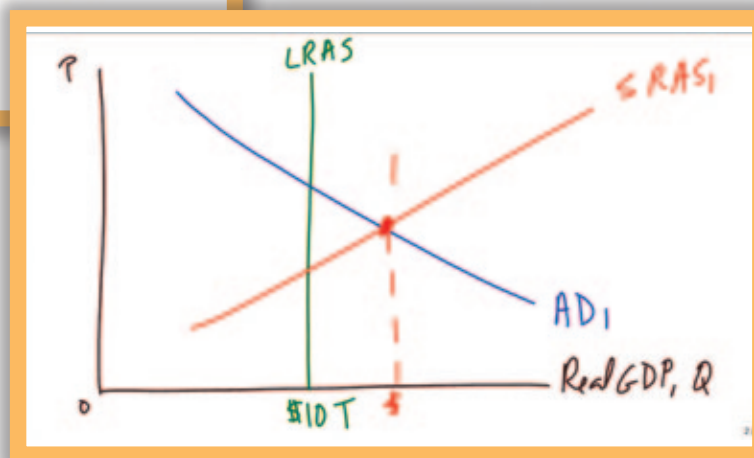
VIDEO TUTORIALS — VIDEO QUESTIONS AND PROBLEMS

New to the eleventh edition, these concise video tutorials prepared by author Roger Arnold take a problem from the Video Questions and Problems section at the end of the chapters and demonstrate how that problem is solved, step by step. You can play and replay the tutorials as you work through homework assignments or prepare for quizzes and tests, almost as though your instructor is right by your side. Ideal for homework and study outside the classroom or distance learning, these tutorials give you extra instructional help whenever or wherever it's most useful.



Working with Diagrams
Chapter 9
Exhibit Title:

The Self-Regulating Economy:
Removing an Inflationary Gap



NEW!

VIDEO TUTORIALS — WORKING WITH DIAGRAMS

Working with Diagrams tutorials feature author Roger Arnold moving carefully through key graphs and diagrams in the chapter to demonstrate, step by step, how the graphs and concepts are built, and what each movement means. You can play and replay the tutorials as you work through homework or prepare for quizzes and tests, almost as though your instructor is right by your side. Ideal for homework and study outside the classroom or distance learning, these tutorials give you extra instructional help whenever or wherever it's most useful.

Cengage Learning's **ECONOMICS, 11e**, CourseMate brings course concepts to life with Arnold's unique video lectures and tutorials, interactive learning, study, and exam preparation tools that support the printed textbook. Watch your comprehension soar as you work with the printed textbook and the textbook-specific website.

ECONOMICS, 11e, CourseMate goes beyond the book to deliver what you need! CourseMate is available for student purchase at www.cengagebrain.com.

The screenshot shows the CourseMate website interface. At the top, there is a navigation bar with the CourseMate logo, a 24/7 Support link, and a Log Out link. Below the navigation bar, there are links for HOME, COURSES, and ENGAGEMENT TRACKER. The main content area is titled "Home > 3. Supply and Demand: Theory > Video Office Hours with Roger Arnold". On the left side, there is a sidebar with the CourseMate logo, the text "Economics 10th Edition Arnold", and a "Select Chapter" dropdown menu. Below this, there is a "Resource Index" section with a list of resources: eBook, Crosswords, Econ Apps, Flashcards, Glossary, Graphing Workshop, Video Office Hours, Quizzing, and Video. At the bottom of the sidebar, there is a "Book-Level Resources" section with a link to the Glossary. The main content area features a video player titled "Office Hours" with a play button and a "CC BY-NC" license icon. The video player shows a slide titled "A Market" with the text "Market = Any place people come together to trade" and "2 sides to every market: buying side of the market — Demand; selling side of the market — Supply". Below the video player, there is a list of resources: "A Market and Demand" (Download Transcript), "Supply", and "Equilibrium".



In Appreciation

This book could not have been written and published without the generous expert assistance of many people. A deep debt of gratitude is owed to the reviewers of the first through tenth editions and to the reviewers of this edition, the eleventh.

