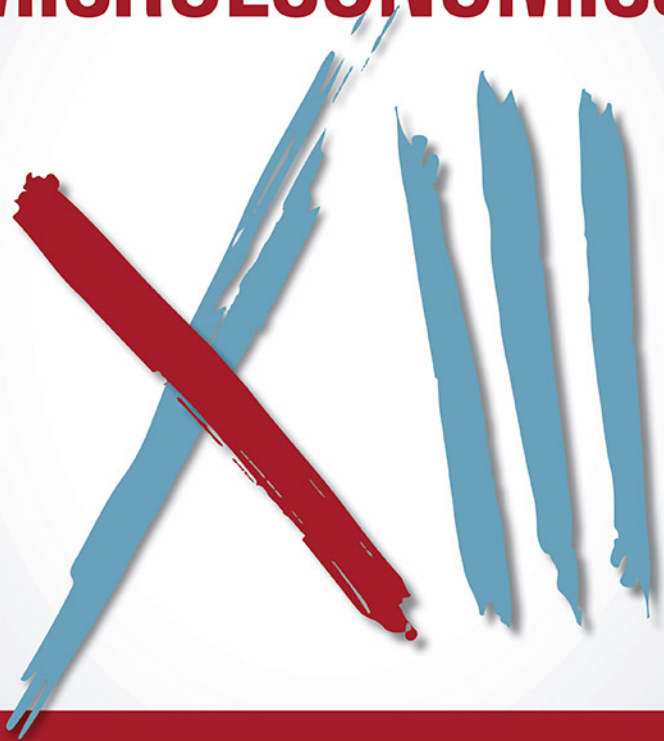


CASE · FAIR · OSTER

# PRINCIPLES OF MICROECONOMICS



THIRTEENTH EDITION



# Principles of **Microeconomics**

THIRTEENTH EDITION

*This page is intentionally left blank*

# Principles of **Microeconomics**

**Karl E. Case**

*Wellesley College*

**Ray C. Fair**

*Yale University*

**Sharon M. Oster**

*Yale University*

THIRTEENTH EDITION



**Vice President, Business, Economics, and UK**

**Courseware:** Donna Battista

**Director of Portfolio Management:** Adrienne D'Ambrosio

**Specialist Portfolio Manager:** David Alexander

**Editorial Assistant:** Nicole Nedwidek

**Vice President, Product Marketing:** Roxanne McCarley

**Senior Product Marketer:** Carlie Marvel

**Product Marketing Assistant:** Marianela Silvestri

**Manager of Field Marketing, Business Publishing:** Adam Goldstein

**Field Marketing Manager:** Ashley Bryan

**Vice President, Production and Digital Studio, Arts and Business:** Etain O'Dea

**Director, Production and Digital Studio, Business and Economics:** Ashley Santora

**Managing Producer, Business:** Alison Kalil

**Content Producer:** Carolyn Phillips

**Operations Specialist:** Carol Melville

**Design Lead:** Kathryn Foot

**Manager, Learning Tools:** Brian Surette

**Senior Learning Tools Strategist:** Emily Biberger

**Managing Producer, Digital Studio and GLP:** James Bateman

**Managing Producer, Digital Studio:** Diane Lombardo

**Digital Studio Producer:** Melissa Honig

**Digital Studio Producer:** Alana Coles

**Digital Content Team Lead:** Noel Lotz

**Digital Content Project Lead:** Noel Lotz

**Full Service Project Management:** Jennifer Gavigan, Integra Software Services

**Interior Design:** Integra Software Services, Inc.

**Cover Design:** Integra Software Services, Inc.

**Cover Art:** Integra Software Services, Inc.

**Printer/Binder:** LSC Communications, Inc.

**Cover Printer:** LSC Communications, Inc.

**Copyright © 2020, 2017, 2014 by Pearson Education, Inc. or its affiliates. All Rights Reserved.** Manufactured in the United States of America. This publication is protected by copyright, and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. For information regarding permissions, request forms, and the appropriate contacts within the Pearson Education Global Rights and Permissions department, please visit [www.pearsoned.com/permissions/](http://www.pearsoned.com/permissions/).

Acknowledgments of third-party content appear on page 495, which constitutes an extension of this copyright page.

PEARSON, ALWAYS LEARNING, and MYLAB are exclusive trademarks owned by Pearson Education, Inc. or its affiliates in the U.S. and/or other countries.

Unless otherwise indicated herein, any third-party trademarks, logos, or icons that may appear in this work are the property of their respective owners, and any references to third-party trademarks, logos, icons, or other trade dress are for demonstrative or descriptive purposes only. Such references are not intended to imply any sponsorship, endorsement, authorization, or promotion of Pearson's products by the owners of such marks, or any relationship between the owner and Pearson Education, Inc., or its affiliates, authors, licensees, or distributors.

**Library of Congress Cataloging-in-Publication Data**

**Names:** Case, Karl E., author. | Fair, Ray C., author. | Oster, Sharon M., author.

**Title:** Principles of microeconomics / [Karl E. Case, Ray C. Fair, Sharon M. Oster].

**Description:** [13th edition]. | Upper Saddle River, NJ : Pearson, [2019] | Includes index.

**Identifiers:** LCCN 2018018211 | ISBN 9780135162170 (softcover)

**Subjects:** LCSH: Microeconomics.

**Classification:** LCC HB172 .C36 2019 | DDC 338.5—dc23

LC record available at <https://lcn.loc.gov/2018018211>

10 9 8 7 6 5 4 3 2 1



ISBN 10: 0-13-516217-3

ISBN 13: 978-0-13-516217-0

*This edition is dedicated to Chip Case, a wonderful colleague and friend. He was the inspiration for this textbook some 30 years ago, and he served as an inspiration to study economics for thousands of students.*

# About the Authors



**Karl E. Case**, who passed away in July, 2016, was a Professor of Economics Emeritus at Wellesley College where he taught for 34 years, serving several tours of duty as Department Chair. He was a Senior Fellow at the Joint Center for Housing Studies at Harvard University and a founding partner in the real estate research firm of Fiserv Case Shiller Weiss, which produces the S&P Case-Shiller Index of home prices. He served as a member of the Index Advisory Committee of Standard and Poor's, and on the Academic Advisory Board of the Federal Reserve Bank of Boston.

Professor Case received his B.A. from Miami University in 1968, spent three years on active duty in the Army, and received his Ph.D. in Economics from Harvard University in 1976.

Professor Case's research was in the areas of real estate, housing, and public finance. He authored or coauthored five books, including *Principles of Economics*, *Economics and Tax Policy*, and *Property Taxation: The Need for Reform*, and published numerous articles in professional journals, focused on real estate markets and prices.

Chip, as he was known to his many friends and colleagues, contributed to this textbook throughout its many editions. In his honor and with respect for his substantial contributions to the text and the discipline of economics, his co-authors plan to keep his name on the text for all future editions.



**Ray C. Fair** is Professor of Economics at Yale University. He is a member of the Cowles Foundation at Yale and a Fellow of the Econometric Society. He received a B.A. in Economics from Fresno State College in 1964 and a Ph.D. in Economics from MIT in 1968. He taught at Princeton University from 1968 to 1974. Professor Fair has taught introductory and intermediate macroeconomics at Yale since 1974. He has also taught graduate courses in macroeconomic theory and macroeconometrics.

Professor Fair's research has primarily been in the areas of macroeconomics and econometrics, with particular emphasis on macroeconomic model building. He has also done work in the areas of finance, voting behavior, and aging in sports. His publications include *Specification, Estimation, and Analysis of Macroeconomic Models* (Harvard Press, 1984); *Testing Macroeconomic Models* (Harvard Press, 1994); *Estimating How the Macroeconomy Works* (Harvard Press, 2004), and *Predicting Presidential Elections and Other Things* (Stanford University Press, 2012).

Professor Fair's U.S. and multicountry models are available for use on the Internet free of charge. The address is <http://fairmodel.econ.yale.edu>. Many teachers have found that having students work with the U.S. model on the Internet is a useful complement to an introductory macroeconomics course.



**Sharon M. Oster** is the Frederic Wolfe Professor of Economics and Management and former Dean of the Yale School of Management. Professor Oster joined Case and Fair as a coauthor in the ninth edition of this book. Professor Oster has a B.A. in Economics from Hofstra University and a Ph.D. in Economics from Harvard University.

Professor Oster's research is in the area of industrial organization. She has worked on problems of diffusion of innovation in a number of different industries, on the effect of regulations on business, and on competitive strategy. She has published a number of articles in these areas and is the author of several books, including *Modern Competitive Analysis* and *The Strategic Management of Nonprofits*.

Prior to joining the School of Management at Yale, Professor Oster taught for a number of years in Yale's Department of Economics. In the department, Professor Oster taught introductory and intermediate microeconomics to undergraduates as well as several graduate courses in industrial organization. Since 1982, Professor Oster has taught primarily in the Management School, where she teaches the core microeconomics class for MBA students and a course in the area of competitive strategy. Professor Oster also consults widely for businesses and nonprofit organizations and has served on the boards of several publicly traded companies and nonprofit organizations.

