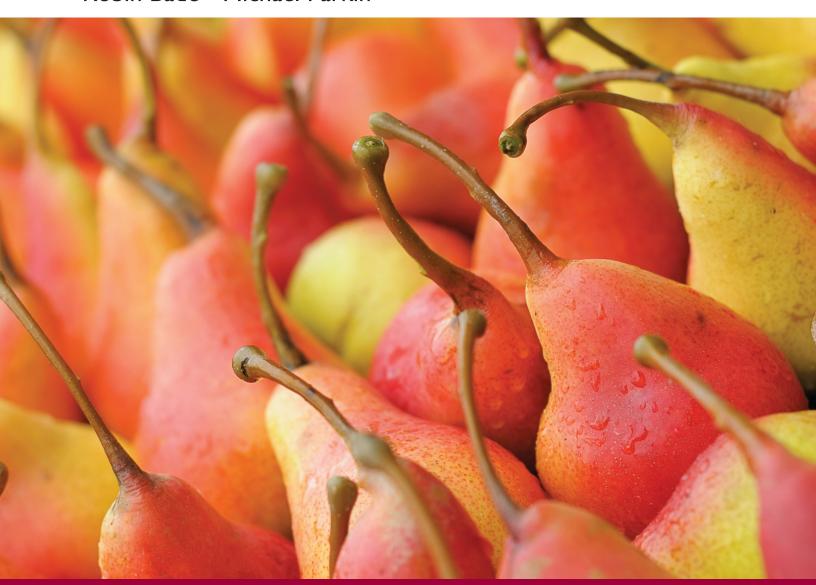


# Foundations of Economics

SEVENTH EDITION

Robin Bade • Michael Parkin



ALWAYS LEARNING PEARSON

#### The Pearson Series in Economics

Abel/Bernanke/Croushore

Macroeconomics\*

Bade/Parkin

Foundations of Economics\*

Berck/Helfand

The Economics of the Environment

Bierman/Fernandez

Game Theory with Economic Applications

Blanchard

Macroeconomics\*

Blau/Ferber/Winkler

The Economics of Women, Men, and Work

Boardman/Greenberg/ Vining/Weimer

Cost-Benefit Analysis

Boyer

Principles of Transportation Economics

Branson

Macroeconomic Theory and Policy

Bruce

Public Finance and the American Economy

Carlton/Perloff

Modern Industrial Organization

Case/Fair/Oster

Principles of Economics\*

Chapman

Environmental Economics: Theory, Application, and Policy

Cooter/Ulen

Law & Economics

Daniels/VanHoose

International Monetary & Financial Economics

**Downs** 

An Economic Theory of Democracy

Ehrenberg/Smith

Modern Labor Economics

Farnham

Economics for Managers

Folland/Goodman/Stano

The Economics of Health and Health Care

**Fort** 

Sports Economics

Froyen

Macroeconomics

Fusfeld

The Age of the Economist

Gerber

International Economics\*

González-Rivera

Forecasting for Economics and Business

Gordon

Macroeconomics\*

Greene

Econometric Analysis

Gregory

Essentials of Economics

**Gregory/Stuart** 

Russian and Soviet Economic Performance and Structure

Hartwick/Olewiler

The Economics of Natural Resource Use

Heilbroner/Milberg

The Making of the Economic Society

Heyne/Boettke/Prychitko

The Economic Way of Thinking

Holt

Markets, Games, and Strategic Behavior

Hubbard/O'Brien

Economics\*

Money, Banking, and the Financial System\*

Hubbard/O'Brien/Rafferty

Macroeconomics\*

Hughes/Cain

American Economic History

Husted/Melvin

International Economics

Jehle/Reny

Advanced Microeconomic Theory

Johnson-Lans

A Health Economics Primer

Keat/Young/Erfle

Managerial Economics

Klein

Mathematical Methods for Economics

Krugman/Obstfeld/Melitz

International Economics: Theory & Policy\*

Laidler

The Demand for Money

Leeds/von Allmen

The Economics of Sports

Leeds/von Allmen/Schiming Economics\*

Lynn

Economic Development: Theory and Practice for a Divided World

Miller

Economics Today\*
Understanding Modern
Economics

Miller/Benjamin

The Economics of Macro Issues

Miller/Benjamin/North

The Economics of Public Issues

Mills/Hamilton

Urban Economics

Mishkin

The Economics of Money, Banking, and Financial Markets\*

The Economics of Money, Banking, and Financial Markets, Business School Edition\*

Macroeconomics: Policy and Practice\*

Murray

Econometrics: A Modern Introduction

O'Sullivan/Sheffrin/Perez

Economics: Principles, Applications and Tools\*

Parkin

Economics\*

Perloff

Microeconomics\*

Microeconomics: Theory and Applications with Calculus\*

Perloff/Brander

Managerial Economics and Strategy\*

Phelps

Health Economics

Pindyck/Rubinfeld Microeconomics\*

Riddell/Shackelford/

Stamos/Schneider Economics: A Tool for Critically Understanding Society

Roberts

The Choice: A Fable of Free Trade and Protection

Rohlf

Introduction to Economic Reasoning

Roland

Development Economics

Scherer

Industry Structure, Strategy, and Public Policy

Schiller

The Economics of Poverty and Discrimination

Sherman

Market Regulation

Stock/Watson

Introduction to Econometrics

Studenmund

Using Econometrics: A Practical Guide

Tietenberg/Lewis

Environmental and Natural Resource Economics Environmental Economics

and Policy
Todaro/Smith

Economic Development

Waldman/Jensen

Industrial Organization: Theory and Practice

Walters/Walters/Appel/ Callahan/Centanni/ Maex/O'Neill

Econversations: Today's Students Discuss Today's Issues

Weil

Economic Growth

Williamson

Macroeconomics



#### FOUNDATIONS OF ECONOMICS

delivers a complete, hands-on learning system designed around active learning.

### A Learning-by-Doing Approach

The **Checklist** that begins each chapter highlights the key topics covered and the chapter is divided into sections that directly correlate to the Checklist.

The **Checkpoint** that ends each section provides a full page of practice problems to encourage students to review the material while it is fresh in their minds.

Each chapter opens with a question about a central issue that sets the stage for the



#### **Demand and Supply**

When you have completed your study of this chapter, you will be able to

- 1 Distinguish between quantity demanded and demand, and explain what determines demand
- 2 Distinguish between quantity supplied and supply, and explain what determines supply
- 3 Explain how demand and supply determine price and quantity in a market, and explain the effects of changes in demand and supply.

**CHAPTER CHECKLIST** 

MyEconLab Big picture



#### **CHECKPOINT 4.1**

Distinguish between quantity demanded and demand, and explain what determines demand.

#### **Practice Problems**

The following events occur one at a time in the market for cell phones:

- The price of a cell phone falls.
- Producers announce that cell-phone prices will fall next month.
   The price of a call made from a cell phone falls.
   The price of a call made from a land-line phone increases.
- The introduction of camera phones makes cell phones more popular.
- 1. Explain the effect of each event on the demand for cell phones.
- 2. Use a graph to illustrate the effect of each event.
- 3. Does any event (or events) illustrate the law of demand?

**Eye On** boxes apply theory to important issues and problems that shape our global society and individual decisions.

#### **Confidence-Building Graphs**

use color to show the direction of shifts and detailed, numbered captions guide students step-by-step through the action.

100% of the figures are animated in MyEconLab, with step-by-step audio narration. MyEconLab Study Plan 4.1 Key Terms Quiz



#### EYE on TUITION

Why Does Tuition Keep Rising?

Tuition has increased every year since 1980 and at the same time, enrollment has steadily climbed. Figure 1 shows these facts. The points tell us the levels of enrollment (x-axis) and tuition (y-axis, measured in 2010 dollars) in 1981, 1991, and each year from 2001 to 2010. We can interpret the data using the demand and supply model

In a given year, other things remain the same, but from one year to the next, some things change. The population has grown, incomes have increased, jobs that require more than a highschool diploma have expanded while jobs for high-school graduates have shrunk, and government subsidized student loans programs have expanded

described. In 2001, demand was  $D_{01}$ and supply was S. The market was in equilibrium with 16 million students nrolled paying an average tuition of \$15,000. By 2010, demand had increased to  $D_{10}$ . At the tuition of 2001, there would be a severe shortage of college places, so tuition rises. In 2010, the market was in equilibrium

#### FIGURE 4.4

Change in Quantity Demanded Versus Change in Demand

MyEconLab Animation

#### A decrease in the quantity demanded

The quantity demanded decreases and there is a movement up along the demand curve Do if the price of the good rises and other things remain the same.