First Edition Reviewers

Jack Adams
University of Arkansas, Little Rock

William Askwig
University of Southern Colorado

Michael Babcock
Kansas State University

Dan Barszcz
College of DuPage, Illinois

Robert Berry
Miami University, Ohio

George Bohler
Florida Junior College

Tom Bonsor
Eastern Washington University

Michael D. Brendler
Louisiana State University

Baird Brock
Central Missouri State University

Kathleen Bromley
Monroe Community College, New York

Douglas Brown
Georgetown University

Ernest Buchholz
Santa Monica Community College, California

Gary Burbridge
Grand Rapids Junior College, Michigan

Maureen Burton
California Polytechnic University, Pomona

Carol Carnes
Kansas State University

Paul Coomes
University of Louisville, Kentucky

Eleanor Craig
University of Delaware

Wilford Cummings
Grosmont College, California

Diane Cunningham
Glendale Community College, California

Douglas C. Darran
University of South Carolina

Edward Day
University of Southern Florida

Johan Deprez
University of Tennessee

James Dietz
California State University, Fullerton

Stuart Dorsey
University of West Virginia

Natalia Drury
Northern Virginia Community College

Lu Ann Duffus
California State University, Hayward

John Eckalbar
California State University, Chico

John Elliot
University of Southern California

Charles Fischer
Pittsburg State University, Kansas

John Gemello
San Francisco State University

Carl Guelzo
Cantonsville Community College, Maryland

Jan Hansen
University of Wisconsin, Eau Claire

John Henderson
Georgia State University

Ken Howard
East Texas Baptist University

Mark Karscig
Central Missouri State University

Stanley Keil
Ball State University, Indiana

Richard Kieffer
State University of New York, Buffalo

Gene Kimmett
William Rainey Harper College, Illinois

Luther Lawson
University of North Carolina

Frank Leori
College of San Mateo, California

Kenneth Long
New River Community College, Virginia

Michael Magura
University of Toledo, Ohio

Bruce McCrea
Lansing Community College, Michigan

Gerald McDougall
Wichita State University, Kansas

Kevin McGee
University of Wisconsin, Oshkosh

Francois Melese
Auburn University, Alabama

Herbert Miliken
American River College, California

Richard Miller
Pennsylvania State University

Ernest Moser
Northeast Louisiana University

Farhang Niroomand
University of Southern Mississippi

Eliot Orton
New Mexico State University

Marty Perline
Wichita State University, Kansas

Harold Petersen
Boston College

Douglas Poe
University of Texas, Austin

Joseph Reznay
St. Louis Community College, Missouri

Terry Ridgway
University of Nevada, Las Vegas

Thomas Romans
State University of New York, Buffalo

Robert Ross
Bloomsburg State College, Pennsylvania

Keith A. Rowley
Baylor University, Texas

Anandi Sahu
Oakland University, Michigan

Richard Scoggins
California State University, Long Beach

Paul Seidenstat
Temple University, Pennsylvania

xxx IN APPRECIATION

Shahram Shafiee
North Harris County College, Texas

Alan Sleeman
Western Washington University

John Sondey
University of Idaho

Robert W. Thomas
Iowa State University

Richard L. Tontz
California State University, Northridge

Roger Trenary
Kansas State University

Bruce Vanderporten
Loyola University, Illinois

Thomas Weiss
University of Kansas

Richard O. Welch
University of Texas at San Antonio

Donald A. Wells
University of Arizona

John Wight
University of Richmond, Virginia

Thomas Wyrick
Southwest Missouri State University

Second Edition Reviewers

Scott Bloom
North Dakota State University

Thomas Carroll
University of Nevada, Las Vegas

Larry Cox
Southwest Missouri State University

Diane Cunningham
Los Angeles Valley College

Emit Deal
Macon College

Michael Fabritius
University of Mary Hardin Baylor

Frederick Fagal
Marywood College

Ralph Fowler
Diablo Valley College

Bob Gillette
Texas A&M University

Lynn Gillette
Indiana University, Indianapolis

Simon Hakim
Temple University

Lewis Karstensson
University of Nevada, Las Vegas

Abraham Kidane
California State University, Dominguez Hills

W. Barbara Killen
University of Minnesota

J. David Lages
Southwest Missouri State University

Anthony Lee
Austin Community College

Marjory Mabery
Delaware County Community College

Bernard Malamud
University of Nevada, Las Vegas

Michael Marlow
California Polytechnic State University, San Luis Obispo

Phil J. McLewin
Ramapo College of New Jersey

Tina Quinn
Arkansas State University

Terry Ridgway
University of Nevada, Las Vegas

Paul Snoonian
University of Lowell

Paul Taube
Pan American University

Roger Trenary
Kansas State University

Charles Van Eaton
Hillsdale College

Mark Wheeler
Bowling Green State University

Thomas Wyrick
Southwest Missouri State University

Third Edition Reviewers

Carlos Aguilar
University of Texas, El Paso

Rebecca Ann Benakis
New Mexico State University

Scott Bloom
North Dakota State University

Howard Erdman
Southwest Texas Junior College

Arthur Friedberg
Mohawk Valley Community College

Nancy A. Jianakoplos
Colorado State University

Lewis Karstensson
University of Nevada, Las Vegas

Rose Kilburn
Modesto Junior College

Ruby P. Kishan
Southeastern Community College

Duane Kline
Southeastern Community College

Charles A. Roberts