# Brief Contents

## **PART I Introduction to Economics 1**

- 1** The Scope and Method of Economics 1
- 2** The Economic Problem: Scarcity and Choice 23
- 3** Demand, Supply, and Market Equilibrium 43
- 4** Demand and Supply Applications 74
- 5** Elasticity 92

## **PART II The Market System 113**

- 6** Household Behavior and Consumer Choice 116
- 7** The Production Process: The Behavior of Profit-Maximizing Firms 145
- 8** Short-Run Costs and Output Decisions 168
- 9** Long-Run Costs and Output Decisions 188
- 10** Input Demand: The Labor and Land Markets 212
- 11** Input Demand: The Capital Market and the Investment Decision 228
- 12** General Equilibrium and the Efficiency of Perfect Competition 249

## **PART III Market Imperfections and the Role of Government 264**

- 13** Monopoly and Antitrust Policy 264
- 14** Oligopoly 289

- 15** Monopolistic Competition 312

- 16** Externalities, Public Goods, and Common Resources 327

- 17** Uncertainty and Asymmetric Information 350

- 18** Income Distribution and Poverty 366

- 19** Public Finance: The Economics of Taxation 390

## **PART IV The World Economy 412**

- 20** International Trade, Comparative Advantage, and Protectionism 412

- 21** Economic Growth in Developing Economies 436

## **PART V Methodology 453**

- 22** Critical Thinking about Research 453

**Glossary 468**

**Index 477**

**Photo Credits 495**



# Contents

## PART I Introduction to Economics 1

### 1 The Scope and Method of Economics 1

Why Study Economics? 2

To Learn a Way of Thinking 2

**ECONOMICS IN PRACTICE** Rainfall and Schooling in India 3

**ECONOMICS IN PRACTICE** Majoring in Economics Makes You Less Vulnerable to a Recession! 4

To Understand Society 4

To Be an Informed Citizen 5

The Scope of Economics 5

Microeconomics and Macroeconomics 5

**ECONOMICS IN PRACTICE** iPod and the World 6

The Diverse Fields of Economics 7

The Method of Economics 8

Theories and Models 8

**ECONOMICS IN PRACTICE** Does Your Roommate Matter for Your Grades? 10

Economic Policy 10

An Invitation 12

Economic Skills and Economics as a Career 12

Summary 12 Review Terms and Concepts 13

Problems 13 Appendix: How to Read and Understand Graphs 15

### 2 The Economic Problem: Scarcity and Choice 23

Scarcity, Choice, and Opportunity Cost 24

Scarcity and Choice in a One-Person Economy 24

Scarcity and Choice in an Economy of Two or More 25

**ECONOMICS IN PRACTICE** Frozen Foods and Opportunity Costs 26

The Production Possibility Frontier 29

The Economic Problem 35

**ECONOMICS IN PRACTICE** Trade-Offs among the Rich and Poor 36

Economic Systems and the Role of Government 36

Command Economies 36

Laissez-Faire Economies: The Free Market 37

Mixed Systems, Markets, and Governments 38

Looking Ahead 38

Summary 38 Review Terms and Concepts 39 Problems 39

### 3 Demand, Supply, and Market Equilibrium 43

Firms and Households: The Basic

Decision-Making Units 44

Input Markets and Output Markets: The Circular Flow 44

Demand in Product/Output Markets 46

Changes in Quantity Demanded versus Changes in Demand 46

Price and Quantity Demanded: The Law of Demand 47

Other Determinants of Household Demand 50

**ECONOMICS IN PRACTICE** Have You Bought This Textbook? 51

**ECONOMICS IN PRACTICE** On Sunny Days People Buy Convertibles! 52

Shift of Demand versus Movement along a Demand Curve 53

From Household Demand to Market Demand 54

Supply in Product/Output Markets 56

Price and Quantity Supplied: The Law of Supply 57

Other Determinants of Supply 58

Shift of Supply versus Movement along a Supply Curve 59

From Individual Supply to Market Supply 60

Market Equilibrium 61

Excess Demand 61

Excess Supply 63

Market Equilibrium with Equations 64

Changes in Equilibrium 64

**ECONOMICS IN PRACTICE** Quinoa 67

Demand and Supply in Product Markets: A Review 67

**ECONOMICS IN PRACTICE** Why Do the Prices of Newspapers Rise? 68

Looking Ahead: Markets and the Allocation of Resources 69

Summary 69 Review Terms and Concepts 70 Problems 71

## 4 Demand and Supply Applications 74

The Price System: Rationing and Allocating Resources 75

Price Rationing 75

Constraints on the Market and Alternative Rationing Mechanisms 77

**ECONOMICS IN PRACTICE** Why is My Hotel Room So Expensive? A Tale of Hurricane Sandy 79

Prices and the Allocation of Resources 81

Price Floor 81

Supply and Demand Analysis: Tariffs (Tax) 82

**ECONOMICS IN PRACTICE** The Price Mechanism at Work for Shakespeare 83

Supply and Demand and Market Efficiency 84

Consumer Surplus 84

Producer Surplus 85

Competitive Markets Maximize the Sum of Producer and Consumer Surplus 86

Potential Causes of Deadweight Loss From Under- and Overproduction 87

Looking Ahead 88

Summary 88 Review Terms and Concepts 88 Problems 89

## 5 Elasticity 92

Price Elasticity Of Demand 93

Slope and Elasticity 93

Types of Elasticity 94

Calculating Elasticities 95

Calculating Percentage Changes 95

Elasticity Is a Ratio of Percentages 96

The Midpoint Formula 96

Elasticity Changes along a Straight-Line Demand Curve 97

Elasticity and Total Revenue 100

The Determinants of Demand Elasticity 101

Availability of Substitutes 101

The Importance of Being Unimportant 101

Luxuries versus Necessities 101

**ECONOMICS IN PRACTICE** Elasticities at a Delicatessen in the Short Run and Long Run 102

The Time Dimension 102

Other Important Elasticities 103

Income Elasticity of Demand 103

Cross-Price Elasticity of Demand 103

Elasticity of Supply 104

**ECONOMICS IN PRACTICE** Tax Rates and Migration in Europe 105

What Happens when We Raise Taxes: Using Elasticity 105

Looking Ahead 107

Summary 107 Review Terms and Concepts 108 Problems 108

## PART II The Market System 113

## 6 Household Behavior and Consumer Choice 116

Household Choice in Output Markets 117

The Determinants of Household Demand 117

The Budget Constraint 117

The Equation of the Budget Constraint 120

The Basis of Choice: Utility 121

Diminishing Marginal Utility 121

Allocating Income to Maximize Utility 122

The Utility-Maximizing Rule 124

**ECONOMICS IN PRACTICE** Price Salience 125

Diminishing Marginal Utility and Downward-Sloping Demand 125

Income and Substitution Effects 126

The Income Effect 126

The Substitution Effect 127

Household Choice in Input Markets 128

The Labor Supply Decision 128

**ECONOMICS IN PRACTICE** Substitution and Market Baskets 129

The Price of Leisure 129

Income and Substitution Effects of a Wage Change 130

**ECONOMICS IN PRACTICE** Job Flexibility for Uber Drivers 131

Saving and Borrowing: Present versus Future Consumption 132

A Review: Households in Output and Input Markets 133

Summary 133 Review Terms and Concepts 134

Problems 134 Appendix: Indifference Curves 138

## 7 The Production Process: The Behavior of Profit-Maximizing Firms 145

The Behavior of Profit-Maximizing Firms 146

Profits and Economic Costs 147

Short-Run versus Long-Run Decisions 148

The Bases of Decisions: Market Price of Outputs, Available Technology, and Input Prices 149

**The Production Process 150**

Production Functions: Total Product, Marginal Product, and Average Product 150

Production Functions with Two Variable Factors of Production 153

**ECONOMICS IN PRACTICE** Gains from Modern Management 154

**Choice of Technology 154**

**ECONOMICS IN PRACTICE** How Fast Should a Truck Driver Go? 155

**Looking Ahead: Cost and Supply 156**

Summary 156 Review Terms and Concepts 157

Problems 157 Appendix: Isoquants and Isocosts 161

## 8 Short-Run Costs and Output Decisions 168

**Costs in the Short Run 169**

Fixed Costs 169

Variable Costs 171

**ECONOMICS IN PRACTICE** The Cost Structure of a Rock Concert: Welcome to New York 176

Total Costs 176

Short-Run Costs: A Review 178

**Output Decisions: Revenues, Costs, and Profit Maximization 179**

Perfect Competition 179

Total Revenue and Marginal Revenue 180

Comparing Costs and Revenues to Maximize Profit 180

The Short-Run Supply Curve 182

**Looking Ahead 183**

Summary 184 Review Terms and Concepts 185 Problems 185

## 9 Long-Run Costs and Output Decisions 188

**Short-Run Conditions and Long-Run Directions 189**

Maximizing Profits 189

Minimizing Losses 192

The Short-Run Industry Supply Curve 192

Long-Run Directions: A Review 194

**Long-Run Costs: Economies and Diseconomies of Scale 194**

Increasing Returns to Scale 195

**ECONOMICS IN PRACTICE** Economies of Scale in the Search Business 196

Constant Returns to Scale 196

Diseconomies of Scale 197

**ECONOMICS IN PRACTICE** Diseconomies of Scale in Secondary School Education 197

U-Shaped Long-Run Average Costs 198

**ECONOMICS IN PRACTICE** The Long-Run Average Cost Curve: Flat or U-Shaped? 198

**Long-Run Adjustments to Short-Run Conditions 199**

Short-Run Profits: Moves In and Out of Equilibrium 199

The Long-Run Adjustment Mechanism: Investment Flows Toward Profit Opportunities 201

**Output Markets: A Final Word 202**

**ECONOMICS IN PRACTICE** Why Are Hot Dogs So Expensive in Central Park? 203

Summary 203 Review Terms and Concepts 204 Problems 204 Appendix: External Economies and Diseconomies 208