#### A decrease in demand

Demand decreases and the demand curve shifts leftward (from  $D_0$  to  $D_1$ ) if ■ The price of a substitute

- falls or the price of a complement rises.
- The price of the good is
- Income decreases.\*
- Expected future income or credit decreases.
- The number of buyers decreases.

#### Price (dollars per bottle) 2.50 2.00 1.50 0.50 -11 12 Quantity (millions of bottles per day)

#### 2 An increase in the quantity demanded

The quantity demanded increases and there is a movement down along the demand curve  $D_0$  if the price of the good falls and other things remain the same

#### 4 An increase in demand

Demand increases and the demand curve shifts rightward (from  $D_0$  to  $D_2$ ) if

- The price of a substitute rises or the price of a complement falls.
- The price of the good is expected to rise
- Income increases.
- Expected future income or credit increases
- The number of buyers increases.

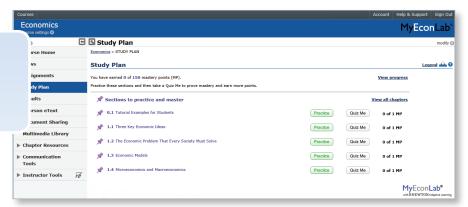
\* Bottled water is a normal good

## MyEconLab® Provides the Power of Practice

Optimize your study time with **MyEconLab**, the online assessment and tutorial system. When you take a sample test online, **MyEconLab** gives you targeted feedback and a personalized Study Plan to identify the topics you need to review.

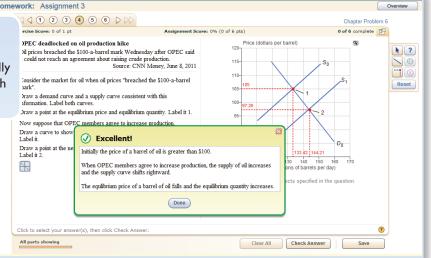
#### Study Plan

The Study Plan shows you the sections you should study next, gives easy access to practice problems, and provides you with an automatically generated quiz to prove mastery of the course material.



#### **Unlimited Practice**

As you work each exercise, instant feedback helps you understand and apply the concepts. Many Study Plan exercises contain algorithmically generated values to ensure that you get as much practice as you need.



#### Learning Resources

Study Plan problems link to learning resources that further reinforce concepts you need to master.

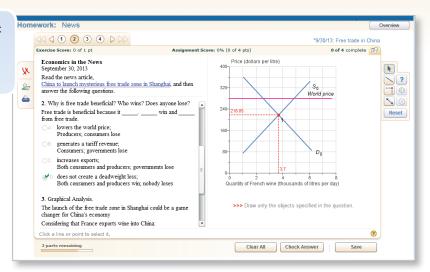
- Help Me Solve This learning aids help you break down a problem much the same way as an instructor would do during office hours. Help Me Solve This is available for select problems.
- eText links are specific to the problem at hand so that related concepts are easy to review just when they are needed.
- A graphing tool enables you to build and manipulate graphs to better understand how concepts, numbers, and graphs connect.



Find out more at www.myeconlab.com

#### **Current News Exercises**

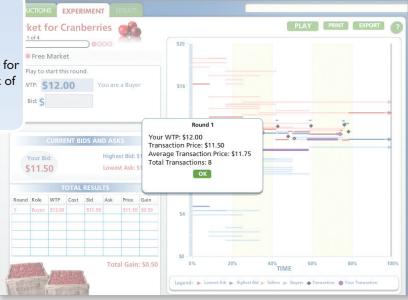
Posted weekly, we find the latest microeconomic and macroeconomic news stories, post them, and write multi-part exercises that illustrate the economic way of thinking about the news.



#### Interactive Homework Exercises

Participate in a fun and engaging activity that helps promote active learning and mastery of important economic concepts.

Pearson's experiments program is flexible and easy for instructors and students to use. For a complete list of available experiments, visit www.myeconlab.com.



### About the Authors





**Robin Bade** was an undergraduate at the University of Queensland, Australia, where she earned degrees in mathematics and economics. After a spell teaching high school math and physics, she enrolled in the Ph.D. program at the Australian National University, from which she graduated in 1970. She has held faculty appointments at the University of Edinburgh in Scotland, at Bond University in Australia, and at the Universities of Manitoba, Toronto, and Western Ontario in Canada. Her research on international capital flows appears in the *International Economic Review* and the *Economic Record*.

Robin first taught the principles of economics course in 1970 and has taught it (alongside intermediate macroeconomics and international trade and finance) most years since then. She developed many of the ideas found in this text while conducting tutorials with her students at the University of Western Ontario.

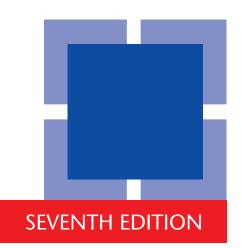
**Michael Parkin** studied economics in England and began his university teaching career immediately after graduating with a B.A. from the University of Leicester. He learned the subject on the job at the University of Essex, England's most exciting new university of the 1960s, and at the age of 30 became one of the youngest full professors. He is a past president of the Canadian Economics Association and has served on the editorial boards of the *American Economic Review* and the *Journal of Monetary Economics*. His research on macroeconomics, monetary economics, and international economics has resulted in more than 160 publications in journals and edited volumes, including the *American Economic Review*, the *Journal of Political Economy*, the *Review of Economic Studies*, the *Journal of Monetary Economics*, and the *Journal of Money*, *Credit, and Banking*. He is author of the best-selling textbook, *Economics* (Addison-Wesley), now in its Eleventh Edition.

Robin and Michael are a wife-and-husband team. Their most notable joint research created the Bade-Parkin Index of central bank independence and spawned a vast amount of research on that topic. They don't claim credit for the independence of the new European Central Bank, but its constitution and the movement toward greater independence of central banks around the world were aided by their pioneering work. Their joint textbooks include *Macroeconomics* (Prentice-Hall), *Modern Macroeconomics* (Pearson Education Canada), and *Economics*: *Canada in the Global Environment*, the Canadian adaptation of Parkin, *Economics* (Addison-Wesley). They are dedicated to the challenge of explaining economics ever more clearly to a growing body of students.

Music, the theater, art, walking on the beach, and five grandchildren provides their relaxation and fun.

# Foundations of ECONOMICS





Global Edition

**PEARSON** 

Boston Columbus Indianapolis New York San Francisco Upper Saddle River Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo

#### To Erin, Tessa, Jack, Abby, and Sophie

Editor in Chief: Donna Battista

Executive Acquisitions Editor: Adrienne D'Ambrosio

Editorial Project Manager: Sarah Dumouchelle

Editorial Assistant: Elissa Senra-Sargent

Executive Marketing Manager: Lori DeShazo

Managing Editor: Jeff Holcomb

Production Project Manager: Nancy Freihofer

Head of Learning Asset Acquisition,

Global Editions: Laura Dent

Senior Acquisitions Editor, Global Editions:

Steven Jackson

Associate Acquisitions Editor, Global Editions:

Toril Cooper

Project Editor, Global Editions: Arundati Dandapani Senior Manufacturing Controller, Global Editions:

Trudy Kimber

Media Publisher: Denise Clinton Content Product Manager: Noel Lotz Senior Media Producer: Melissa Honig

Image Permission Manager: Rachel Youdelman

Photo Researcher: Joseph Songco Text Designer: Jonathan Boylan Cover Design: Lumina Datamatics, Inc.

Cover Image: © Ortodox/Shutterstock

Copyeditor: Catherine Baum Technical Illustrator: Richard Parkin

Credits and acknowledgments borrowed from other sources and reproduced, with permission, in this textbook appear on the appropriate page within text and on pages C-I-C-2.