Western Kentucky University

Bill Robinson
University of Nevada, Las Vegas

Susan C. Stephenson
Drake University

Charles Van Eaton
Hillsdale College

Richard O. Welch
The University of Texas at San Antonio

Calla Wiemer
University of Hawaii at Manoa

Fourth Edition Reviewers

Uzo Agulefo
North Lake College

Kari Battaglia
University of North Texas

Scott Bloom
North Dakota State University

Harry Ellis, Jr.
University of North Texas

Mary Ann Hendryson
Western Washington University

Eugene Jones
Ohio State University

Ki Hoon Him
Central Connecticut State University

James McBrearty
University of Arizona

John A. Panagakis
Onondaga Community College

Bill Robinson
University of Nevada, Las Vegas

George E. Samuels
Sam Houston State University

Ed Scahill
University of Scranton

Charles Van Eaton
Hillsdale College

Thomas Wyrick
Southwest Missouri State University

Fifth Edition Reviewers

Kari Battaglia
University of North Texas

Douglas A. Conway
Mesa Community College

Lee A. Craig
North Carolina State University

Harry Ellis, Jr.
University of North Texas

Joe W. Essuman
University of Wisconsin, Waukesha

Dipak Ghosh
Emporia State University

Shirley J. Gideon
The University of Vermont

Mary Ann Hendryson
Western Washington University

Calvin A. Hoerneman
Delta College

George H. Jones
*University of Wisconsin,
Rock County*

Donald R. Morgan
Monterey Peninsula College

John A. Panagakis
Onondaga Community College

Bill Robinson
University of Nevada, Las Vegas

Steve Robinson
*The University of North Carolina at
Wilmington*

David W. Yoskowitz
Texas Tech University

Sixth Edition Reviewers

Hendrikus J.E.M. Brand
Albion College

Curtis Clarke
Dallas County Community College

Andrea Gorospe
Kent State University, Trumbull

Mehrdad Madresehee
Lycoming College

L. Wayne Plumly
Valdosta State University

Craig Rogers
Canisius College

Uri Simonsohn
Carnegie Mellon University

Philip Sprunger
Lycoming College

Lea Templer
College of the Canyons

Soumya Tohamy
Berry College

Lee Van Scyoc
University of Wisconsin, Oshkosh

Seventh Edition Reviewers

Pam Coates
San Diego Mesa College

Peggy F. Crane
Southwestern College

Richard Croxdale
Austin Community College

Harry Ellis, Jr.
University of North Texas

Craig Gallet
California State University, Sacramento

Kelly George
Embry-Riddle Aeronautical University

Anne-Marie Gilliam
Central Piedmont Community College

Richard C. Schiming
Minnesota State University, Mankato

Lea Templer
College of the Canyons

Jennifer VanGilder
California State University, Bakersfield

William W. Wilkes
Athens State University

Janice Yee
Wartburg College

Eighth Edition Reviewers

Dr. Clive R. Belfied
Queens College, City University of New York

Barry Bomboy
J. Sargeant Reynolds Community College

James Bryan
*North Harris Montgomery Community
College*

Peggy F. Crane
Southwestern College

Richard Croxdale
Austin Community College

Harry Ellis, Jr.
University of North Texas

Kelly George
Embry Riddle Aeronautical University

Alan Kessler
Providence College

Denny Myers
Oklahoma City Community College

Charles Newton
Houston Community College

Ahmad Saranjam
Northeastern University

Jennifer VanGilder, PhD
California State University Bakersfield

Janice Yee
Wartburg College

Ninth Edition Reviewers

Bart Allen
Northern Oklahoma College

Nand Arora
Cleary University

Fathollah Bagheri
University of North Dakota

Mohammad Bajwa
Northampton Community College

Atin Basuchoudhary
Virginia Military Institute

Susan Bell
Seminole Community College

Douglas Campbell
University of Memphis

Franny Chan
Mt. San Antonio College

Stephen B. Davis
Southwest Minnesota State University

William L. Davis
University of Tennessee, Martin

James Dulgeroff
California State University, San Bernardino

Dr. J. Pat Fuller
Brevard Community College

Dr. Robert Garnett
Texas Christian University

Lynde Gilliam
Metropolitan State College of Denver

Judith A. Grenkowitz
Kirtland Community College

Pablo Hernandez
Hollins University

Philip L. Hersch
Wichita State University

Michael Heslop
Northern Virginia Community College (NOVA)

Chandrea Hopkins
College of Lake County

Brian K. Jackson
Oklahoma Wesleyan University

Bun Song Lee
Northwestern State University

Joanne Leoni
Johnson & Wales University

Michael L. Marlow
California Polytechnic State University

Peter Mavrokordatos
*Tarrant County Community
College*

Dominic F. Minadeo
Troy University

Dr. Barbara B. Murray
Baltimore City Community College

Bernard J. Sharkey, Jr.
Louisiana State University

xxxii IN APPRECIATION

Joe Silverman
MiraCosta College
Martha Stuffer
Irvine Valley College
Vicky Tucker
Lewis University
Mary Louis White
Albright University

Tenth Edition Reviewers

Ercrement Aksoy
Los Angeles Valley College
Carol Decker
Tennessee Wesleyan College
Stephen Elliott
Northwestern State University
Kelly Whealan George
Embry Riddle Aeronautical University
Aubrey P. Haynes
Southwest Texas Junior College
Tori Knight
Carson-Newman College
Bun Song Lee
Northwestern State University
Lucy Malakar
Lorain County Community College
Lea Templer
College of the Canyons
Jan Wyatt
Hesser College

Eleventh Edition Reviewers

Ercrement Aksoy
Los Angeles Valley College
Randall Barcus
Embry Riddle Aeronautical University