## 10 Input Demand: The Labor and Land Markets 212

**Input Markets: Basic Concepts 213**

Demand for Inputs: A *Derived Demand* 213

Marginal Revenue Product 213

**ECONOMICS IN PRACTICE** Do Managers Matter? 214

**ECONOMICS IN PRACTICE** How Much is Flexibility Worth? 216

Labor Supply 216

**Labor Markets 217**

The Firm's Labor Market Decision 217

**ECONOMICS IN PRACTICE** The National Football League Predicts Marginal Products 218

Many Labor Markets 219

**Land Markets 219**

Rent and the Value of Output Produced on Land 220

**ECONOMICS IN PRACTICE** Where Do You Want to Live? 221

**Input Demand Curves 221**

Shifts in Factor Demand Curves 221

**Profit-maximizing Condition in Input Markets 223**

**Looking Ahead 223**

Summary 224 Review Terms and Concepts 224 Problems 225

# 11 Input Demand: The Capital Market and the Investment Decision 228

Capital and Investment 229

Capital 229

The Demand for New Capital and the Investment Decision 230

Forming Expectations 231

Comparing Costs and Expected Returns 232

The Capital Market 234

**ECONOMICS IN PRACTICE** Investment Banking, IPOs, and Electric Cars 235

Capital Income: Interest and Profits 236

Financial Markets in Action 237

**ECONOMICS IN PRACTICE** The Stock Market 238

**ECONOMICS IN PRACTICE** Do Children Learn or Inherit Investing Strategies from their Parents? 239

Capital Accumulation and Allocation 239

A Final Word on Capital 239

Summary 240 Review Terms and Concepts 241

Problems 241 Appendix: Calculating Present Value 243

# 12 General Equilibrium and the Efficiency of Perfect Competition 249

Market Adjustment to Changes in Demand 250

Allocative Efficiency and Competitive Equilibrium 252

Pareto Efficiency 252

**ECONOMICS IN PRACTICE** More Corn to Burn, Less to Eat 253

The Efficiency of Perfect Competition 254

Perfect Competition Versus Real Markets 257

The Sources of Market Failure 258

Imperfect Competition 258

Public Goods 258

Externalities 259

Imperfect Information 259

Evaluating the Market Mechanism 260

Summary 260 Review Terms and Concepts 261 Problems 261

## PART III Market Imperfections and the Role of Government 264

# 13 Monopoly and Antitrust Policy 264

Imperfect Competition and Market Power: Core Concepts 265

Forms of Imperfect Competition and Market Boundaries 265

Price and Output Decisions in Pure Monopoly Markets 266

Demand in Monopoly Markets 266

**ECONOMICS IN PRACTICE** Figuring Out the Right Price 267

Perfect Competition and Monopoly Compared 272

Monopoly in the Long Run: Barriers to Entry 273

**ECONOMICS IN PRACTICE** Patents and the Location of Multinational Corporations 274

The Social Costs of Monopoly 276

Inefficiency and Consumer Loss 276

Rent-Seeking Behavior 278

Price Discrimination 279

Examples of Price Discrimination 280

**ECONOMICS IN PRACTICE** Price Discrimination at Work: Laos's Wat Si Saket 281

Remedies for Monopoly: Antitrust Policy 282

Major Antitrust Legislation 282

**ECONOMICS IN PRACTICE** An Economist Tweets about Price Discrimination 283

Imperfect Markets: A Review and a Look Ahead 284

Summary 284 Review Terms and Concepts 285

Problems 286

# 14 Oligopoly 289

Market Structure in an Oligopoly 290

**ECONOMICS IN PRACTICE** Patents in the Smartphone Industry 292

Oligopoly Models 293

The Collusion Model 293

The Price-Leadership Model 294

**ECONOMICS IN PRACTICE** Price-Fixing Can Send You to Jail! 294

The Cournot Model 295

**ECONOMICS IN PRACTICE** Ideology and Newspapers 297

Game Theory 298

Repeated Games 300

**ECONOMICS IN PRACTICE** Confusing Prices 302

A Game with Many Players: Collective Action Can Be Blocked by a Prisoner's Dilemma 302

Oligopoly and Economic Performance 303

Industrial Concentration and Technological Change 304

The Role of Government 305

Regulation of Mergers 305

**ECONOMICS IN PRACTICE** Block that Movie Advertisement! 306

A Proper Role for Government? 307

Summary 308 Review Terms and Concepts 309 Problems 309

Public Provision of Public Goods 342

Optimal Provision of Public Goods 342

Local Provision of Public Goods: Tiebout Hypothesis 345

Common Resources 345

Summary 346 Review Terms and Concepts 346 Problems 347

## 15 Monopolistic Competition 312

Industry Characteristics 313

Product Differentiation and Advertising 314

How Many Varieties? 314

How Do Firms Differentiate Products? 315

**ECONOMICS IN PRACTICE** Measuring the Benefits from Variety: How Many Different Pairs of Sandals Do You Need? 316

**ECONOMICS IN PRACTICE** An Economist Makes Tea 318

Advertising 318

**ECONOMICS IN PRACTICE** Oprah Winfrey's Celebrity Endorsements Sell Books! 320

Price and Output Determination in Monopolistic Competition 321

Product Differentiation and Demand Elasticity 321

Price/Output Determination in the Short Run 321

Price/Output Determination in the Long Run 322

Economic Efficiency and Resource Allocation 323

Summary 324 Review Terms and Concepts 325 Problems 325

## 16 Externalities, Public Goods, and Common Resources 327

Externalities and Environmental Economics 328

Marginal Social Cost and Marginal Cost

Pricing 328

**ECONOMICS IN PRACTICE** Adjusting to an Environmental Disaster: The Dust Bowl 330

Costs and Benefits of Pollution 331

Internalizing Externalities 333

**ECONOMICS IN PRACTICE** Imposing Internal Carbon Prices 338

**ECONOMICS IN PRACTICE** Emissions and Electricity Prices 340

Public (Social) Goods 341

The Characteristics of Public Goods 341

## 17 Uncertainty and Asymmetric Information 350

Decision Making Under Uncertainty: The Tools 351

Expected Value 351

Expected Utility 351

Attitudes Toward Risk 353

Asymmetric Information 355

Adverse Selection 355

**ECONOMICS IN PRACTICE** Adverse Selection in the Healthcare Market 357

Market Signaling 358

**ECONOMICS IN PRACTICE** The Health Care Mandate 359

**ECONOMICS IN PRACTICE** How to Read Advertisements 360

Moral Hazard 361

Incentives 361

**ECONOMICS IN PRACTICE** How's the Snow? 362

Labor Market Incentives 362

Summary 363 Review Terms and Concepts 364 Problems 364

## 18 Income Distribution and Poverty 366

The Sources of Household Income 367

Wages and Salaries 367

Income from Property 367

Income from the Government: Transfer Payments 367

The Distribution of Market Income 367

Income Inequality in the United States 367

Causes of Inequality in Market Income 369

Inequality in Wage Income 370

**ECONOMICS IN PRACTICE** Everything I Needed to Know I Learned in Kindergarten! 371

**ECONOMICS IN PRACTICE** Social Identity and Tech Jobs 372

Inequality in Property Income 373

**ECONOMICS IN PRACTICE** The New Rich Work! 374

**Arguments for and Against Reducing Market-Income Inequality 375**

- Arguments Against Redistribution 375
- Arguments in Favor of Redistribution 376

**Redistribution of Income Through Taxes and Transfers 377**

- The Tax System 378
- The Transfer System 379
- Redistribution Effects of Taxes and Transfers in 2013 381
- Change in U.S. Inequality Over Time: 1979–2013 381

**Poverty 382****The Minimum Wage 383****The Distribution of Wealth 384****Income Inequality in Other Countries 384**

- Government or the Market? A Review 385

Summary 386 Review Terms and Concepts 387 Problems 387

**19 Public Finance: The Economics of Taxation 390****The Basics of Taxation 391**

- Taxes: Basic Concepts 391

**ECONOMICS IN PRACTICE** Calculating Taxes 393**Tax Incidence: Who Pays? 394**

- The Incidence of Payroll Taxes 394
- The Incidence of Corporate Profits Taxes 397

**ECONOMICS IN PRACTICE** Economists Argue About the Incidence of the Corporate Profits Tax 399

- The Overall Incidence of Taxes in the United States: Empirical Evidence 399

**Excess Burdens and the Principle of Neutrality 399**

- Measuring Excess Burdens 400
- Excess Burdens and the Degree of Distortion 401

**The Principle of Second Best 402**

- Optimal Taxation 402

**Tax Equity 402**

- What Is the “Best” Tax Base? 403

**Social Choice 405**

- The Voting Paradox 405
- Government Inefficiency: Theory of Public Choice 407
- Rent-Seeking Revisited 408

Summary 408 Review Terms and Concepts 409 Problems 409

**PART IV The World Economy 412****20 International Trade, Comparative Advantage, and Protectionism 412****Trade Surpluses and Deficits 413****The Economic Basis for Trade: Comparative Advantage 413**

- Absolute Advantage versus Comparative Advantage 414
- Terms of Trade 418
- Exchange Rates 419

**The Sources of Comparative Advantage 421**

- The Heckscher-Ohlin Theorem 421
- Other Explanations for Observed Trade Flows 422

**Trade Barriers: Tariffs, Export Subsidies, and Quotas 422****ECONOMICS IN PRACTICE** Globalization Improves Firm Productivity 423

- U.S. Trade Policies, GATT, and the WTO 424

**ECONOMICS IN PRACTICE** What Happens When We Lift a Quota? 424**Free Trade or Protection? 426**

- The Case for Free Trade 426
- The Case for Protection 428

**ECONOMICS IN PRACTICE** A Petition 430**An Economic Consensus 432**

Summary 432 Review Terms and Concepts 433 Problems 433

**21 Economic Growth in Developing Economies 436****Life in the Developing Nations: Population and Poverty 437****ECONOMICS IN PRACTICE** What Can We Learn from the Height of Children? 438**Economic Development: Sources and Strategies 438**

- The Sources of Economic Development 439

**ECONOMICS IN PRACTICE** Corruption 441

- Strategies for Economic Development 442

**ECONOMICS IN PRACTICE** Who You Marry May Depend on the Rain 444

- Two Examples of Development: China and India 446

**ECONOMICS IN PRACTICE** Cell Phones Increase Profits for Fishermen in India 447

Development Interventions 447

- Random and Natural Experiments: Some New Techniques in Economic Development 448
- Education Ideas 448
- Health Improvements 449

Summary 450 Review Terms and Concepts 450 Problems 451

**PART V Methodology 453**

---

**22 Critical Thinking about Research 453**

Selection Bias 454

Causality 455

- Correlation versus Causation 455
- Random Experiments 456
- Regression Discontinuity 457

**ECONOMICS IN PRACTICE** Moving to Opportunity 458

**ECONOMICS IN PRACTICE** Birth Weight and Infant Mortality 459

Difference-in-Differences 460

**ECONOMICS IN PRACTICE** Using Difference-in-Differences to Study the Minimum Wage 461

Statistical Significance 462

Regression Analysis 463

Summary 465 Review Terms and Concepts 465 Problems 466

Glossary 468

Index 477

Photo Credits 495

# Preface

## New to this Edition

Updates for this edition of *Principles of Microeconomics* include:

- It is our hope that students will come to see both how broad the tools of economics are and how exciting is much of the new research in the field. The 13<sup>th</sup> edition has continued the changes in the *Economics in Practice* boxes that we began several editions ago. In these boxes, we aim to bring economic thinking to the concerns of the typical student. In many cases, we do this by spotlighting recent research, much of it by young scholars. Here are some examples of the topics we cover in the new boxes:
  - Research on the role weather plays in reducing school achievement in rural India by changing the importance of child labor in agriculture (Chapter 1, “The Scope and Method of Economics”).
  - The strength of the economics major in helping students avoid unemployment in a recession, showing how the skills students learn in an economics class can benefit them regardless of the career path they choose (Chapter 1, “The Scope and Method of Economics”).
  - The E-Z pass and the role of price salience in determining a customer’s response to price changes (Chapter 6, “Household Behavior and Consumer Choice”). This is one of the several new behavioral economics boxes we have in the new edition.
  - The Marshall Plan’s effects on managerial training and company productivity (Chapter 7, “The Production Process: The Behavior of Profit-Maximizing Firms”).
  - How researchers can use data on adopted children to explore whether generationally-correlated investing patterns are learned behavior or have some genetic component reflecting risk preference (Chapter 11, “Input Demand: The Capital Market and the Investment Decision”).
  - Most coders are men. How much does this have to do with gender identity? We discuss an experiment in Peru by a nonprofit to see if more women can be encouraged to go into this lucrative field (Chapter 18, “Income Distribution and Poverty”).
  - Whether shareholders or workers benefit from the 2017 Trump tax package’s big reduction in the corporate income tax (Chapter 19, “Public Finance: The Economics of Taxation”).
- We have reworked some of the chapters to streamline them and to improve readability. In the discussions of supply and demand and the discussions of perfect and imperfect competition, we have added simple algebraic material to the graphical, numeric and verbal explanations to aid in clarity of understanding.
  - Chapter 11, “Input Demand: The Capital Market and the Investment Decision,” has been considerably reworked to include a more thorough discussion of finance, that should be especially interesting to students who anticipate a career in the financial sector.
  - Chapter 18, “Income Distribution and Poverty,” has also been substantially reworked to reflect the increased worldwide concern with issues of inequality and economic mobility.
- Many end-of-chapter problems have been revised.
- We have added Critical Thinking questions to each Economics in Practice box and each end-of-chapter section, to reinforce the underlying economic principles and to give students practical application of what they’ve learned.



## The *Principles of Microeconomics* Program

Our goal in the 13<sup>th</sup> edition, as it was in the first edition, is to instill in students a fascination with both the functioning of the economy and the power and breadth of economics. The first line of every edition of our book has been “The study of economics should begin with a sense of wonder.” We hope that readers come away from our book with a basic understanding of how market economies function, an appreciation for the things they do well, and a sense of the things they do poorly. We also hope that readers begin to learn the art and science of economic thinking and begin to look at some policy, and, even personal decisions, in a different way. We have prepared this edition of the text and MyLab Economics with this in mind. To improve student results, we recommend pairing the text content with **MyLab Economics**, which is the teaching and learning platform that empowers you to reach every student. By combining trusted author content with digital tools and a flexible platform, MyLab personalizes the learning experience and will help your students learn and retain key course concepts while developing skills that future employers are seeking in their candidates. From **Digital Interactives** to **Real-time Data Analysis Exercises**, MyLab Economics helps you teach your course, your way. Learn more at [www.pearson.com/mylab/economics](http://www.pearson.com/mylab/economics).

## Solving Teaching and Learning Challenges

As authors and teachers, we understand the challenges of the principles of economics course. The foundational themes of *Principles of Microeconomics*, 13<sup>th</sup> edition, are to introduce the discipline of economics and to provide a basic understanding of how economies function. This requires a blend of economic theory, institutional material, and real-world applications. We have maintained a balance between these ingredients in every chapter. There is such volume of material for teachers to cover, and for students to understand. We address this learning challenge through: (1) A three-tiered approach of explaining key concepts through relevant stories, graphs and equations (2) Pedagogical features in the text and accompanying digital resources in MyLab Economics that illustrate and reinforce key concepts through real-world examples and applications that are relevant to students; (3) Graphs and animations; and (4) A wide variety of questions and problems.

### Three-Tiered Explanations: Stories-Graphs-Equations

Professors who teach principles of economics are faced with a classroom of students with different abilities, backgrounds, and learning styles. For some students, analytical material is difficult no matter how it is presented; for others, graphs and equations seem to come naturally. The problem facing instructors and textbook authors alike is how to convey the core principles of the discipline to as many students as possible without selling the better students short. Our approach to this problem is to present most core concepts in the following three ways.

First, we present each concept in the context of a simple intuitive **story** or example in words often followed by a table. Second, we use a **graph** in most cases to illustrate the story or example. And finally, in many cases where appropriate, we use an **equation** to present the concept with a mathematical formula. In this edition, we have strengthened this element without greatly increasing mathematical levels needed for the class. For students who would benefit from a math review, MyLab Economics offers math skills review Chapter R, accessible from the assignment manager and containing over 150 graphing, algebra, and calculus exercises for homework, quiz, and test use.

### Economics in Practice

We know that students are best motivated when they see the relevance of what they're learning to the world they live in. We've created *Economics in Practice* with a focus on recent research or events that support a key concept in the chapter and help students think about the broad and exciting applications of economics to their lives and the world around them. Each box contains a Critical Thinking question or two to further connect the material they are learning with their lives.


ECONOMICS IN PRACTICE

#### Have You Bought This Textbook?

As all of you know full well, college textbooks are expensive. At first, it may seem as though there are few substitutes available for the cash-strapped undergraduate. After all, if your professor assigns Smith's *Principles of Biology* to you, you cannot go out and see if Jones' *Principles of Chemistry* is perhaps cheaper and buy it instead. As it turns out, as some recent work by Judy Chevalier and Austan Goolsbee<sup>1</sup> discovered, even when instructors require particular texts, when prices are high students have found substitutes. Even in the textbook market student demand does slope down!

Chevalier and Goolsbee collected data on textbooks from more than 1600 colleges for the years 1997–2001 to do their research. For that period, the lion's share of both new and used college textbooks was sold in college bookstores. Next, they looked at class enrollments for each college in the large majors: economics, biology, and psychology. In each of those classes they were able to learn which textbook had been assigned. At first, one might think that the total number of textbooks, used plus new, should match the class enrollment. After all, the text is required! In fact, what they found was the higher the textbook price, the more text sales fell below class enrollments.

So what substitutes did students find for the required text? While the paper has no hard evidence on this, students themselves gave them lots of suggestions. Many decide to share books with roommates. Others use the library more. These solutions are not perfect, but when the price is high enough, students find it worth their while to walk to the library!



**CRITICAL THINKING**

1. If you were to construct a demand curve for a required text in a course, where would that demand curve intersect the horizontal axis?
2. And this much harder question: In the year before a new edition of a text is published, many college bookstores will not buy the older edition. Given this *fact*, what do you think happens to the gap between enrollments and new plus used book sales in the year before a new edition of a text is expected?

<sup>1</sup>Judith Chevalier and Austan Goolsbee, "Are Durable Goods Consumers Forward Looking? Evidence From College Textbooks," *Quarterly Journal of Economics*, 2009: 1853–1884.

To further promote the relevance of economics, *Current News Exercises* provide a turnkey way to assign gradable news-based exercises in MyLab Economics. Each week, Pearson scours the news, finds a current microeconomics and macroeconomics news article or video, creates exercises around these news articles, and then automatically adds them to MyLab Economics. Assigning and grading current news-based exercises that deal with the latest micro and macro events and policy issues has never been more convenient.

Pearson Economic News

[Home](#)
[About](#)

## Macroeconomic Weekly News Update August 25, 2018 – August 31, 2018

What's Really Going On With China's Economy?

China / economic growth / exports / GDP / international trade

## Microeconomic Weekly News Update August 25, 2018 – August 31, 2018

Inside the High-Stakes Business of Tracking Space Junk

externalities / market failure / public goods / space trash / tragedy of the commons

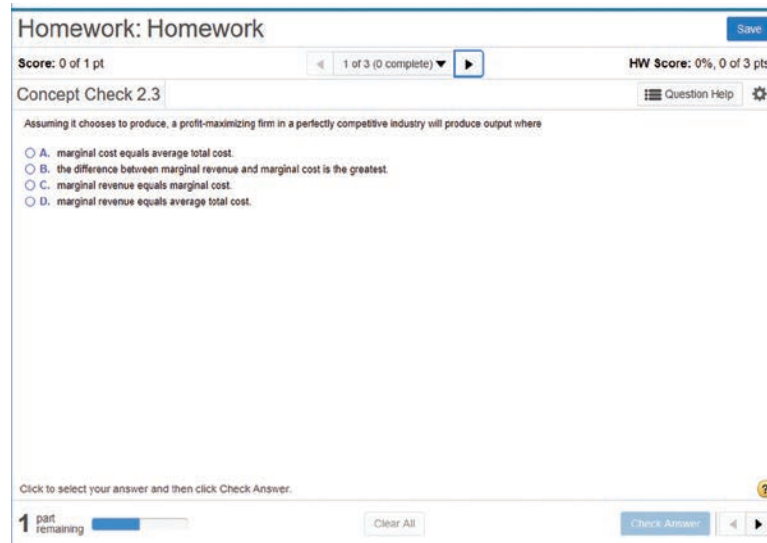
**SEARCH**

**CATEGORIES**

- 01. Introductory Concepts (scarcity, opportunity cost, comparative advantage, and economic models)
- 02. Supply Demand and Market Equilibrium (applications of supply/demand models)
- 03. Market Efficiency and Surplus; Market Failure and Public Goods
- 04. Factors of Production, Labor, Technology and Costs
- 05. Market Structure (pricing, advertising, and game theory)
- 06. Macroeconomic Variables and Policy Goals
- 07. Growth, Development, and Financial Markets (long run)
- 08. Monetary Policy (short-run fluctuations)
- 09. Fiscal Policy (short-run fluctuations)
- 10. International Economics (trade and finance)

## Concept Checks

Giving students the opportunity to practice what they are learning along the way is critical to their success in the principles of economics course. New for this edition, each section and subsection of each learning objective, and select key figures, is reinforced with a Concept Check in the eText of MyLab Economics that contains one or two multiple choice, true/false, or fill-in questions. These checks act as “speed bumps” that encourage students to stop and check their understanding of fundamental terms and concepts before moving on to the next section. The goal is to help students assess their progress on a section-by-section basis, so they can be better prepared for homework, quizzes, and exams.