 $\label{eq:FRED} FRED^{@} \ \ is a registered \ trademark \ and \ the \ FRED^{@} \ \ logo \ and \ ST.LOUIS \ FED \ are \ trademarks \ of \ the \ Federal \ Reserve \ Bank \ of \ St. \ Louis, \ http://researchstlouisfed.org/fred2/$ 

Pearson Education Limited Edinburgh Gate Harlow Essex CM20 2JE England

and Associated Companies throughout the world

Visit us on the World Wide Web at: www.pearsonglobaleditions.com

#### © Pearson Education Limited 2015

The rights of Robin Bade and Michael Parkin to be identified as the authors of this work have been asserted by them in accordance with the Copyright, Designs and Patents Act 1988.

Authorized adaptation from the United States edition, entitled Foundations of Economics 7<sup>th</sup> edition, ISBN 978-0-133-46240-1, by Robin Bade and Michael Parkin, published by Pearson Education © 2015.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the publisher or a license permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London ECIN 8TS.

All trademarks used herein are the property of their respective owners. The use of any trademark in this text does not vest in the author or publisher any trademark ownership rights in such trademarks, nor does the use of such trademarks imply any affiliation with or endorsement of this book by such owners.

ISBN 10: 1-292-01836-4 ISBN 13: 978-1-292-01836-2

British Library Cataloguing-in-Publication Data A catalogue record for this book is available from the British Library

10 9 8 7 6 5 4 3 2 I 14 13 12 11

Typeset in 10/12, Palatino-Roman by Integra Software Services

Printed and bound in China at CTPSC/10

#### **Contents**

#### PART 1 INTRODUCTION

| CHAPTER 1         |    |    |
|-------------------|----|----|
| Getting Started   |    | 39 |
| CHAPTER CHECKLIST | 39 |    |

#### 1.1 Definition and Questions 40

Scarcity, 40
Economics Defined, 40
What, How, and For Whom? 41
Can the Pursuit of Self-Interest Be in the Social
Interest? 42

CHECKPOINT 1.1 45

#### 1.2 The Economic Way of Thinking 46

Economic Ideas, 46 A Choice Is a Tradeoff, 46 Cost: What You Must Give Up, 46 Benefit: What You Gain, 47 Rational Choice, 47 How Much? Choosing at the Margin, 48 Choices Respond to Incentives, 49 Economics as Social Science, 50 Economics as Policy Tool, 52 CHECKPOINT 1.2 54

**CHAPTER SUMMARY** 55

**CHAPTER CHECKPOINT** 56

#### Appendix: Making and Using Graphs 59

Basic Idea 59
Interpreting Data Graphs, 60
Interpreting Graphs Used in Economic Models, 62
The Slope of a Relationship, 65
Relationships Among More Than Two Variables, 66
APPENDIX CHECKPOINT 68

#### ■ EYE on the PAST

Adam Smith and the Birth of Economics as a Social Science, 51

#### EYE on the BENEFIT AND COST OF SCHOOL

Did You Make the Right Decision? 53

## CHAPTER 2 The U.S. and Global Economies 69

**CHAPTER CHECKLIST** 69

#### 2.1 What, How, and For Whom? 70

What Do We Produce? 70
How Do We Produce? 72
For Whom Do We Produce? 75
CHECKPOINT 2.1 76

#### 2.2 The Global Economy 77

The People, 77
The Economies, 77
What in the Global Economy? 78
How in the Global Economy? 80
For Whom in the Global Economy? 80
CHECKPOINT 2.2 83

#### 2.3 The Circular Flows 84

Households and Firms, 84
Markets, 84
Real Flows and Money Flows, 84
Governments, 86
Governments in the Circular Flow, 87
Circular Flows in the Global Economy, 88
CHECKPOINT 2.3 90

CHAPTER SUMMARY 91

#### CHAPTER CHECKPOINT 92

#### ■ EYE on the U.S. ECONOMY

What We Produce, 71

#### EYE on the PAST

Changes in What We Produce, 72

#### EYE on the U.S. ECONOMY

Changes in How We Produce in the Information Economy, 74

#### EYE on the Dreamliner

Who Makes the Dreamliner? 79

| EVE | on the | CL     | OPAL | EC | ONOI | MV   |
|-----|--------|--------|------|----|------|------|
| FYF | on the | , ('I' | UBAI | FU | いれい  | VI Y |

Differences in How We Produce, 81

#### **EYE on YOUR LIFE**

The U.S. and Global Economies in Your Life, 83

#### EYE on the PAST

Growing Government, 88

#### ■ EYE on the GLOBAL ECONOMY

The Ups and Downs in International Trade, 90

## CHAPTER 3 The Economic Problem 95

**CHAPTER CHECKLIST** 95

#### 3.1 Production Possibilities 96

Production Possibilities Frontier, 96

CHECKPOINT 3.1 101

#### 3.2 Opportunity Cost 102

The Opportunity Cost of a Cell Phone, 102
Opportunity Cost and the Slope of the *PPF*, 103
Opportunity Cost Is a Ratio, 103
Increasing Opportunity Costs Are Everywhere, 104
Your Increasing Opportunity Cost, 104

CHECKPOINT 3.2 105

#### **3.3 Economic Growth** 106

**CHECKPOINT 3.3** 108

#### 3.4 Specialization and Trade 109

Absolute Advantage and Comparative Advantage, 109 Comparative Advantage: An Example, 110 Achieving Gains from Trade, 112 CHECKPOINT 3.4 114

**CHAPTER SUMMARY** 115

#### **CHAPTER CHECKPOINT** 116

#### EYE on YOUR LIFE

Your Production Possibilities Frontier, 100

#### EYE on the ENVIRONMENT

Is Wind Power Free? 104

#### EYE on the U.S. ECONOMY

Expanding Our Production Possibilities, 107

#### EYE on the GLOBAL ECONOMY

Hong Kong's Rapid Economic Growth, 108

#### EYE on the U.S. ECONOMY

No One Knows How to Make a Pencil, 109

#### EYE on YOUR LIFE

Your Comparative Advantage, 112

## CHAPTER 4 Demand and Supply 119

## CHAPTER CHECKLIST 119 Competitive Markets 120

#### **4.1 Demand** 121

The Law of Demand, 121
Demand Schedule and Demand Curve, 121
Individual Demand and Market Demand, 123
Changes in Demand, 124
Change in Quantity Demanded Versus Change in Demand, 126

CHECKPOINT 4.1 127

#### **4.2 Supply** 128

The Law of Supply, 128
Supply Schedule and Supply Curve, 128
Individual Supply and Market Supply, 130
Changes in Supply, 131
Change in Quantity Supplied Versus Change in Supply, 133

**CHECKPOINT 4.2** 135

#### 4.3 Market Equilibrium 136

Price: A Market's Automatic Regulator, 136
Predicting Price Changes: Three Questions, 137
Effects of Changes in Demand, 138
Effects of Changes in Supply, 140
Effects of Changes in Both Demand and Supply, 142
CHECKPOINT 4.3 144

CHAPTER SUMMARY 145

#### **CHAPTER CHECKPOINT** 146

#### EYE on YOUR LIFE

Understanding and Using Demand and Supply, 134

#### **■ EYE on TUITION**

Why Does Tuition Keep Rising? 139

#### EYE on the GLOBAL ECONOMY

The Market for Solar Panels, 141

#### PART 2 A CLOSER LOOK AT MARKETS

## CHAPTER 5 Elasticities of Demand and Supply 149

**CHAPTER CHECKLIST** 149

#### 5.1 The Price Elasticity of Demand 150

Percentage Change in Price, 150
Percentage Change in Quantity Demanded, 151
Comparing the Percentage Changes in Price and Quantity, 151
Elastic and Inelastic Demand, 152
Influences on the Price Elasticity of Demand, 152
Computing the Price Elasticity of Demand, 154
Interpreting the Price Elasticity of Demand Number, 155
Elasticity Along a Linear Demand
Curve, 156
Total Revenue and the Price Elasticity of Demand, 158
Applications of the Price Elasticity of Demand, 160
CHECKPOINT 5.1 161