Yoram Bauman
University of Washington
Izabella Bazoeva
Edison State College
Robert Cronberg
Columbia College Chicago
Zach Cronin
Hillsborough Community College
Megan Cummins
Mt. San Jacinto College
Carol Decker
Tennessee Wesleyan College
Dorsey Dyer
Davidson County Community College
Diego Escobari
University of Texas, Pan American
Fidel Ezeala-Harrison
Jackson State University
Fassil Fanta
University of Wisconsin, Parkside
Yoshi Fukasawa
Midwestern State University
Robert Gentenaar
Pima Community College
Emilio Gomez
Palomar College
Richard Gosselin
Houston Community College
Sheryl Grosso
University of South Carolina Sumter
Betty Habiger
New Mexico State University Grants
Dana Harris
Keystone College
Fidel Harrison
Jackson State University
Nicholas Hill
Jackson State University
Lora Holcombe
Florida State University

Bun Song Lee
University of Arkansas Fort Smith
Charles Newton
Houston Community College-Southwest
Kathleen Odell
Dominican University
Gregory Randolph
Southern New Hampshire University
Craig Rogers
Canisius College
April Ruhmann
Southwest Texas Junior College
Sara Sadeiron
Houston Community College-Southwest
Claire Starry
Southern New Hampshire University
Joseph Stenard
Hudson Valley Community College
Michael Tasto
Southern New Hampshire University
Ronald Tremmel
Kaskaskia College
Vicky Tucker
Lewis University
Edwin Vineyard
Northern Oklahoma College
J. Douglas Wellington
Husson University
Mustafa Younis
Jackson State University
Charles Zalonka
Oklahoma State University
Evaristo Zapata
Southwest Texas Junior College
Daniel Zobrist
Pima Community College

I would like to thank Peggy Crane of Southwestern College, who revised the Test Bank, and Lloyd Beckles of Palm Beach State College for creating the PowerPoint slides that accompany this text. I owe a debt of gratitude to all the fine and creative people I worked with at Southwestern/Cengage Learning. These persons include Erin Joyner, Editorial Director; Michael Worls, Executive Editor for Economics; Jennifer Thomas, Product Development Manager; Cliff Kallemeyn, Senior Content Project Manager; John Carey, Senior Market Development Manager; Robin Lefevre, Senior Brand Manager; Michelle Kunkler, Senior Art Director; and Kevin Kluck, Manufacturing Planner.

My deepest debt of gratitude goes to my wife, Sheila, and to my two sons, David, 22 years old, and Daniel, 25 years old. They continue to make all my days happy ones.

Roger A. Arnold

What Economics Is About

Introduction You are about to begin your study of economics. Before discussing particular topics in economics, we think it best to give you an overview of what economics is and of some of the key concepts. The key concepts can be compared to musical notes: Just as musical notes are repeated in any song

(you hear the musical note G over and over again), so are the key concepts in economics repeated. Some of these concepts are scarcity, opportunity cost, efficiency, marginal decision making, incentives, and exchange.

1-1 YOUR LIFE, 2014–2024

What will your life be like during the years 2014–2024? What kind of work will you do after college? How much will you earn in that first job after graduating? Where will you be living, and who will your friends be? How many friends will you have? Whom might you marry? Will you buy a house in the next few years? If so, how much will you pay for it? And, perhaps most importantly, will you be happy?

The answers to these questions and many more have to do with economics. For example, the salary you earn has to do with the economic concept of *opportunity cost*. What you do in your first job after college has to do with the *state of the economy* when you graduate. Whom you marry has to do with the *costs and benefits* connected to the people you date. The price you pay for a house has to do with the state of the *housing market*. How many friends you have has to do with the economic concept of *scarcity*. Whether you are happy depends on such things as the *net benefits* you receive in various activities, the *utility* you gain by doing certain things, and other circumstances.

In this chapter, we begin our study of economics. As you read this chapter (and those that follow), ask yourself how much of what you are reading is relevant to your life today and tomorrow. Ask: How does what I am reading relate to *my* life? Our guess is that, after answering this question a few dozen times, you will be convinced that economics explains much about your present and future.

1-2 A DEFINITION OF ECONOMICS

In this section, we discuss a few key economic concepts; then we incorporate knowledge of these concepts into a definition of economics.

1-2a Goods and Bads

Economists talk about *goods* and *bads*. A **good** is anything that gives a person **utility**, or satisfaction. Here is a partial list of some goods: a computer, a car, a watch, a television set, friendship, and love. You will notice from our list that a good can be either tangible or intangible. A computer is a tangible good; friendship is an intangible good. Simply put, for something to be a good (whether tangible or intangible), it only has to give someone utility or satisfaction.

A **bad** is something that gives a person **disutility**, or dissatisfaction. If the flu gives you disutility or dissatisfaction, then it is a bad. If the constant nagging of an acquaintance is something that gives you disutility or dissatisfaction, then it is a bad.

People want goods, and they do not want bads. In fact, they will pay to get goods (“Here is \$1,000 for the computer”), and they will pay to get rid of bads (“I’d be willing to pay you, doctor, if you can prescribe something that will shorten the time I have the flu”).

Can something be a *good* for one person and a *bad* for another person? Smoking cigarettes gives some people utility; it gives others disutility. We conclude that smoking cigarettes can be a *good* for some people and a *bad* for others. This must be why the wife tells her husband, “If you want to smoke, you should do it outside.” In other words, “Get those *bads* away from me.”