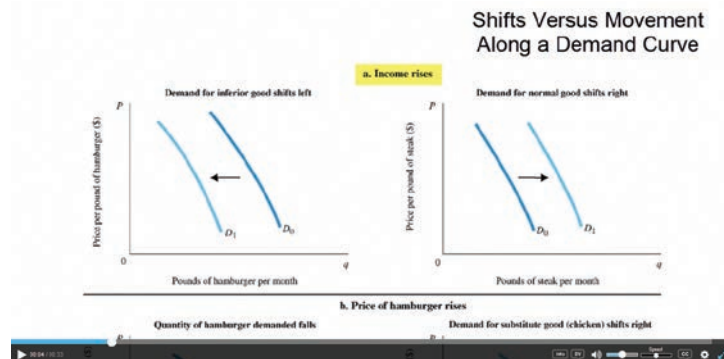


## Graphing Animations

Graphs are the backbone of introductory economics, but many students struggle to understand and work with them. The Chapter 1 Appendix, “How to Read and Understand Graphs,” shows readers how to interpret the over 200 graphs featured in this book. To make interpreting graphs easier for students, we use red curves to illustrate the behavior of firms, blue curves to show the behavior of households, and a different shade of red and blue to signify a shift in a curve.

The figures in the book are also an integral part of our three-tiered approach to explain concepts in words, equations and graphs. They promote learning as students read an example or story, followed by a mathematical representation, and then see a graphical representation.

Select numbered figures in the text have a supporting animated version in MyLab Economics. The goal is to help students understand shifts in curves, movements along curves, and changes in equilibrium values by bringing graphs to life. Having an animated version of a graph helps students who have difficulty interpreting the static version in the printed text. Graded practice exercises are included with the animations to give students practice reading and interpreting graphs.



## Real-Time Data

Currency is imperative in economics, particularly macroeconomics. We achieve this with real-time data analysis figures and exercises. Many of the key figures in the text have been updated in the MyLab with real-time data from the Federal Reserve's Economic Data (FRED™) — a comprehensive, up-to-date data set maintained by the Federal Reserve Bank of St. Louis. These animated graphs help students understand shifts in curves, movements along curves, and changes in equilibrium values. Easy to assign and automatically graded, Real-Time Data Analysis exercises use up-to-the-minute, real-time macroeconomic data. These exercises communicate directly with the Federal Reserve Bank of St. Louis's FRED™ site, so every time FRED posts new data, students see it.

The screenshot shows a homework question interface. At the top, it says 'Homework: Homework' with a 'Save' button. Below that, it shows 'Score: 1 of 1 pt' and 'HW Score: 33.33%, 1 of 3 pts'. The question title is 'RTDA+: Unemployment'. The question text reads: 'Click the following link to view unemployment data from FRED\*. Then use that data to answer the following questions. \*Real-time data provided by Federal Reserve Economic Data (FRED), Federal Reserve Bank of Saint Louis. The data in the table below shows employment data for August 01, 2018. Using the link above, correctly identify the title for each series listed in the table below.'

Title	Series ID	Value
Unemployed	UNEMPLOY	6,234
Civilian Labour force	CLF160V	161,776
Employment level-part-time for economic reasons...	LNS12032195	2,551

Using FRED, the series above are reported monthly, and the values are in thousands of persons.

Use the data in the table above to calculate two different unemployment rates. (Enter your responses rounded to two decimal places.)

The civilian unemployment rate is 3.89%.

The civilian unemployment rate including persons who are underemployed (part-time for economic reasons) is 5.43%.

Question is complete.

All parts showing

## Critical Thinking Questions

Throughout the course, and after graduation, students need to demonstrate critical thinking skills in their work and careers. To help develop these essential skills, we've added a new section of Critical Thinking questions to give students practice in higher-order thinking. Available in MyLab Economics, each end-of-chapter problem set ends with a *Critical Thinking Questions* section. These questions ask students to think more deeply about the concepts they've learned in the chapter when answering them. These assignable essay questions can be used on homework, tests, or quizzes. They require manual scoring; however, each essay question includes a sample correct answer to make grading easy.

### CRITICAL THINKING QUESTIONS

**QUESTION 1** When an unemployed individual gives up looking for work and leaves the labor force, she is no longer considered unemployed. What happens to the unemployment rate as a result? Does this mean that the unemployment rate understates or overstates the problem of joblessness?

**QUESTION 2** According to the Efficiency Wage Theory, employers occasionally pay workers more than the equilibrium wage in the market in order to increase productivity. Explain how this would lead to reduced turnover.

## Problems and Solutions

Each chapter and appendix ends with a problem set that asks students to think about and apply what they've learned in the chapter. These problems are not simple memorization questions. Rather, they ask students to perform graphical analysis or to apply economics to a

real-world situation or policy decision. More challenging problems are indicated by an asterisk. Many problems have been updated. These problems can be assigned and auto-graded in MyLab Economics and are available with optional just-in-time learning aids to help students when they need it the most. Students can also practice these problems in the Study Plan. The Study Plan gives students personalized recommendations, practice opportunities, and learning aids to help them stay on track.

## Developing Employability Skills

For students to succeed in a rapidly changing job market, they should be aware of their career options and how to go about developing the many skills they will need to do so. We focus on developing these skills in a variety of ways.

In the text, the *Economics in Practice* boxes help students think deeply about concepts and make connections between what they learn in class and how it can apply to their job in the real world. Chapter 1's *Economics in Practice* box explores how majoring in economics can help make students less vulnerable to recession. Chapter 11's *Economics in Practice* boxes highlight investment banking, the stock market, and investing strategies, topics of particular interest and relevance to students studying economics and finance.

In MyLab Economics, the *Critical Thinking Questions* and *Current News* exercises encourage application of skills that will contribute toward success in this course and in the future, regardless of each students' career path.

## Table of Contents Overview

### Microeconomic Structure

The organization of the microeconomic chapters continues to reflect our belief that the best way to understand how market economies operate—and the best way to understand basic economic theory—is to work through the perfectly competitive model first, including discussions of output markets (goods and services) and input markets (land, labor, and capital), and the connections between them before turning to noncompetitive market structures such as monopoly and oligopoly. When students understand how a simple, perfectly competitive system works, they can start thinking about how the pieces of the economy “fit together.” We think this is a better approach to teaching economics than some of the more traditional approaches, which encourage students to think of economics as a series of disconnected alternative market models. We also make extensive use of concrete examples, designed to help students see the power of the simple economic model. A mastery of this material is invaluable to students interested in careers in business and the public sector. Our core interest is in helping students to think about the world using economics.

Learning perfect competition first also enables students to see the power of the market system. It is impossible for students to discuss the efficiency of markets as well as the problems that arise from markets until they have seen how a simple, perfectly competitive market system produces and distributes goods and services. This is our purpose in Chapters 6 through 11.

Chapter 12, “General Equilibrium and the Efficiency of Perfect Competition,” is a pivotal chapter that links simple, perfectly competitive markets with a discussion of market imperfections and the role of government. Chapters 13 through 15 cover three noncompetitive market structures—monopoly, monopolistic competition, and oligopoly. Chapter 16 covers externalities, public goods, and social choice. Chapter 17 covers uncertainty and asymmetric information. Chapters 18 and 19 cover income distribution as well as taxation and government finance. Figure II.2 from page 110 gives you an overview of our structure.

## Instructor Teaching Resources

The instructor supplements are designed to make teaching and testing flexible and easy and are available for *Micro*, *Macro*, and *Economics* volumes.

This program comes with the following teaching resources:

Supplements available to instructors at <a href="http://www.pearsonhighered.com/case">www.pearsonhighered.com/case</a>	Features of the Supplement
<b>Instructor's Manual</b> authored by Tony Lima of California State University, East Bay	<ul style="list-style-type: none"> <li>• Detailed Chapter Outlines include key terminology, teaching notes, and lecture suggestions.</li> <li>• Topics for Class Discussion provide topics and real-world situations that help ensure that economic concepts resonate with students.</li> <li>• Unique Economics in Practice features that are not in the main text provide extra real-world examples to present and discuss in class.</li> <li>• Teaching Tips provide tips for alternative ways to cover the material and brief reminders on additional help to provide students. These tips include suggestions for exercises and experiments to complete in class.</li> <li>• Extended Applications include exercises, activities, and experiments to help make economics relevant to students.</li> <li>• Solutions are provided for all problems in the book.</li> </ul>
<b>Test Bank</b> authored by Randy Methenitis of Richland College and Richard Gosselin of Houston Community College	<ul style="list-style-type: none"> <li>• Multiple-choice, true/false, short-answer, and graphing questions with these annotations:</li> <li>• Difficulty level (1 for straight recall, 2 for some analysis, 3 for complex analysis)</li> <li>• Type (Multiple-choice, true/false, short-answer, essay)</li> <li>• Topic (The term or concept the question supports)</li> <li>• Learning outcome</li> <li>• AACSB learning standard (Written and Oral Communication; Ethical Understanding and Reasoning; Analytical Thinking; Information Technology; Interpersonal Relations and Teamwork; Diverse and Multicultural Work; Reflective Thinking; Application of Knowledge)</li> </ul>
<b>Computerized TestGen</b>	TestGen allows instructors to: <ul style="list-style-type: none"> <li>• Customize, save, and generate classroom tests</li> <li>• Edit, add, or delete questions from the Test Item Files</li> <li>• Analyze test results</li> <li>• Organize a database of tests and student results.</li> </ul>
<b>PowerPoints</b> authored by Jim Lee of Dickinson State University	<ul style="list-style-type: none"> <li>• Slides include all the graphs, tables, and equations in the textbook.</li> <li>• PowerPoints meet accessibility standards for students with disabilities. Features include, but not limited to:               <ul style="list-style-type: none"> <li>• Keyboard and Screen Reader access</li> <li>• Alternative text for images</li> <li>• High color contrast between background and foreground colors</li> </ul> </li> </ul>

## Acknowledgments

We are grateful to the many people who helped us prepare the 13<sup>th</sup> edition. We thank David Alexander, our Portfolio Manager, and Carolyn Philips, our Content Producer, for their help and enthusiasm.

Jennifer Gavigan, project manager at Integra Software Services, Inc., kept us on schedule and ensured that the production process of the book went smoothly. We want to give special thanks to Patsy Balin, Murielle Dawdy, and Tracy Waldman for their research assistance.

We also owe a debt of gratitude to those who reviewed and checked the 13<sup>th</sup> edition for accuracy. They provided us with valuable insight as we prepared this edition and its supplement package.