#### **5.2** The Price Elasticity of Supply 162

Elastic and Inelastic Supply, 162 Influences on the Price Elasticity of Supply, 162 Computing the Price Elasticity of Supply, 164 CHECKPOINT 5.2 166

#### 5.3 Cross Elasticity and Income Elasticity 167

Cross Elasticity of Demand, 167 Income Elasticity of Demand, 168 CHECKPOINT 5.3 170

**CHAPTER SUMMARY** 171

**CHAPTER CHECKPOINT** 172

#### EYE on the GLOBAL ECONOMY

Price Elasticities of Demand, 157

#### ■ EYE on the PRICE OF GASOLINE

What Do You Do When the Price of Gasoline Rises? 159

#### **EYE on YOUR LIFE**

Your Price Elasticities of Demand, 169

## Efficiency and Fairness of Markets 175

CHAPTER CHECKLIST 175

#### 6.1 Allocation Methods and efficiency 176

Resource Allocation Methods, 176 Using Resources Efficiently, 179 CHECKPOINT 6.1 183

#### 6.2 Value, Price, and Consumer Surplus 184

Demand and Marginal Benefit, 184 Consumer Surplus, 185 CHECKPOINT 6.2 186

#### 6.3 Cost, Price, and Producer Surplus 187

Supply and Marginal Cost, 187 Producer Surplus, 188 CHECKPOINT 6.3 189

#### **6.4** Are Markets Efficient? 190

Marginal Benefit Equals Marginal Cost, 190
Total Surplus Is Maximized, 191
The Invisible Hand, 191
Market Failure, 193
Sources of Market Failure, 194
Alternatives to the Market, 195
CHECKPOINT 6.4 196

#### **6.5** Are Markets Fair? 197

It's Not Fair If the *Rules* Aren't Fair, 197 It's Not Fair If the *Result* Isn't Fair, 197 Compromise, 199 CHECKPOINT 6.5 200

**CHAPTER SUMMARY** 201

**CHAPTER CHECKPOINT** 202

#### EYE on the U.S. ECONOMY

The Invisible Hand and e-Commerce, 192

#### EYE on PRICE GOUGING

Should Price Gouging Be Illegal? 198

#### EYE on YOUR LIFE

Allocation Methods, Efficiency, and Fairness, 199

#### PART 3 HOW GOVERNMENTS INFLUENCE THE ECONOMY



**CHAPTER CHECKLIST** 205

#### 7.1 Price Ceilings 206

A Rent Ceiling, 206 Are Rent Ceilings Efficient? 209 Are Rent Ceilings Fair? 210 If Rent Ceilings Are So Bad, Why Do We Have Them? 210

CHECKPOINT 7.1 211

#### **7.2** Price Floors 212

The Minimum Wage, 213
Is the Minimum Wage Efficient? 216
Is the Minimum Wage Fair? 217
If the Minimum Wage Is So Bad, Why Do We
Have It? 217

**CHECKPOINT 7.2** 218

#### 7.3 Price Supports in Agriculture 219

How Governments Intervene in Markets for Farm Products, 219 Price Support: An Illustration, 219

CHECKPOINT 7.3 222

**CHAPTER SUMMARY** 223

**CHAPTER CHECKPOINT** 224

#### EYE on the U.S. ECONOMY

The Federal Minimum Wage, 215

#### **■ EYE on PRICE REGULATION**

Can the President Repeal the Laws of Supply and Demand? 217

#### EYE on YOUR LIFE

Price Ceilings and Price Floors, 221



**CHAPTER CHECKLIST** 227

#### 8.1 Taxes on Buyers and Sellers 228

Tax Incidence, 228
Taxes and Efficiency, 229
Incidence, Inefficiency, and Elasticity, 230
Incidence, Inefficiency, and the Elasticity of Demand, 231

Incidence, Inefficiency, and the Elasticity of Supply, 232

**CHECKPOINT 8.1** 233

#### 8.2 Income Tax and Social Security Tax 234

The Personal Income Tax, 234
The Effects of the Income Tax, 236
The Social Security Tax, 240
CHECKPOINT 8.2 243

#### 8.3 Fairness and the Big Tradeoff 244

The Benefits Principle, 244
The Ability-to-Pay Principle, 244
The Marriage Tax Problem, 245
The Big Tradeoff, 246
CHECKPOINT 8.3 246

**CHAPTER SUMMARY** 247

**CHAPTER CHECKPOINT** 248

#### EYE on the U.S. ECONOMY

Taxes in the United States Today, 234

#### EYE on CONGRESS

Does Congress Decide Who Pays the Taxes? 238

#### EYE on the PAST

The Origins and History of the U.S. Income Tax, 242

#### EYE on YOUR LIFE

Tax Freedom Day, 242

## CHAPTER 9 Global Markets in Action 251

CHAPTER CHECKLIST 251

#### 9.1 How Global Markets Work 252

International Trade Today, 252
What Drives International Trade? 252
Why the United States Imports T-Shirts, 254
Why the United States Exports Airplanes, 255
CHECKPOINT 9.1 256

### 9.2 Winners, Losers, and Net Gains From Trade 257

Gains and Losses from Imports, 258 Gains and Losses from Exports, 259 CHECKPOINT 9.2 260

#### 9.3 International Trade Restrictions 261

Tariffs, 261 Import Quotas, 265 Other Import Barriers, 267 Export Subsidies, 267 CHECKPOINT 9.3 268

#### 9.4 The Case Against Protection 269

Three Traditional Arguments for Protection, Four Newer Arguments for Protection, 271 Why Is International Trade Restricted? 272

CHECKPOINT 9.4 274

**CHAPTER SUMMARY** 275 **CHAPTER CHECKPOINT** 276

#### EYE on the U.S. ECONOMY

U.S. Exports and Imports, 253

#### EYE on GLOBALIZATION

Who Wins and Who Loses from Globalization? 257

#### EYE on the PAST

The History of U.S. Tariffs, 261

EYE on YOUR LIFE

International Trade, 273

#### PART 4 MARKET FAILURE AND PUBLIC POLICY



**CHAPTER CHECKLIST** 279

#### **Externalities in Our Daily Lives** 280

Negative Production Externalities, 280 Positive Production Externalities, 280 Negative Consumption Externalities, 281 Positive Consumption Externalities, 281

#### 10.1 Negative Externalities: Pollution 282

Private Costs and Social Costs, 282 Production and Pollution: How Much? 284 Establish Property Rights, 285 Mandate Clean Technology, 287 Tax or Cap and Price Pollution, 287 **CHECKPOINT 10.1** 291

#### 10.2 Positive Externalities: Education 292

Private Benefits and Social Benefits, 292 Government Actions in the Face of External Benefits, 294

**CHECKPOINT 10.2** 298

**CHAPTER SUMMARY** 299

**CHAPTER CHECKPOINT** 300

#### EYE on the U.S. ECONOMY

U.S. Air Pollution Trends, 289

#### EYE on CLIMATE CHANGE

How Can We Limit Climate Change? 290

#### EYE on the U.S. ECONOMY

Education Quality: Charter Schools and Vouchers, 297

#### EYE on YOUR LIFE

Externalities in Your Life, 297

#### CHAPTER 11 Public Goods and Common Resources 303

**CHAPTER CHECKLIST** 303

#### 11.1 Classifying Goods and Resources 304

Excludable, 304 Rival, 304 A Fourfold Classification, 304 **CHECKPOINT 11.1** 306

#### 11.2 Public Goods and the Free-Rider Problem 307

The Free-Rider Problem, 307 The Marginal Benefit from a Public Good, 308 The Marginal Cost of a Public Good, 308 The Efficient Quantity of a Public Good, 310 Private Provision: Underproduction, 310 Public Provision: Efficient Production, 311 Public Provision: Overproduction, 312 Why Government Is Large and Growing, 313 **CHECKPOINT 11.2** 315

#### 11.3 Common Resources 316

Unsustainable Use of a Common Resource, 316 Inefficient Use of a Common Resource, 317 Using the Commons Efficiently, 320 **CHECKPOINT 11.3** 324

#### **CHAPTER SUMMARY** 325

**CHAPTER CHECKPOINT** 326

#### EYE on the PAST

Is a Lighthouse a Public Good? 306

| FVF | on the | 11 5 | INFRASTRUCTURI |
|-----|--------|------|----------------|
|     | on the | U.S. | INFRASIRUCIURI |