1-2b Resources

Goods do not just appear before us when we snap our fingers. It takes resources to produce goods. (Sometimes *resources* are referred to as *inputs* or *factors of production*.)

Generally, economists divide resources into four broad categories: *land*, *labor*, *capital*, and *entrepreneurship*.

- **Land** includes natural resources, such as minerals, forests, water, and unimproved land. For example, oil, wood, and animals fall into this category. (Sometimes economists refer to this category simply as *natural resources*.)
- **Labor** consists of the physical and mental talents that people contribute to the production process. For example, a person building a house is using his or her own labor.
- **Capital** consists of produced goods that can be used as inputs for further production. Factories, machinery, tools, computers, and buildings are examples of capital. One country might have more capital than another; that is, it has more factories, machinery, tools, and the like.
- **Entrepreneurship** refers to the talent that some people have for organizing the resources of land, labor, and capital to produce goods, seek new business opportunities, and develop new ways of doing things.

1-2c Scarcity and a Definition of Economics

We are now ready to define a key concept in economics: *scarcity*. **Scarcity** is the condition in which our wants (for goods) are greater than the limited resources (land, labor, capital, and entrepreneurship) available to satisfy those wants. In other words, we want goods, but not enough resources are available to provide us with all the goods we want.

Good

Anything from which individuals receive utility or satisfaction.

Utility

The satisfaction one receives from a good.

Bad

Anything from which individuals receive disutility or dissatisfaction.

Disutility

The dissatisfaction one receives from a bad.

Land

All natural resources, such as minerals, forests, water, and unimproved land.

Labor

The physical and mental talents people contribute to the production process.

Capital

Produced goods that can be used as inputs for further production, such as factories, machinery, tools, computers, and buildings.

Entrepreneurship

The talent that some people have for organizing the resources of land, labor, and capital to produce goods, seek new business opportunities, and develop new ways of doing things.

Scarcity

The condition in which our wants are greater than the limited resources available to satisfy those wants.

Look at it this way: Our wants (for goods) are infinite, but our resources (which we need to produce the goods) are finite. Scarcity is the result of our infinite wants hitting up against finite resources.

Many economists say that if scarcity didn't exist, neither would economics. In other words, if our wants weren't greater than the limited resources available to satisfy them, there would be no field of study called "economics." This is similar to saying that if matter and motion didn't exist, neither would physics or that if living things didn't exist, neither would biology. For this reason, we define **economics** in this text as the science of scarcity. More completely, *economics is the science of how individuals and societies deal with the fact that wants are greater than the limited resources available to satisfy those wants.*

Economics

The science of scarcity; the science of how individuals and societies deal with the fact that wants are greater than the limited resources available to satisfy those wants.

Thinking like An Economist

Scarcity Affects Everyone Everyone in the world has to face scarcity, even billionaires. Billionaires may be able to satisfy more of their wants for tangible goods (houses, cars) than most people, but they still may not have the resources to satisfy all their wants. Their wants might include more time with their children, more friendship, no disease in the world, peace on earth, and a hundred other things that they don't have the resources to "produce." ■

1-2d The Counterintuitive in Economics

As defined, scarcity is the condition in which our wants for goods and services are greater than the resources available to satisfy those wants. In other words, we want more than we can have. If we ended the discussion here—with only our definition of scarcity—we would leave thinking that we are doomed to a life of poverty—of not having enough. But that would be the wrong impression. Scarcity can coexist with wealth. A society that faces scarcity can be a very wealthy society indeed, but there is no guarantee that it will be. Scarcity, a fact of life, can come with poverty or wealth.

To understand how scarcity can be consistent with either poverty or wealth, consider any country in the world today, either a rich one like the United States or a poor one like Cuba. As measured by real output per capita, the United States is a rich country, and Cuba is poor. Both countries, however, face scarcity. The people who live in both countries have infinite wants for goods and services but only finite resources with which to produce those goods and services.

But if both countries face scarcity, then why is one rich and the other poor? If scarcity is all that matters, then why aren't both countries rich or both poor? The answer is because the two countries do not function under the same economic and political systems. In other words, both the economic and political institutions in the two countries are different, and that difference matters when it comes to poverty and wealth. To be more specific:

- Consider how prices are determined in the two countries. In the United States, prices are largely determined by market forces. In Cuba, prices are largely determined by government edict.
- Or consider the incentive to produce in the two countries. In the United States, people and firms can produce or not produce what they want. In Cuba, these decisions are largely made by government.

- In the United States, profit and loss guide a whole host of economic choices. In Cuba, profit and loss are replaced with government officials who decide things like what gets produced, how much a worker gets paid, how much a seller can charge, and so on.
- In the United States, private property rights play a big role in determining how and what things get done; in Cuba, not so much.

Cuba isn't a poor country and the United States isn't a rich country because Cuba faces scarcity and the United States does not. As we know, the people in both countries must grapple with scarcity. Scarcity is a little like the sky: It exists everywhere, for everyone. Rather, Cuba is poor and the United States is rich because of the different ways each country deals with scarcity.