### Reviewers of the 13<sup>th</sup> Edition

Tom Beveridge, Durham Technical Community College  
 Mike Brandl, Ohio State  
 Shuang Feng, Edinboro University Of Pennsylvania  
 Dave Gordon, University of Saint Francis  
 Ahsan Habib, Adrian College  
 Tahereh Hojjat, DeSales University  
 Sarah Hsu, SUNY at New Paltz  
 Barbara John, University of Dayton  
 Theresa Powell, University of Dayton  
 Fahlino Sjuib, Framingham State University  
 Toni Weiss, Tulane University  
 Benaiah Yongo, Kettering University

### Reviewers of Previous Editions

Cynthia Abadie, Southwest Tennessee Community College  
 Shawn Abbott, College of the Siskiyous  
 Fatma Abdel-Raouf, Goldey-Beacom College  
 Lew Abernathy, University of North Texas  
 Rebecca Abraham, Nova Southeastern University  
 Basil Adams, Notre Dame de Namur University  
 Jack Adams, University of Maryland  
 Bahram Adrangi, University of Portland  
 Douglas K. Adie, Ohio University  
 Douglas Agbetsiafa, Indiana University, South Bend  
 Sheri Aggarwal, University of Virginia  
 Carlos Aguilar, El Paso Community College  
 Ehsan Ahmed, James Madison University  
 Ferhat Akbas, Texas A&M University  
 Sam Alapati, Rutgers University  
 Terence Alexander, Iowa State University  
 John W. Allen, Texas A&M University  
 Polly Allen, University of Connecticut  
 Stuart Allen, University of North Carolina at Greensboro  
 Hassan Aly, Ohio State University  
 Alex Anas, University at Buffalo, The State University of New York  
 David Anderson, Centre College  
 Joan Anderssen, Arapahoe Community College

Anthony Andrews, Governors State University  
 Jim Angresano, Hampton-Sydney College  
 Kenneth S. Arakelian, University of Rhode Island  
 Harvey Arnold, Indian River Community College  
 Nick Apergis, Fordham University  
 Bevin Ashenmiller, Occidental College  
 Richard Ashley, Virginia Technical University  
 Birjees Ashraf, Houston Community College Southwest  
 Kidane Asmeron, Pennsylvania State University  
 Musa Ayar, University of Texas, Austin  
 James Aylesworth, Lakeland Community College  
 Moshen Bahmani, University of Wisconsin—Milwaukee  
 Asatar Bair, City College of San Francisco  
 Diana Bajrami, College of Alameda  
 Mohammad Bajwa, Northampton Community College  
 Rita Balaban, University of North Carolina, Chapel Hill  
 A. Paul Ballantyne, University of Colorado, Colorado Springs  
 Richard J. Ballman, Jr., Augustana College  
 King Banaian, St. Cloud State University  
 Nick Barcia, Baruch College  
 Henry Barker, Tiffin University  
 Robin Bartlett, Denison University  
 Laurie Bates, Bryant University  
 Kari Battaglia, University of North Texas  
 Leon Battista, Bronx Community College  
 Amanda Bayer, Swarthmore College  
 Klaus Becker, Texas Tech University  
 Richard Beil, Auburn University  
 Clive Belfield, Queens College  
 Willie J. Belton, Jr., Georgia Institute of Technology  
 Daniel K. Benjamin, Clemson University  
 Charles A. Bennett, Gannon University  
 Emil Berendt, Siena Heights University  
 Daniel Berkowitz, University of Pittsburgh  
 Kurt Beron, University of Texas, Dallas  
 Derek Berry, Calhoun Community College  
 Tibor Besedes, Georgia Institute of Technology

Thomas Beveridge, Durham Technical Community College  
 Anoop Bhargava, Finger Lakes CC  
 Eugenie Bietry, Pace University  
 Kelly Blanchard, Purdue University  
 J. Jeffrey Blais, Rhode Island College  
 Mannie Bloemen, Houston Community College  
 Mark Bock, Loyola College in Maryland  
 Howard Bodenhorn, Lafayette College  
 Bruce Bolnick, Northeastern University  
 Frank Bonello, University of Notre Dame  
 Jeffrey Bookwalter, University of Montana  
 Antonio Bos, Tusculum College  
 Maristella Botticini, Boston University  
 George Bowling, St. Charles Community College  
 G. E. Breger, University of South Carolina  
 Dennis Brennan, William Rainey Harper Junior College  
 Anne E. Bresnock, California State Polytechnic University, Pomona, and the University of California, Los Angeles  
 Barry Brown, Murray State University  
 Bruce Brown, California State Polytechnic University, Pomona  
 Jennifer Brown, Eastern Connecticut State University  
 David Brownstone, University of California, Irvine  
 Don Brunner, Spokane Falls Community College  
 Jeff Bruns, Bacone College  
 David Bunting, Eastern Washington University  
 Barbara Burnell, College of Wooster  
 Alison Butler, Willamette University  
 Charles Callahan, III, State University of New York at Brockport  
 Fred Campano, Fordham University  
 Douglas Campbell, University of Memphis  
 Beth Cantrell, Central Baptist College  
 Kevin Carlson, University of Massachusetts, Boston  
 Leonard Carlson, Emory University  
 Arthur Schiller Casimir, Western New England College  
 Lindsay Caulkins, John Carroll University  
 Atreya Chakraborty, Boston College

- Suparna Chakraborty, Baruch College of the City University of New York
- Winston W. Chang, University at Buffalo, The State University of New York
- Janie Chermak, University of New Mexico
- David Ching, University of Hawaii – Honolulu
- Harold Christensen, Centenary College
- Daniel Christiansen, Albion College
- Susan Christoffersen, Philadelphia University
- Samuel Kim-Liang Chuah, Walla Walla College
- Dmitriy Chulkov, Indiana University, Kokomo
- David Colander, Middlebury College
- Paula M. Cole, University of Denver
- Daniel Condon, University of Illinois at Chicago; Moraine Valley Community College
- Karen Conway, University of New Hampshire
- Cesar Corredor, Texas A&M University
- David Cowen, University of Texas, Austin
- Tyler Cowen, George Mason University
- Amy Cramer, Pima Community College, West Campus
- Peggy Crane, Southwestern College
- Barbara Craig, Oberlin College
- Jerry Crawford, Arkansas State University
- James Cunningham, Chapman University
- Scott Cunningham, Baylor University
- Elisabeth Curtis, Dartmouth
- James D'Angelo, University of Cincinnati
- David Dahl, University of St. Thomas
- Sheryll Dahlke, Lees-McRae College
- Joseph Dahms, Hood College
- Sonia Dalmia, Grand Valley State University
- Rosa Lea Danielson, College of DuPage
- David Danning, University of Massachusetts, Boston
- Minh Quang Dao, Eastern Illinois University
- Amlan Datta, Cisco Junior College
- David Davenport, McLennan Community College
- Stephen Davis, Southwest Minnesota State University
- Dale DeBoer, Colorado University, Colorado Springs
- Dennis Debrecht, Carroll College
- Juan J. DelaCruz, Fashion Institute of Technology and Lehman College
- Greg Delemeester, Marietta College
- Yanan Di, State University of New York, Stony Brook
- Amy Diduch, Mary Baldwin College
- Timothy Diette, Washington and Lee University
- Vernon J. Dixon, Haverford College
- Alan Dobrowolski, Manchester Community College
- Eric Dodge, Hanover College
- Carol Dole, Jacksonville University
- Michael Donihue, Colby College
- Leslie Doss, University of Texas San Antonio
- Shahpour Dowlatshahi, Fayetteville Technical Community College
- Joanne M. Doyle, James Madison University
- Robert Driskill, Ohio State University
- James Dulgeroff, San Bernardino Valley College
- Kevin Duncan, Colorado State University
- Yvonne Durham, Western Washington University
- Debra Sabatini Dwyer, State University of New York, Stony Brook
- Gary Dymski, University of Southern California
- David Eaton, Murray State University
- Jay Egger, Towson State University
- Erwin Ehrhardt, University of Cincinnati
- Ann Eike, University of Kentucky
- Eugene Elander, Plymouth State University
- Ronald D. Elkins, Central Washington University
- Tisha Emerson, Baylor University
- Michael Enz, Western New England College
- Erwin Erhardt III, University of Cincinnati
- William Even, Miami University
- Ali Faegh, Houston Community College
- Noel J. J. Farley, Bryn Mawr College
- Mosin Farminesh, Temple University
- Dan Feaster, Miami University of Ohio
- Susan Feiner, Virginia Commonwealth University
- Getachew Felleke, Albright College
- Lois Fenske, South Puget Sound Community College
- Karen Fitzner, DePaul University
- William Field, DePauw University
- Deborah Figart, Richard Stockton College
- Barbara Fischer, Cardinal Stritch University
- Mary Flannery, Santa Clara University
- Bill Foeller, State University of New York, Fredonia
- Fred Foldvary, Santa Clara University
- Roger Nils Folsom, San Jose State University
- Mathew Forstater, University of Missouri-Kansas City
- Kevin Foster, The City College of New York
- Richard Fowles, University of Utah
- Sean Fraley, College of Mount Saint Joseph
- Johanna Francis, Fordham University
- Roger Frantz, San Diego State University
- Mark Frascatore, Clarkson University
- James Frederick, UNC at Pembroke
- Amanda Freeman, Kansas State University
- Morris Frommer, Owens Community College
- Brandon Fuller, University of Montana
- David Fuller, University of Iowa
- Mark Funk, University of Arkansas, Little Rock
- Alejandro Gallegos, Winona State University
- Craig Gallet, California State University, Sacramento
- N. Galloro, Chabot College
- Bill Galose, Drake University
- William Ganley, Buffalo State, SUNY
- Martin A. Garrett, Jr., College of William and Mary
- Tom Gausman, Northern Illinois University
- Richard Gearhart, California State University, Bakersfield
- Shirley J. Gedeon, University of Vermont
- Jeff Gerlach, Sungkyunkwan Graduate School of Business
- Lisa Giddings, University of Wisconsin, La Crosse
- Gary Gigliotti, Rutgers University
- Lynn Gillette, Spalding University
- Donna Ginther, University of Kansas
- James N. Giordano, Villanova University
- Amy Glass, Texas A&M University
- Sarah L. Glavin, Boston College
- Roy Gobin, Loyola University, Chicago
- Bill Godair, Landmark College
- Bill Goffe, University of Mississippi
- Devra Golbe, Hunter College
- Roger Goldberg, Ohio Northern University
- Joshua Goodman, New York University
- Ophelia Goma, DePauw University
- John Gonzales, University of San Francisco
- David Gordon, Illinois Valley College
- Richard Gosselin, Houston Community College
- Eugene Gotwalt, Sweet Briar College
- John W. Graham, Rutgers University
- Douglas Greenley, Morehead State University
- Thomas A. Gresik, University of Notre Dame