Should America Build a High-Speed Rail Network like Europe's? 314

#### EYE on YOUR LIFE

A Student's Free-Rider Problem, 314

#### EYE on the PAST

The Commons of England's Middle Ages, 316

#### EYE on the GLOBAL ECONOMY

The North Atlantic Cod Tragedy of the Commons, 318

#### ■ EYE on the GLOBAL ECONOMY

ITQs Work, 323



**CHAPTER CHECKLIST** 329

#### 12.1 The Lemons Problem and its Solution 330

A Market for Used Cars with a Lemons Problem, 330 A Used-Car Market with Dealers' Warranties, 334

**CHECKPOINT 12.1** 336

#### **12.2 Information Problems in Insurance**

Markets 337

Insurance Markets, 337

Asymmetric Information in Insurance, 338 Screening in Insurance Markets, 340 Separating Equilibrium with Screening, 340

**CHECKPOINT 12.2** 342

#### 12.3 Health-Care Markets 343

Economic Problems in Health-Care Markets, 343 Missing Insurance Market, 344 Public-Health Externalities, 344 Health-Care Systems in Other Countries, 344 A Reform Idea, 347

**CHECKPOINT 12.3** 348

#### **CHAPTER SUMMARY** 349

#### **CHAPTER CHECKPOINT** 350

#### EYE on the MARKET FOR USED CARS

How Do You Avoid Buying a Lemon? 334

#### EYE on the U.S. ECONOMY

Insurance in the United States, 337

#### EYE on the U.S. ECONOMY

Health Care in the United States: A Snapshot, 345

#### EYE on the GLOBAL ECONOMY

Health-Care Expenditures and Health Outcomes, 346

#### EYE on YOUR LIFE

Signaling Your Ability, 347

#### PART 5 A CLOSER LOOK AT DECISION MAKERS

## CHAPTER 13 Consumer Choice and Demand 353

**CHAPTER CHECKLIST** 353

#### 13.1 Consumption Possibilities 354

The Budget Line, 354 A Change in the Budget, 355 Changes in Prices, 356 Prices and the Slope of the Budget Line, 357 CHECKPOINT 13.1 359

#### 13.2 Marginal Utility Theory 360

Total Utility, 360
Marginal Utility, 360
Graphing Tina's Utility Schedules, 362
Maximizing Total Utility, 362
Finding an Individual Demand Curve, 364
CHECKPOINT 13.2 366

#### 13.3 Efficiency, Price, and Value 367

Consumer Efficiency, 367 The Paradox of Value, 367 CHECKPOINT 13.3 370

**CHAPTER SUMMARY** 371

#### **CHAPTER CHECKPOINT** 372

#### **Appendix: Indifference Curves** 375

An Indifference Curve, 375 Marginal Rate of Substitution, 376 Consumer Equilibrium, 377 Deriving the Demand Curve, 378

#### **Appendix Checkpoint** 380

#### EYE on the U.S. ECONOMY

Relative Prices on the Move, 358

#### EYE on the PAST

Jeremy Bentham, William Stanley Jevons, and the Birth of Utility, 361

#### EYE on Song Downloads

How Much Would You Pay for a Song? 368

#### EYE on YOUR LIFE

Do You Maximize Your Utility? 370

#### CHAPTER 14



#### Production and Cost 381

**CHAPTER CHECKLIST** 381

#### 14.1 Economic Cost and Profit 382

The Firm's Goal, 382 Accounting Cost and Profit, 382 Opportunity Cost, 382 Economic Profit, 383

**CHECKPOINT 14.1** 385

#### **Short Run and Long Run** 386

#### 14.2 Short-Run Production 387

Total Product, 387 Marginal Product, 388 Average Product, 390

**CHECKPOINT 14.2** 392

#### 14.3 Short-Run Cost 393

Total Cost, 393
Marginal Cost, 394
Average Cost, 395
Why the Average Total Cost Curve Is
U-Shaped, 397
Cost Curves and Product Curves, 398
Shifts in the Cost Curves, 398

**CHECKPOINT 14.3** 400

#### **14.4 Long-Run Cost** 401

Plant Size and Cost, 401 The Long-Run Average Cost Curve, 402 CHECKPOINT 14.4 404

**CHAPTER SUMMARY** 405

**CHAPTER CHECKPOINT** 406

#### **EYE on YOUR LIFE**

Your Average and Marginal Grades, 391

#### EYE on RETAILERS' COSTS

Which Store Has the Lower Costs: Wal-Mart or 7-Eleven? 403

#### PART 6 PRICES, PROFITS, AND INDUSTRY PERFORMANCE



### CHAPTER 15

#### Perfect Competition 409

**CHAPTER CHECKLIST** 409

Market Types 410

Perfect Competition, 410 Other Market Types, 410

#### 15.1 A Firm's Profit-Maximizing Choices 411

Price Taker, 411
Revenue Concepts, 411
Profit-Maximizing Output, 412
Marginal Analysis and the Supply Decision, 414
Temporary Shutdown Decision, 415
The Firm's Short-Run Supply Curve, 416

#### **CHECKPOINT 15.1** 418

### 15.2 Output, Price, and Profit in the Short run 419

Market Supply in the Short Run, 419 Short-Run Equilibrium in Normal Times, 420 Short-Run Equilibrium in Good Times, 421 Short-Run Equilibrium in Bad Times, 422

#### **CHECKPOINT 15.2** 423

### 15.3 Output, Price, and Profit in the Long Run 424

Entry and Exit, 425
The Effects of Exit, 426
Change in Demand, 427
Technological Change, 427
Is Perfect Competition Efficient? 430
Is Perfect Competition Fair? 431
CHECKPOINT 15.3 432

CHAPTER SUMMARY 433

**CHAPTER CHECKPOINT** 434

#### EYE on RECORD STORES

Where Have All the Record Stores Gone? 428

#### EYE on YOUR LIFE

The Perfect Competition that You Encounter, 431

| СНАРТ Моп | CHAPTER 16 Monopoly | 437 | 7 |
|-----------|---------------------|-----|---|
|           | CHAPTER CHECK       |     |   |

## 16.1 Monopoly and How it Arises 438How Monopoly Arises, 438Monopoly Price-Setting Strategies, 440CHECKPOINT 16.1 441

## 16.2 Single-Price Monopoly 442 Price and Marginal Revenue, 442 Marginal Revenue and Elasticity, 443 Output and Price Decision, 444 CHECKPOINT 16.2 446

# 16.3 Monopoly and Competition Compared Output and Price, 447 Is Monopoly Efficient? 448 Is Monopoly Fair? 449 Rent Seeking, 449 CHECKPOINT 16.3 451

## Price Discrimination 452 Price Discrimination and Consumer Surplus, 452 Profiting by Price Discriminating, 453 Perfect Price Discrimination, 454

Price Discrimination and Efficiency, 456

CHECKPOINT 16.4 457

#### 16.5 Monopoly Regulation 458

Efficient Regulation of a Natural Monopoly, 458 Second-Best Regulation of a Natural Monopoly, 459 CHECKPOINT 16.5 464

**CHAPTER SUMMARY** 465

**CHAPTER CHECKPOINT** 466

- **EYE on the U.S. ECONOMY** Airline Price Discrimination. 456
- EYE on MICROSOFT

  Are Microsoft's Prices Too High? 461
- **EYE on YOUR LIFE**Monopoly in Your Everyday Life, 462

## CHAPTER 17 Monopolistic Competition 469 CHAPTER CHECKLIST 469

## **17.1 What is Monopolistic Competition?** 470 Large Number of Firms, 470 Product Differentiation, 470

Competing on Quality, Price, and Marketing, 470 Entry and Exit, 471 Identifying Monopolistic Competition, 471 CHECKPOINT 17.1 475

#### 17.2 Output and Price Decisions 476

The Firm's Profit-Maximizing Decision, 476
Profit Maximizing Might Be Loss Minimizing, 477
Long Run: Zero Economic Profit, 478
Monopolistic Competition and Perfect
Competition, 479
Is Monopolistic Competition Efficient? 480
CHECKPOINT 17.2 481