Economists often summarize their take on this fact of life by saying, "Institutions matter." In other words, the economic and political institutions under which a country operates affect its outcomes. Or: Scarcity is a fact of life; what matters is how we deal with that fact of life.

THINKING IN TERMS OF SCARCITY'S EFFECTS Scarcity has a number of effects. Here are three: (1) the need to make choices, (2) the need for a rationing device, and (3) competition.

Choices People have to make choices because of scarcity. Because our unlimited wants are greater than our limited resources, some wants must go unsatisfied. We must choose which wants we will satisfy and which we will not. Jeremy asks, "Do I go to Hawaii, or do I pay off my car loan earlier?" Ellen asks, "Do I buy the new sweater or two new shirts?"

Rationing Device

A means for deciding who gets what of available resources and goods.

Need for a Rationing Device A **rationing device** is a means of deciding who gets what of available resources and goods. Scarcity implies the need for a rationing device. If people have infinite wants for goods and if only limited resources are available to produce the goods, then a rationing device is needed to decide who gets the available quantity of goods. Dollar price is a rationing device. For example, 100 cars are on the lot, and everyone wants a new car. How do we decide who gets what quantity of the new cars? The answer is to use the rationing device called *dollar price*. The people who pay the dollar price for a new car end up with one.

Scarcity and Competition Do you see competition in the world? Are people competing for jobs? Are states and cities competing for businesses? Are students competing for grades? The answer to all these questions is yes. The economist wants to know why this competition exists and what form it takes. First, the economist concludes that *competition exists because of scarcity*. If there were enough resources to satisfy all our seemingly unlimited wants, people would not have to compete for the available but limited resources.

Second, the economist sees that competition takes the form of people trying to get more of the rationing device. If dollar price is the rationing device, people compete to earn dollars. Look at your own case. You are a college student working for a degree. One reason (but perhaps not the only reason) you are attending college is to earn a higher income after graduation. But why do you want a higher income? You want it because it will allow you to satisfy more of your wants.

Suppose muscular strength (measured by lifting weights) were the rationing device instead of dollar price. People with more muscular strength would receive more resources and goods than people with less muscular strength. In that case, people would compete for muscular strength. (Would they spend more time at the gym lifting weights?) The lesson is simple: *Whatever the rationing device is, people will compete for it.*

Finding Economics

At the Campus Bookstore To learn economics well, you must practice what you learn. One of the ways to practice economics is to find it in everyday life. Consider the following scene: You are in the campus bookstore, buying a book for your computer science course, and you are handing over \$85 to the cashier. Can you find the economics in this simple scene? Before you read on, think about it for a minute.

Let's work backward to find the economics. You are currently handing the cashier \$85. We know that dollar price is a rationing device. But let's now ask ourselves why we would need a rationing device to get the book. The answer is scarcity. In other words, scarcity is casting its long shadow there in the bookstore as you buy a book. We have found one of the key economic concepts—scarcity—in the campus bookstore. (If you also said that a book is a good, then you have found even more economics in the bookstore. Can you find more than scarcity and a good?) ■

Self-Test

(Answers to Self-Test questions are in Answers to Self-Test Questions at the back of the book.)

1. True or false? Scarcity is the condition of finite resources. Explain your answer.
2. How does competition arise out of scarcity?
3. How does choice arise out of scarcity?

1-3 KEY CONCEPTS IN ECONOMICS

A number of key concepts in economics define the field. We discuss a few of these concepts next.

1-3a Opportunity Cost

So far we have established that people must make choices because scarcity exists. In other words, because our seemingly unlimited wants push up against limited resources, some wants must go unsatisfied. We must therefore *choose* which wants we will satisfy and which we will not. The most highly valued opportunity or alternative forfeited when we make a choice is known as **opportunity cost**. Every time you make a choice, you incur an opportunity cost. For example, you have chosen to read this chapter. In making this choice, you denied yourself the benefits of doing something else. You could have watched television, texted friends, taken a nap, eaten a few slices of pizza, read a novel, shopped for a new computer, and so on. Whatever you *would have chosen* to do is the opportunity cost of your reading this chapter. For example, if you would have watched television instead of reading this chapter—if this was your next best alternative—then the opportunity cost of reading this chapter is watching television.

Opportunity Cost

The most highly valued opportunity or alternative forfeited when a choice is made.

THERE IS NO SUCH THING AS A FREE LUNCH Economists are fond of saying that *there is no such thing as a free lunch*. This catchy phrase expresses the idea that opportunity costs are incurred whenever choices are made. Perhaps this is an obvious point, but consider how often people mistakenly assume that there is a free lunch. For example, some parents think education is free because they do not pay tuition for their children to attend public elementary school. That's a misconception. "Free" implies no sacrifice and no opportunities forfeited, but an elementary school education requires resources that could be used for other things.

Low Admission Rates at Yale

Each year Yale University receives more applications for admission to the freshmen class than spots available. In most years, for every 100 applications for admission that Yale receives, it can accept only seven applicants for admission. What Yale has to do, then, is ration its available admission spots.