- Lisa M. Grobar, California State University, Long Beach  
 Wayne A. Grove, Le Moyne College  
 Daryl Gruver, Mount Vernon Nazarene University  
 Osman Gulseven, North Carolina State University  
 Mike Gumpfer, Millersville University  
 Benjamin Gutierrez, Indiana University, Bloomington  
 A. R. Gutowsky, California State University, Sacramento  
 Anthony Gyapong, Penn State University, Abington  
 David R. Hakes, University of Missouri, St. Louis  
 Bradley Hansen, University of Mary Washington  
 Stephen Happel, Arizona State University  
 Mehdi Haririan, Bloomsburg University of Pennsylvania  
 David Harris, Benedictine College  
 David Harris, San Diego State University  
 James Hartley, Mount Holyoke College  
 Bruce Hartman, California Maritime Academy of California State University  
 Mitchell Harwitz, University at Buffalo, The State University of New York  
 Dewey Heinsma, Mt. San Jacinto College  
 Sara Helms, University of Alabama, Birmingham  
 Wayne Hickenbottom, University of Texas at Austin  
 Brian Hill, Salisbury University  
 David Hoaas, Centenary College  
 Arleen Hoag, Owens Community College  
 Carol Hogan, University of Michigan, Dearborn  
 Harry Holzer, Michigan State University  
 Ward Hooker, Orangeburg-Calhoun Technical College  
 Bobbie Horn, University of Tulsa  
 John Horowitz, Ball State University  
 Ali Faegh, Houston Community College  
 Daniel Horton, Cleveland State University  
 Ying Huang, Manhattan College  
 Janet Hunt, University of Georgia  
 E. Bruce Hutchinson, University of Tennessee, Chattanooga  
 Creed Hyatt, Lehigh Carbon Community College  
 Ana Ichim, Louisiana State University  
 Aaron Iffland, Rocky Mountain College  
 Fred Inaba, Washington State University  
 Richard Inman, Boston College  
 Aaron Jackson, Bentley College  
 Brian Jacobsen, Wisconsin Lutheran College  
 Rus Janis, University of Massachusetts  
 Jonatan Jelen, The City College of New York  
 Eric Jensen, The College of William & Mary  
 Aaron Johnson, Missouri State University  
 Donn Johnson, Quinnipiac University  
 Paul Johnson, University of Alaska, Anchorage  
 Shirley Johnson, Vassar College  
 Farhoud Kafi, Babson College  
 R. Kallen, Roosevelt University  
 Arthur E. Kartman, San Diego State University  
 Hirshel Kasper, Oberlin College  
 Brett Katzman, Kennesaw State University  
 Bruce Kaufman, Georgia State University  
 Dennis Kaufman, University of Wisconsin, Parkside  
 Pavel Kapinos, Carleton College  
 Russell Kashian, University of Wisconsin, Whitewater  
 Amoz Kats, Virginia Technical University  
 David Kaun, University of California, Santa Cruz  
 Brett Katzman, Kennesaw State University  
 Fred Keast, Portland State University  
 Stephanie Kelton, University of Missouri, Kansas City  
 Deborah Kelly, Palomar College  
 Erasmus Kersting, Texas A&M University  
 Randall Kesselring, Arkansas State University  
 Alan Kessler, Providence College  
 Dominique Khactu, The University of North Dakota  
 Gary Kikuchi, University of Hawaii, Manoa  
 Hwagyun Kim, State University of New York, Buffalo  
 Keon-Ho Kim, University of Utah  
 Kil-Joong Kim, Austin Peay State University  
 Sang W. Kim, Hood College  
 Phillip King, San Francisco State University  
 Barbara Kneeshaw, Wayne County Community College  
 Inderjit Kohli, Santa Clara University  
 Heather Kohls, Marquette University  
 Janet Koscianski, Shippensburg University  
 Vani Kotcherlakota, University of Nebraska, Kearney  
 Barry Kotlove, Edmonds Community College  
 Kate Krause, University of New Mexico  
 David Kraybill, University of Georgia  
 David Kroeker, Tabor College  
 Stephan Kroll, California State University, Sacramento  
 Joseph Kubec, Park University  
 Jacob Kurien, Helzberg School of Management  
 Rosung Kwak, University of Texas at Austin  
 Sally Kwak, University of Hawaii-Manoa  
 Tim Kwock, University of Hawaii West Oahu  
 Steven Kyle, Cornell University  
 Anil K. Lal, Pittsburg State University  
 Melissa Lam, Wellesley College  
 David Lang, California State University, Sacramento  
 Gary Langer, Roosevelt University  
 Anthony Laramie, Merrimack College  
 Leonard Lardaro, University of Rhode Island  
 Ross LaRoe, Denison University  
 Michael Lawlor, Wake Forest University  
 Pareena Lawrence, University of Minnesota, Morris  
 Daniel Lawson, Drew University  
 Mary Rose Leacy, Wagner College  
 Margaret D. Ledyard, University of Texas, Austin  
 Jim Lee, Fort Hays State University  
 Judy Lee, Leeward Community College  
 Sang H. Lee, Southeastern Louisiana University  
 Sangjoon Lee, Alfred University  
 Don Leet, California State University, Fresno  
 Robert J. Lemke, Lake Forest College  
 David Lehmkuhl, Lakeland College  
 Gary Lemon, DePauw University  
 Alan Leonard, Wilson Technical Community College  
 Mary Lesser, Iona College  
 Ding Li, Northern State University  
 Zhe Li, Stony Brook University  
 Larry Lichtenstein, Canisius College  
 Benjamin Liebman, Saint Joseph's University  
 Jesse Liebman, Kennesaw State University  
 George Lieu, Tuskegee University  
 Stephen E. Lile, Western Kentucky University  
 Jane Lillydahl, University of Colorado at Boulder  
 Tony Lima, California State University, East Bay  
 Melissa Lind, University of Texas, Arlington  
 Al Link, University of North Carolina Greensboro  
 Charles R. Link, University of Delaware  
 Robert Litro, U.S. Air Force Academy  
 Samuel Liu, West Valley College  
 Jeffrey Livingston, Bentley College

- Ming Chien Lo, St. Cloud State University  
 Burl F. Long, University of Florida  
 Alina Luca, Drexel University  
 Adrienne Lucas, Wellesley College  
 Nancy Lutz, Virginia Technical University  
 Kristina Lybecker, Colorado College  
 Gerald Lynch, Purdue University  
 Karla Lynch, University of North Texas  
 Ann E. Lyon, University of Alaska, Anchorage  
 Bruce Madariaga, Montgomery College  
 Michael Magura, University of Toledo  
 Basel Mansour, New Jersey City University  
 Marvin S. Margolis, Millersville University of Pennsylvania  
 Tim Mason, Eastern Illinois University  
 Don Mathews, Coastal Georgia Community College  
 Don Maxwell, Central State University  
 Nan Maxwell, California State University at Hayward  
 Roberto Mazzoleni, Hofstra University  
 Cynthia S. McCarty, Jacksonville State University  
 J. Harold McClure, Jr., Villanova University  
 Patrick McEwan, Wellesley College  
 Ronnie McGinness, University of Mississippi  
 Todd McFall, Wake Forest University  
 Rick McIntyre, University of Rhode Island  
 James J. McLain, University of New Orleans  
 Dawn McLaren, Mesa Community College  
 B. Starr McMullen, Oregon State University  
 K. Mehtaboin, College of St. Rose  
 Martin Melkonian, Hofstra University  
 Alice Melkumian, Western Illinois University  
 William Mertens, University of Colorado, Boulder  
 Randy Methenitis, Richland College  
 Art Meyer, Lincoln Land Community College  
 Carrie Meyer, George Mason University  
 Meghan Millea, Mississippi State University  
 Jenny Minier, University of Miami  
 Mirzaie, The Ohio State University  
 David Mitchell, Missouri State University  
 Bijan Moeinian, Osceola Campus  
 Robert Mohr, University of New Hampshire  
 Shahruz Mohtadi, Suffolk University  
 Amyaz Moledina, College of Wooster  
 Gary Mongiovi, St. John's University
- Terry D. Monson, Michigan Technological University  
 Barbara A. Moore, University of Central Florida  
 Joe L. Moore, Arkansas Technical University  
 Myra Moore, University of Georgia  
 Robert Moore, Occidental College  
 Norma C. Morgan, Curry College  
 W. Douglas Morgan, University of California, Santa Barbara  
 David Murphy, Boston College  
 John Murphy, North Shore Community College, Massachusetts  
 Ellen Mutari, Richard Stockton College of New Jersey  
 Steven C. Myers, University of Akron  
 Veena Nayak, University at Buffalo, The State University of New York  
 Ron Necochea, Robert Wesleyan College  
 Doug Nelson, Spokane Community College  
 Randy Nelson, Colby College  
 David Nickerson, University of British Columbia  
 Sung No, Southern University and A&M College  
 Rachel Nugent, Pacific Lutheran University  
 Akorlie A. Nyatepe-Coo, University of Wisconsin LaCrosse  
 Norman P. Obst, Michigan State University  
 William C. O'Connor, Western Montana College  
 Constantin Ogloblin, Georgia Southern University  
 David O'Hara, Metropolitan State University  
 Albert Okunade, University of Memphis  
 Ronald Olive, University of Massachusetts, Lowell  
 Martha L. Olney, University of California, Berkeley  
 Kent Olson, Oklahoma State University  
 Jaime Ortiz, Florida Atlantic University  
 Theresa Osborne, Hunter College  
 Donald J. Oswald, California State University, Bakersfield  
 Mete Ozcan, Brooklyn College  
 Alexandre Padilla, Metropolitan State College of Denver  
 Aaron Pankratz, Fresno City College  
 Niki Papadopoulou, University of Cyprus  
 Walter Park, American University  
 Carl Parker, Fort Hays State University  
 Spiro Patton, Rasmussen College  
 Andrew Pearlman, Bard College  
 Charlie Pearson, Southern Maine Community College  
 Richard Peck, University of Illinois at Chicago
- Don Peppard, Connecticut College  
 Elizabeth Perry, Randolph College  
 Nathan Perry, University of Utah  
 Joe Petry, University of Illinois-Urbana-Champaign  
 Joseph A. Petry, University of Illinois  
 Mary Ann Pevas, Winona State University  
 Chris Phillips, Somerset Community College  
 Jeff Phillips, Morrisville Community College  
 Frankie Pircher, University of Missouri, Kansas City  
 Tony Pizelo, Spokane Community College  
 Dennis Placone, Clemson University  
 Mike Pogodzinski, San Jose State University  
 Linnea Polgreen, University of Iowa  
 Elizabeth Porter, University of North Florida  
 Bob Potter, University of Central Florida  
 Ed Price, Oklahoma State University  
 Abe Qastin, Lakeland College  
 Kevin Quinn, St. Norbert College  
 Sarah Quintanar, University of Arkansas at Little Rock  
 Ramkishen S. Rajan, George Mason University  
 James Rakowski, University of Notre Dame  
 Amy Ramirez-Gay, Eastern Michigan University  
 Paul Rappoport, Temple University  
 Artatrana Ratha, St. Cloud State University  
 Michael Rendich, Westchester Community College  
 Lynn Rittenoure, University of Tulsa  
 Travis Roach, Texas Tech University  
 Brian Roberson, Miami University  
 Michael Robinson, Mount Holyoke College  
 Juliette Roddy, University of Michigan, Dearborn  
 Michael Rolleigh, University of Minnesota  
 Belinda Roman, Palo Alto College  
 S. Scanlon Romer, Delta College  
 Brian Rosario, University of California, Davis  
 Paul Roscelli, Canada College  
 David C. Rose, University of Missouri-St. Louis  
 Greg Rose, Sacramento City College  
 Richard Rosenberg, Pennsylvania State University  
 Robert Rosenman, Washington State University  
 Robert Rosenthal, Stonehill College