#### 17.3 Product Development and Marketing 482

Product Development, 482
Marketing, 483
Using Advertising to Signal Quality, 486
Brand Names, 487
Efficiency of Advertising and Brand Names, 487
CHECKPOINT 17.3 488

#### **CHAPTER SUMMARY** 489

**CHAPTER CHECKPOINT** 490

#### EYE on the U.S. ECONOMY

Examples of Monopolistic Competition, 474

- **EYE on CELL PHONES** Which Cell Phone? 483
- **EYE on YOUR LIFE**Some Selling Costs You Pay, 486

CHAPTER 18
Oligopoly 493

**CHAPTER CHECKLIST** 493

#### 18.1 What is Oligopoly? 494

Small Number of Firms, 494 Barriers to Entry, 494 Identifying Oligopoly, 496 CHECKPOINT 18.1 497

#### 18.2 The Oligopolists' Dilemma 498

Monopoly Outcome, 498
Perfect Competition Outcome, 499
Other Possible Cartel Breakdowns, 499
The Oligopoly Cartel Dilemma, 500
CHECKPOINT 18.2 502

#### **18.3 Game Theory** 503 What Is a Game? 503 The Prisoners' Dilemma, 503

The Duopolists' Dilemma, 505
The Payoff Matrix, 505
Advertising and Research Games in Oligopoly, 506
Repeated Games, 508
Is Oligopoly Efficient? 509
CHECKPOINT 18.3 510

#### 18.4 Antitrust Law 511

The Antitrust Laws, 511
Three Antitrust Policy Debates, 511
Recent Antitrust Showcase: The United States Versus Microsoft, 513
Merger Rules, 514
CHECKPOINT 18.4 516

**CHAPTER SUMMARY** 517

#### **CHAPTER CHECKPOINT** 518

EYE on the U.S. ECONOMY

Examples of Oligopoly, 496

EYE on the GLOBAL ECONOMY

The OPEC Global Oil Cartel, 501

EYE on YOUR LIFE

A Game You Might Play, 508

EYE on the CELL-PHONE OLIGOPOLY

Is Two Too Few? 509

EYE on the U.S. ECONOMY

No Cell-Phone Service Merger, 515

#### PART 7 INCOMES AND INEQUALITY



**CHAPTER CHECKLIST** 521

#### The Anatomy of Factor Markets 522

#### 19.1 The Demand for a Factor of Production 523

Value of Marginal Product, 523 A Firm's Demand for Labor, 524 A Firm's Demand for Labor Curve, 525 Changes in the Demand for Labor, 526 CHECKPOINT 19.1 527

#### 19.2 Labor Markets 528

The Supply of Labor, 528
Influences on the Supply of Labor, 529
Competitive Labor Market Equilibrium, 530
Labor Unions, 532
CHECKPOINT 19.2 534

#### 19.3 Capital and Natural Resource Markets 535

Capital Markets, 535 Land Markets, 536 Nonrenewable Natural Resource Markets, 537 CHECKPOINT 19.3 540

**CHAPTER SUMMARY** 541

**CHAPTER CHECKPOINT** 542

EYE on the COACH

Why Is a Coach Worth \$5.5 Million? 531

#### EYE on YOUR LIFE

Job Choice and Income Prospects, 537

#### EYE on the GLOBAL ECONOMY

Oil and Metal Prices, 539

## CHAPTER 20 Economic Inequality 545 CHAPTER CHECKLIST 545

#### 20.1 Measuring Economic Inequality 546

Lorenz Curves, 547 Inequality over Time, 548 Economic Mobility, 548 Poverty, 551 CHECKPOINT 20.1 553

#### 20.2 How Economic Inequality Arises 554

Human Capital, 554
Discrimination, 557
Financial and Physical Capital, 558
Entrepreneurial Ability, 558
Personal and Family Characteristics, 558
CHECKPOINT 20.2 559

#### 20.3 Income Redistribution 560

How Governments Redistribute Income, 560
The Scale of Income Redistribution, 561
Why We Redistribute Income, 563
The Major Welfare Challenge, 564
CHECKPOINT 20.3 566

| CHAPTER SUMN | MARY | 567 |
|--------------|------|-----|
|--------------|------|-----|

#### **CHAPTER CHECKPOINT** 568

- EYE on the GLOBAL ECONOMY
- Global Inequality, 549
- EYE on INEQUALITY

Who Are the Rich and the Poor? 550

#### EYE on the U.S. ECONOMY

Does Education Pay? 556

#### EYE on the U.S. ECONOMY

Sex and Race Earnings Differences, 557

#### EYE on YOUR LIFE

What You Pay and Gain Through Redistribution, 565

#### PART 8 MONITORING THE MACROECONOMY



### CHAPTER 21 GDP: A Measure of Total Production and Income 571

**CHAPTER CHECKLIST** 571

#### 21.1 GDP, Income, and Expenditure 572

GDP Defined, 572 Circular Flows in the U.S. Economy, 573 Expenditure Equals Income, 574 **CHECKPOINT 21.1** 576

#### 21.2 Measuring U.S. GDP 577

The Expenditure Approach, 577 The Income Approach, 579 GDP and Related Measures of Production and Income, 581 Real GDP and Nominal GDP, 582 Calculating Real GDP, 582 Using the Real GDP Numbers, 583 CHECKPOINT 21.2 584

#### 21.3 The Uses and Limitations of Real GDP 585

The Standard of Living Over Time, 585 Tracking the Course of the Business Cycle, 586 The Standard of Living Among Countries, 588 Goods and Services Omitted from GDP, 589 Other Influences on the Standard of Living, 590 **CHECKPOINT 21.3** 592

**CHAPTER SUMMARY** 593

#### **CHAPTER CHECKPOINT** 594

#### Appendix: Measuring Real GDP 597

The Problem With Base-Year Prices, 597 Value Production in the Prices of Adjacent Years, 597

**APPENDIX CHECKPOINT** 600

#### EYE on the U.S. ECONOMY

Is a Computer Program an Intermediate Good or a Final Good? 578

#### EYE on the BOOMS AND BUSTS

How Do We Track the Booms and Busts of our Economy? 588

#### EYE on YOUR LIFE

Making GDP Personal, 590

#### EYE on the GLOBAL ECONOMY

Which Country Has the Highest Standard of Living? 591



## CHAPTER 22

### Jobs and Unemployment 601

**CHAPTER CHECKLIST** 601

#### 22.1 Labor Market Indicators 602

Current Population Survey, 602 Population Survey Criteria, 602 Two Main Labor Market Indicators, 603 Alternative Measures of Unemployment, 604 **CHECKPOINT 22.1** 606

#### 22.2 Labor Market Trends and Fluctuations 607

Unemployment Rate, 607 The Participation Rate, 608 Alternative Measures of Unemployment, 610 A Closer Look at Part-Time Employment, 611 **CHECKPOINT 22.2** 612

#### 22.3 Unemployment and Full Employment 613

Frictional Unemployment, 613 Structural Unemployment, 613 Cyclical Unemployment, 614 "Natural" Unemployment, 614 Unemployment and Real GDP, 615 **CHECKPOINT 22.3** 618

**CHAPTER SUMMARY** 619

**CHAPTER CHECKPOINT** 620

#### EYE on the U.S. ECONOMY

The Current Population Survey, 605

#### ■ EYE on the GLOBAL ECONOMY

Unemployment Around the World, 608

#### ■ EYE on the GLOBAL ECONOMY

Women in the Labor Force, 609

#### EYE on the UNEMPLOYED

How Long Does it Take to Find a Job? 614

#### EYE on YOUR LIFE

Your Labor Market Status and Activity, 616



**CHAPTER CHECKLIST** 623

#### 23.1 The Consumer Price Index 624

Reading the CPI Numbers, 624 Constructing the CPI, 624 The CPI Market Basket, 624 The Monthly Price Survey, 625 Calculating the CPI, 626 Measuring Inflation and Deflation, 627 CHECKPOINT 23.1 629

#### 23.2 The CPI and Other Price Level

Measures 630

Sources of Bias in the CPI, 630

The Magnitude of the Bias, 631 Two Consequences of the CPI Bias, 632 Alternative Measures of the Price Level and Inflation