How does it ration its available spots? One way is simply to use money as a rationing device. In other words, raise the dollar amount of attending Yale to a high enough level so that the number of spots equals the number of students willing and available to pay for admission. To illustrate, think of Yale as auctioning off spots in its freshman class. It calls out a price of \$50,000 a year, and at this price more people wish to be admitted to Yale than there are spots available. Yale keeps on raising the price until the number of students who are willing and able to pay the tuition are equal to the number of available spots. Maybe this price is, say, \$200,000.

As we know, Yale does not ration its available spots this way. In fact, it uses numerous rationing devices in an attempt to whittle down the number of applicants to the number of available spots. For example, it might use the rationing device of high school grades. Anyone with a GPA in high school of less than, say, 3.50 is not going to be admitted. If, after doing this, Yale still has too many applicants, it might then make use of the rationing device of standardized test scores. Anyone with an SAT score of under, say, 2100 is eliminated from the pool of applicants. If there are still too many applicants, then perhaps other rationing devices will be used, such as academic achievements, community service, degree of interest in attending Yale, and so on.

Yale might also decide that it wants to admit certain students over others, even if the two categories of students have the same academic credentials. For example, suppose Yale wants at least one student from each state in the country, and only 10 students from Wyoming have applied to go to Yale, whereas 300 students from California have applied. Yale could very well use the rationing device of state diversity to decide in favor of the student from Wyoming instead of the applicant from California.

In the first week of April each year, Yale sends out many more rejection letters than acceptance letters. No doubt some students who are rejected by Yale feel that some of the students who were accepted might not be as academically strong as they are. No doubt the student with a 4.00 GPA and a perfect SAT score of 2400 feels that he might have been slighted by Yale when he learns that a student in his high school with a 3.86 GPA and SAT score of 2180 was chosen over

him. What did the 3.86–2180 student have that he didn't have? What rationing device benchmark did the rejected student score lower on?

In life, you will often see arguing over what the rationing device for certain things should be. Should high school grades and standardized test scores be the only two rationing devices in accepting candidates for admission? What role should money play as a rationing device? What role should ethnic or racial diversity, or state diversity, or income diversity play in the application process? Our point is a simple one: With scarcity comes the need for a rationing device. More people want a spot at Yale than there are spots available. Yale has to use one or more rationing devices to decide who will be accepted and who will be rejected.



© JERRY MOORMAN/ISTOCKPHOTO.COM

Consider the people who speak about free medical care, free housing, free bridges (“there’s no charge to cross it”), and free parks. Again, free medical care, free housing, free bridges, and free parks are misconceptions. The resources that provide medical care, housing, bridges, and parks could have been used in other ways.

Thinking like An Economist

Zero Price Doesn’t Mean Zero Cost A friend gives you a ticket to an upcoming concert for zero price (you pay nothing). Does it follow that zero price means zero cost? No. There is still an opportunity cost of attending the concert. Whatever you would be doing if you don’t go to the concert is the opportunity cost of attending. To illustrate, if you don’t attend the concert, you would hang out with friends. The value you place on hanging out with friends is the opportunity cost of your attending the concert. ■

1-3b Opportunity Cost and Behavior

Economists believe that a change in opportunity cost can change a person’s behavior. For example, Ryan, who is a sophomore at college, attends classes Monday through Thursday of every week. Every time he chooses to go to class, he gives up the opportunity to do something else, such as earn \$12 an hour working at a job. The opportunity cost of Ryan’s spending an hour in class is \$12.

Now let’s raise the opportunity cost of attending class. On Tuesday, we offer Ryan \$70 to skip his economics class. He knows that if he attends his economics class, he will forfeit \$70. What will Ryan do? An economist would predict that as the opportunity cost of attending class increases relative to its benefits, Ryan is less likely to go to class.

This is how economists think about behavior: *The higher the opportunity cost of doing something is, the less likely it will be done.* This is part of the economic way of thinking.

Finding Economics

In Being Late to Class John is often a few minutes late to his biology class. The class starts at 10 a.m., but John usually walks into the class at 10:03 a.m. The instructor has asked John to be on time, but John usually excuses his behavior by saying that the traffic getting to college was bad or that his alarm didn’t go off at the right time or that something else happened to delay him. One thing the instructor observes, though, is that John is never late on a test day. He is usually in class a few minutes before the test begins. Where is the economics?

We would expect behavior to change as opportunity cost changes. When a test is being given in class, the opportunity cost of being late to class is higher than when a test is not being given and the instructor is simply lecturing. If John is late to class on test day, he then has fewer minutes to complete the test, and having less time can adversely affect his grade. In short, the higher the opportunity cost of being late to class, the less likely John will be late. ■

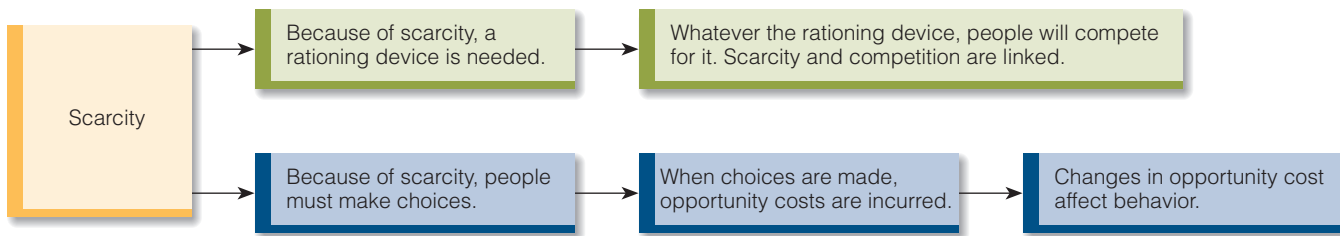
1-3c Benefits and Costs

If we could eliminate air pollution completely, should we do it? If your answer is yes, then you are probably focusing on the *benefits* of eliminating air pollution. For example, one benefit might be better public health. Certainly, individuals who do not breathe polluted air have fewer lung disorders than people who do breathe polluted air.