- Howard Ross, Baruch College  
 Paul Rothstein, Washington University  
 Charles Roussel, Louisiana State University  
 Jeff Rubin, Rutgers University  
 Mark Rush, University of Florida  
 Dereka Rushbrook, Ripon College  
 Jerard Russo, University of Hawaii  
 Luz A. Saavedra, University of St. Thomas  
 William Samuelson, Boston University School of Management  
 Allen Sanderson, University of Chicago  
 David Saner, Springfield College – Benedictine University  
 Ahmad Saranjam, Bridgewater State College  
 David L. Schaffer, Haverford College  
 Eric Schansberg, Indiana University – Southeast  
 Robert Schenk, Saint Joseph’s College  
 Ramon Schreffler, Houston Community College System (retired)  
 Adina Schwartz, Lakeland College  
 Jerry Schwartz, Broward Community College  
 Amy Scott, DeSales University  
 Gary Sellers, University of Akron  
 Atindra Sen, Miami University  
 Chad Settle, University of Tulsa  
 Jean Shackelford, Bucknell University  
 Ronald Shadbegian, University of Massachusetts, Dartmouth  
 Linda Shaffer, California State University, Fresno  
 Dennis Shannon, Southwestern Illinois College  
 Stephen L. Shapiro, University of North Florida  
 Paul Shea, University of Oregon  
 Geoff Shepherd, University of Massachusetts Amherst  
 Bih-Hay Sheu, University of Texas at Austin  
 David Shideler, Murray State University  
 Alden Shiers, California Polytechnic State University  
 Gerald Shilling, Eastfield College  
 Dongsoo Shin, Santa Clara University  
 Elias Shukralla, St. Louis Community College, Meramec  
 Anne Shugars, Harford Community College  
 Daniel Sichel, Wellesley College  
 Richard Sicotte, University of Vermont  
 William Simeone, Providence College  
 Scott Simkins, North Carolina Agricultural and Technical State University  
 Larry Singell, University of Oregon  
 Priyanka Singh, University of Texas, Dallas  
 Sue Skeath, Wellesley College  
 Edward Skelton, Southern Methodist University  
 Ken Kenneth Slaysman, York College of Pennsylvania  
 John Smith, New York University  
 Paula Smith, Central State University, Oklahoma  
 Donald Snyder, Utah State University  
 Marcia Snyder, College of Charleston  
 David Sobiechowski, Wayne State University  
 John Solow, University of Iowa  
 Angela Sparkman, Itawamba Community College  
 Martin Spechler, Indiana University  
 David Spigelman, University of Miami  
 Arun Srinivasa, Indiana University, Southeast  
 David J. St. Clair, California State University at Hayward  
 Sarah Stafford, College of William & Mary  
 Richard Stahl, Louisiana State University  
 Rebecca Stein, University of Pennsylvania  
 Mary Stevenson, University of Massachusetts, Boston  
 Susan Stojanovic, Washington University, St. Louis  
 Courtenay Stone, Ball State University  
 Ernst W. Stromsdorfer, Washington State University  
 Edward Stuart, Northeastern Illinois University  
 Chris Stufflebean, Southwestern Oklahoma State University  
 Chuck Stull, Kalamazoo College  
 Kenneth Slaysman, York College of Pennsylvania  
 Della Sue, Marist College  
 Abdulhamid Sukar, Cameron University  
 Christopher Surfield, Saginaw Valley State University  
 Rodney B. Swanson, University of California, Los Angeles  
 James Swofford, University of Alabama  
 Bernica Tackett, Pulaski Technical College  
 Michael Taussig, Rutgers University  
 Samia Tavares, Rochester Institute of Technology  
 Timothy Taylor, Stanford University  
 William Taylor, New Mexico Highlands University  
 Sister Beth Anne Tercek, SND, Notre Dame College of Ohio  
 Henry Terrell, University of Maryland  
 Jennifer Thacher, University of New Mexico  
 Donna Thompson, Brookdale Community College  
 Robert Tokle, Idaho State University  
 David Tolman, Boise State University  
 Susanne Toney, Hampton University  
 Karen M. Travis, Pacific Lutheran University  
 Jack Trierweler, Northern State University  
 Brian M. Trinke, University of Texas at Austin  
 HuiKuan Tseng, University of North Carolina at Charlotte  
 Boone Turchi, University of North Carolina  
 Kristin Van Gaasbeck, California State University, Sacramento  
 Amy Vander Laan, Hastings College  
 Ann Velenchik, Wellesley College  
 Lawrence Waldman, University of New Mexico  
 Chris Waller, Indiana University, Bloomington  
 William Walsh, University of St. Thomas  
 Chunbei Wang, University of St. Thomas  
 John Watkins, Westminster  
 Janice Weaver, Drake University  
 Bruce Webb, Gordon College  
 Ross Weiner, The City College of New York  
 Elaine Wendt, Milwaukee Area Technical College  
 Walter Wessels, North Carolina State University  
 Christopher Westley, Jacksonville State University  
 Joan Whalen-Ayyappan, DeVry Institute of Technology  
 Robert Whaples, Wake Forest University  
 Leonard A. White, University of Arkansas  
 Alex Wilson, Rhode Island College  
 Wayne Winegarden, Marymount University  
 Jennifer Wissink, Cornell University  
 Arthur Woolf, University of Vermont  
 Jadrian Wooten, Penn State University

Paula Worthington, Northwestern  
University  
Linus Yamane, Pitzer College  
Bill Yang, Georgia Southern University  
Ben Young, University of Missouri,  
Kansas City

Darrel Young, University of Texas  
Michael Youngblood, Rock Valley College  
Jay Zagorsky, Boston University  
Alexander Zampieron, Bentley College  
Sourushe Zandvakili, University of  
Cincinnati

Walter J. Zeiler, University of Michigan  
Abera Zeyege, Ball State University  
James Ziliak, Indiana University,  
Bloomington  
Jason Zimmerman, South Dakota State  
University

We welcome comments about the 13<sup>th</sup> edition. Please write to us care of David Alexander, Executive Editor, Pearson, 501 Boylston Street, 8th floor, Boston, MA 02116.

**Karl E. Case**

**Ray C. Fair**

**Sharon M. Oster**

*This page is intentionally left blank*

# The Scope and Method of Economics



The study of economics should begin with a sense of wonder. Pause for a moment and consider a typical day in your life. It might start with a bagel made in a local bakery with flour produced in Minnesota from wheat grown in Kansas. After class you drive with a friend on an interstate highway that is part of a system that took 20 years and billions of dollars to build. You stop for gasoline refined in Louisiana from Saudi Arabian crude oil. Later, you log onto the Web with a laptop assembled in Indonesia from parts made in China and Skype with your brother in Mexico City. You use or consume tens of thousands of things in a day. Someone organized men and women and materials to produce and distribute these things. Thousands of decisions went into their completion, and somehow they got to you.

In the United States, more than 160 million people—over half the total population—work at hundreds of thousands of different jobs producing more than \$18 trillion worth of goods and services every year. Some cannot find work; some choose not to work. The United States imports more than \$300 billion worth of automobiles and parts and more than \$350 billion worth of petroleum and petroleum products each year; it exports around \$140 billion worth of agricultural products, including food. In the modern economy, consumers' choices include products made all over the globe.

**Economics** is the study of how individuals and societies choose to use the scarce resources that nature and previous generations have provided. The key word in this definition is *choose*. Economics is a behavioral, or social, science. In large measure, it is the study of how people make choices. The choices that people make, when added up, translate into societal choices.

The purpose of this chapter and the next is to elaborate on this definition and to introduce the subject matter of economics. What is produced? How is it produced? Who gets it? Why? Is the result good or bad? Can it be improved?

# 1

## CHAPTER OUTLINE AND LEARNING OBJECTIVES

### 1.1 Why Study Economics? *p. 2*

Identify three key reasons to study economics. Think of an example from your life in which understanding opportunity costs or the principle of efficient markets could make a difference in your decision making.

### 1.2 The Scope of Economics *p. 5*

Describe microeconomics, macroeconomics, and the diverse fields of economics.

### 1.3 The Method of Economics *p. 8*

Think about an example of bad causal inference leading to erroneous decision making. Identify the four main goals of economic policy.

### 1.4 An Invitation *p. 12*

Begin to get a sense of the many ways economics touches one's life.

### 1.5 Economic Skills and Economics as a Career *p. 12*

Describe economics as a career and the key skills you can learn from studying economics.

### Appendix: How to Read and Understand Graphs *p. 15*

Understand how data can be graphically represented.

**economics** The study of how individuals and societies choose to use the scarce resources that nature and previous generations have provided.