Rate, 633

#### **CHECKPOINT 23.2** 635

#### 23.3 Nominal and Real Values 636

Dollars and Cents at Different Dates, 636 Nominal and Real Values in Macroeconomics, 637 Nominal GDP and Real GDP, 637 Nominal Wage Rate and Real Wage Rate, 638 Nominal Interest Rate and Real Interest Rate, 640 CHECKPOINT 23.3 642

#### **CHAPTER SUMMARY** 643

#### **CHAPTER CHECKPOINT** 644

#### EYE on the PAST

700 Years of Inflation and Deflation, 628

#### EYE on the U.S. ECONOMY

Deflating the GDP Balloon, 637

#### EYE on the PAST

The Nominal and Real Wage Rates of Presidents of the United States, 639

#### EYE on BOX OFFICE HITS

Which Movie *Really* Was the Biggest Box Office Hit? 640

#### EYE on YOUR LIFE

A Student's CPI, 641

#### PART 9 THE REAL ECONOMY



## Potential GDP and the Natural Unemployment Rate 647

**CHAPTER CHECKLIST** 647

## Macroeconomic Approaches and Pathways 648

The Three Main Schools of Thought, 648 Today's Consensus, 649 The Road Ahead, 650

#### 24.1 Potential GDP 651

The Production Function, 652 The Labor Market, 653 CHECKPOINT 24.1 659

#### 24.2 The Natural Unemployment Rate 660

Job Search, 661 Job Rationing, 662 CHECKPOINT 24.2 666

**CHAPTER SUMMARY** 667

**CHAPTER CHECKPOINT** 668

#### EYE on the U.S. ECONOMY

The Lucas Wedge and the Okun Gap, 650

#### EYE on the GLOBAL ECONOMY

Potential GDP in the United States and European Union, 651

#### EYE on U.S. POTENTIAL GDP

Why Do Americans Earn More and Produce More Than Europeans? 658

#### EYE on the PAST

Average Unemployment Rates over Six Decades, 660

#### EYE on the GLOBAL ECONOMY

Unemployment Benefits and the Natural Unemployment Rate, 662

#### EYE on the U.S. ECONOMY

The Federal Minimum Wage, 665

#### EYE on YOUR LIFE

Natural Unemployment, 665

## CHAPTER 25 Economic Growth 671

**CHAPTER CHECKLIST** 671

#### 25.1 The Basics of Economic Growth 672

Calculating Growth Rates, 672
The Magic of Sustained Growth, 673
CHECKPOINT 25.1 675

#### 25.2 Labor Productivity Growth 676

 Labor Productivity, 676
 Saving and Investment in Physical Capital, 676
 Expansion of Human Capital and Discovery of New Technologies, 678
 Combined Influences Bring Labor Productivity

Growth, 680

CHECKPOINT 25.2 683

#### 25.3 Economic Growth Theories: Old

and New 684

Old Growth Theory, 684 New Growth Theory, 684

CHECKPOINT 25.3 687

#### **25.4 Achieving Faster Growth** 688

Preconditions for Economic Growth, 688
Policies to Achieve Faster Growth, 689
How Much Difference Can Policy Make? 690
CHECKPOINT 25.4 692

**CHAPTER SUMMARY** 693

**CHAPTER CHECKPOINT** 694

#### EYE on the PAST

How Fast Has Real GDP per Person Grown? 674

#### EYE on the U.S. ECONOMY

U.S. Labor Productivity Growth Since 1960, 682

#### EYE on YOUR LIFE

How You Influence and Are Influenced by Economic Growth, 686

#### EYE on RICH AND POOR NATIONS

Why Are Some Nations Rich and Others Poor? 691

## CHAPTER **26**Finance, Saving, and Investment 697

**CHAPTER CHECKLIST** 697

#### 26.1 Financial Institutions and Markets 698

Some Finance Definitions, 698 Markets for Financial Capital, 699 Financial Institutions, 701 Insolvency and Illiquidity, 702 Interest Rates and Asset Prices, 702 CHECKPOINT 26.1 703

#### 26.2 The Loanable Funds Market 704

Flows in the Loanable Funds Market, 704 The Demand for Loanable Funds, 704 The Supply of Loanable Funds, 707 Equilibrium in the Loanable Funds Market, 710 Changes in Demand and Supply, 711

**CHECKPOINT 26.2** 713

#### 26.3 Government in Loanable Funds

Market 714 A Government Budget Surplus, 714

A Government Budget Deficit, 715

**CHECKPOINT 26.3** 718

**CHAPTER SUMMARY** 719

**CHAPTER CHECKPOINT** 720

#### EYE on the U.S. ECONOMY

The Loanable Funds Market in a Financial Crisis, 712

#### EYE on YOUR LIFE

Your Participation in the Loanable Funds Market, 716

#### EYE on FINANCIAL MARKETS

Why Have Interest Rates Been So Low? 717

#### PART 10 THE MONEY ECONOMY

## CHAPTER 27 The Monetary System 723

#### CHAPTER CHECKLIST 723

#### **27.1 What is Money?** 724

Definition of Money, 724 The Functions of Money, 724 Money Today, 726 Official Measures of Money: M1 and M2, 726 Checks, Credit Cards, Debit Cards, and E-Checks, 727 An Embryonic New Money: E-Cash, 728

#### **CHECKPOINT 27.1** 729

#### 27.2 The Banking System 730

Commercial Banks, 730 Thrift Institutions, 733 Money Market Funds, 733 CHECKPOINT 27.2 734

#### 27.3 The Federal Reserve System 735

The Structure of the Federal Reserve, 735 The Fed's Policy Tools, 736 How the Fed's Policy Tools Work, 737 CHECKPOINT 27.3 738

#### 27.4 Regulating the Quantity of Money 739

Creating Deposits by Making Loans, 739
How Open Market Operations Change the
Monetary Base, 741
The Multiplier Effect of an Open Market
Operation, 744
The Money Multiplier, 745
CHECKPOINT 27.4 748

#### **CHAPTER SUMMARY** 749

#### **CHAPTER CHECKPOINT** 750

#### EYE on the PAST

The "Invention" of Banking, 731

#### EYE on the U.S. ECONOMY

Commercial Banks Under Stress in the Financial Crisis, 733

#### **EYE on YOUR LIFE**

Money and Your Role in Its Creation, 739

#### EYE on CREATING MONEY

How Does the Fed Create Money and Regulate Its Quantity? 746

## CHAPTER 28 Money, Interest, and Inflation 753

#### **CHAPTER CHECKLIST** 753

## Where We are and Where We're Heading 754

The Real Economy, 754
The Money Economy, 754
Real and Money Interactions and Policy, 754

#### 28.1 Money and the Interest Rate 755

The Demand for Money, 755 Changes in the Demand for Money, 757 The Supply of Money, 758 The Nominal Interest Rate, 758 Changing the Interest Rate, 760 CHECKPOINT 28.1 762

#### 28.2 Money, The Price Level, and Inflation 763

The Money Market in the Long Run, 763
A Change in the Quantity of Money, 765
The Price Level in a Baby-Sitting Club, 766
The Quantity Theory of Money, 766
Inflation and the Quantity Theory of Money 768
Hyperinflation, 770

#### **CHECKPOINT 28.2** 772

#### 28.3 The Cost of Inflation 773

Tax Costs, 773
Shoe-Leather Costs, 774
Confusion Costs, 774
Uncertainty Costs, 775
How Big Is the Cost of Inflation? 775
CHECKPOINT 28.3 776

#### **CHAPTER SUMMARY** 777

#### **CHAPTER CHECKPOINT** 778

#### EYE on the U.S. ECONOMY

Credit Cards and Money, 760

#### EYE on YOUR LIFE

Money Holding and Fed Watching, 761

#### EYE on the PAST

Hyperinflation in Germany in the 1920s, 770

#### EYE on INFLATION

What Causes Inflation? 771

#### PART 11 ECONOMIC FLUCTUATIONS



## Aggregate Supply and Aggregate Demand 781

CHAPTER CHECKLIST 781

#### 29.1 Aggregate Supply 782

Aggregate Supply Basics, 782 Changes in Aggregate Supply, 785 CHECKPOINT 29.1 787