But benefits rarely come without costs. The economist reminds us that although eliminating pollution has its benefits, it has costs too. To illustrate, one way to eliminate all car

EXHIBIT 1

Scarcity and Related Concepts



© CENGAGE LEARNING 2014

pollution tomorrow is to pass a law stating that anyone caught driving a car will go to prison for 40 years. With such a law in place and enforced, very few people would drive cars, and all car pollution would be a thing of the past. Presto! Cleaner air! However, many people would think that the cost of obtaining that cleaner air is too high. Someone might say, “I want cleaner air, but not if I have to completely give up driving my car. How will I get to work?”

What distinguishes the economist from the noneconomist is that the economist thinks in terms of *both* costs *and* benefits. Often, the noneconomist thinks in terms of one or the other. Studying has its benefits, but it has costs too. Coming to class has benefits, but it has costs too. Getting up early each morning and exercising has its costs, but let’s not forget that there are benefits too.

1-3d Decisions Made at the Margin

It is late at night, and you have already studied three hours for your biology test tomorrow. You look at the clock and wonder whether you should study another hour. How would you summarize your thinking process? What question or questions do you ask yourself to decide whether to study another hour?

Perhaps without knowing it, you think in terms of the costs and benefits of further study. You probably realize that studying an additional hour has certain benefits (you may be able to raise your grade a few points), but it has costs too (you will get less sleep or have less time to watch television or talk on the phone with a friend). That you think in terms of costs and benefits, however, doesn’t tell us *how* you think in terms of costs and benefits. For example, when deciding what to do, do you look at the total costs and total benefits of the proposed action, or do you look at something less than the total costs and benefits? According to economists, for most decisions, you think in terms of *additional*, or *marginal*, costs and benefits, not *total* costs and benefits. That’s because most decisions deal with making a small, or additional, change.

To illustrate, suppose you just finished eating a hamburger and drinking a soda for lunch. You are still a little hungry and are considering whether to order another hamburger. An economist would say that in deciding whether to order another hamburger, you compare the additional benefits of the second hamburger to its additional costs. In economics, the word *marginal* is a synonym for *additional*. So we say that you compare the **marginal benefits** (*MB*) of the (next) hamburger to its **marginal costs** (*MC*). If the marginal benefits are greater than the marginal costs, you obviously expect a net benefit to ordering the next hamburger, and therefore you order it. If, however, the marginal benefits are less than the marginal costs, you obviously expect a net cost to ordering the next hamburger, and therefore you do not order another.

Marginal Benefits

Additional benefits; the benefits connected with consuming an additional unit of a good or undertaking one more unit of an activity.

Marginal Costs

Additional costs; the costs connected with consuming an additional unit of a good or undertaking one more unit of an activity.

What Does Scarcity Have to Do with the Number of Friends You Have?

At first glance, scarcity and the number of friends you have probably seem unrelated. But friendship implies choice, and choice implies opportunity cost; thus, if a person incurs an opportunity cost when making a friend, the link between the number of friends a person has and scarcity is established.

But does a person incur an opportunity cost when making a friend? The answer is yes. First, you have to meet someone (could you be doing something else?). Then you have to talk to this person (could you be doing something else?). You may have to drive over to this person's house for a party (could you be doing something else?). You may have to invite this person over to your house for dinner (could you be doing something else?). You have to be there when this person needs your help (could you be doing something else?). In short, making friends comes at a cost. (Of course, it comes with benefits too.)

Now, the higher the opportunity cost of making friends, the fewer friends you will have, all other things being constant. For example, the average five-year-old may say that she has 10 friends and that

she plays with each of them every week. The average 40-year-old may say that he has four friends and that he talks to, or gets together with, maybe one or two every two weeks. Are adults less friendly than children, or do they simply face higher opportunity costs of making friends than children do? We suggest the latter as the reason. An adult who spends as much time a week making and keeping friends as a child does would have to forfeit the opportunity to work at a job and earn an income.

Further, would the number of friends a person has in a large city be greater than the number of friends in a small town? Large towns have museums, plays, numerous restaurants, libraries, concerts, sports events, and usually better opportunities to earn a large income than small towns have. We conclude that the opportunity cost of making friends is higher in a large city than in a small town and that the "average" person would have fewer friends in a large city than in a small town. Perhaps this is why large cities are so often said to be cold and impersonal and small towns are said to be friendly.



© MEDIAPHOTOS/ISTOCKPHOTO.COM