#### 29.2 Aggregate Demand 788

Aggregate Demand Basics, 788 Changes in Aggregate Demand, 790 The Aggregate Demand Multiplier, 792 CHECKPOINT 29.2 793

### 29.3 Explaining Economic Trends and Fluctuations 794

Macroeconomic Equilibrium, 794
Three Types of Macroeconomic Equilibrium, 795
Economic Growth and Inflation Trends, 796
The Business Cycle, 797
Inflation Cycles, 798
Deflation and the Great Depression, 800
CHECKPOINT 29.3 802

#### **CHAPTER SUMMARY** 803

#### **CHAPTER CHECKPOINT** 804

#### EYE on the U.S. ECONOMY

U.S. Economic Growth, Inflation, and the Business Cycle, 796

#### EYE on YOUR LIFE

Using the AS-AD Model, 800

#### ■ EYE on the BUSINESS CYCLE

Why Did the U.S. Economy Go into Recession in 2008? 801

## CHAPTER 30 Aggregate Expenditure Multiplier 807

**CHAPTER CHECKLIST** 807

#### 30.1 Expenditure Plans and Real GDP 808

The Consumption Function, 808 Imports and Real GDP, 812 CHECKPOINT 30.1 813

#### 30.2 Equilibrium Expenditure 814

Induced Expenditure and Autonomous Expenditure, 814 Aggregate Planned Expenditure and Real GDP, 814 Equilibrium Expenditure, 816 Convergence to Equilibrium, 817 CHECKPOINT 30.2 819

#### **30.3 Expenditure Multipliers** 820

The Basic Idea of the Multiplier, 820
The Size of the Multiplier, 821
The Multiplier and the MPC, 821
The Multiplier, Imports, and Income Taxes, 822
Business-Cycle Turning Points, 824
CHECKPOINT 30.3 825

### **30.4** The *AD* Curve and Equilibrium Expenditure 826

Deriving the AD Curve from Equilibrium Expenditure, 826

CHECKPOINT 30.4 828

**CHAPTER SUMMARY** 829

**CHAPTER CHECKPOINT** 830

#### EYE on the U.S. ECONOMY

The U.S. Consumption Function, 812

#### EYE on the PAST

Say's Law and Keynes' Principle of Effective Demand, 818

#### EYE on YOUR LIFE

Looking for Multipliers, 823

#### EYE on the MULTIPLIER

How Big Is the Government Expenditure Multiplier? 824

## The Short-Run Policy Tradeoff 833

**CHAPTER CHECKLIST** 833

#### 31.1 The Short-Run Phillips Curve 834

Aggregate Supply and the Short-Run Phillips Curve, 835 Aggregate Demand Fluctuations, 837 Why Bother with the Phillips Curve? 838 CHECKPOINT 31.1 839

#### 31.2 Short-Run and Long-Run Phillips

Curves 840

The Long-Run Phillips Curve, 840
Expected Inflation, 841
The Natural Rate Hypothesis, 842
Changes in the Natural Unemployment Rate, 843
Have Changes in the Natural Unemployment Rate
Changed the Tradeoff? 844

**CHECKPOINT 31.2** 846

### 31.3 influencing Inflation and unemployment 847

Influencing the Expected Inflation Rate, 847 Targeting the Unemployment Rate, 848

**CHECKPOINT 31.3** 850

#### **CHAPTER SUMMARY** 851

#### **CHAPTER CHECKPOINT** 852

#### EYE on the GLOBAL ECONOMY

Inflation and Unemployment, 837

#### EYE on the PAST

The U.S. Phillips Curve, 838

#### EYE on the PAST

A Live Test of the Natural Rate Hypothesis, 843

#### EYE on the TRADEOFF

Can We Have Low Unemployment *and* Low Inflation? 845

#### ■ EYE on YOUR LIFE

The Short-Run Tradeoff in Your Life, 849

#### PART 12 MACROECONOMIC POLICY



**CHAPTER CHECKLIST** 855

#### 32.1 The Federal Budget 856

The Institutions and Laws, 856
Budget Balance and Debt, 856
The Federal Budget in Fiscal 2014, 857
A Social Security and Medicare Time Bomb, 858
CHECKPOINT 32.1 860

#### 32.2 Fiscal Stimulus 861

Schools of Thought and Cracks in Today's
Consensus, 861
Fiscal Policy and Aggregate Demand, 862
Automatic Fiscal Policy, 862
Cyclical and Structural Budget Balances, 863
Discretionary Fiscal Policy, 864
A Successful Fiscal Stimulus, 865
Limitations of Discretionary Fiscal Policy, 866
CHECKPOINT 32.2 867

### 32.3 The Supply Side: Potential GDP and Growth 868

Full Employment and Potential GDP, 868 Fiscal Policy, Employment, and Potential GDP, 868 Fiscal Policy and Potential GDP: A Graphical Analysis, 870

Taxes, Deficits, and Economic Growth, 871

The Supply-Side Debate, 872

Combined Demand-Side and Supply-Side Effects, 874 Long-Run Fiscal Policy Effects, 875

**CHECKPOINT 32.3** 876

#### **CHAPTER SUMMARY** 877

#### **CHAPTER CHECKPOINT** 878

#### EYE on the PAST

Federal Tax Revenues, Outlays, Deficits, and Debt, 859

#### EYE on the GLOBAL ECONOMY

The U.S. Budget in Global Perspective, 860

#### **EYE** on the U.S. ECONOMY

The U.S. Structural and Cyclical Budget Balances, 863

#### EYE on the GLOBAL ECONOMY

Some Real-World Tax Wedges, 869

#### EYE on FISCAL STIMULUS

Can Fiscal Stimulus End a Recession? 873

#### **EYE on YOUR LIFE**

Your Views on Fiscal Policy and How Fiscal Policy Affects You, 875



**CHAPTER CHECKLIST** 881

#### 33.1 How the Fed Conducts Monetary Policy 882

Monetary Policy Objectives, 882
Operational "Maximum Employment" Goal, 883
Operational "Stable Prices" Goal, 883
Responsibility for Monetary Policy, 884
Choosing a Policy Instrument, 884
The Federal Funds Rate, 884
The Fed's Decision-Making Strategy, 885
Hitting the Federal Funds Rate Target, 887
Restoring Financial Stability in a Financial Crisis, 888
CHECKPOINT 33.1 889

#### 33.2 Monetary Policy Transmission 890

Quick Overview, 890
Interest Rate Changes, 890
Exchange Rate Changes, 892
Money and Bank Loans, 892
The Long-Term Real Interest Rate, 893
Expenditure Plans, 893
The Fed Fights Recession, 894
The Fed Fights Inflation, 896
Loose Links and Long and Variable Lags, 898
A Final Reality Check, 898
CHECKPOINT 33.2 899

#### 33.3 Alternative Monetary Policy Strategies 900

Why Rules? 900
Inflation Targeting Rule, 900
Money Targeting Rule, 901
Nominal GDP Targeting Rule, 903
CHECKPOINT 33.3 904

**CHAPTER SUMMARY** 905

#### **CHAPTER CHECKPOINT** 906

#### **EYE** on the U.S. ECONOMY

The Fed's Interest Rate Decisions and the Taylor Rule. 886

#### EYE on the GLOBAL ECONOMY

Inflation Targeting Around the World, 901

#### EYE on the FED IN A CRISIS

Did the Fed Save Us From Another Great Depression? 902

#### EYE on YOUR LIFE

Your Views on Monetary Policy and How Monetary Policy Affects You, 903

## CHAPTER 34 International Finance 909

**CHAPTER CHECKLIST** 909

#### **34.1 Financing International Trade** 910

Balance of Payments Accounts, 910 Borrowers and Lenders, Debtors and Creditors, 912 Current Account Balance, 913 Net Exports, 913

**CHECKPOINT 34.1** 916

#### **34.2 The Exchange Rate** 917

Demand in the Foreign Exchange Market, 918
The Law of Demand for Foreign Exchange, 918
Changes in the Demand for Dollars, 919
Supply in the Foreign Exchange Market, 921
The Law of Supply of Foreign Exchange, 921
Changes in the Supply of Dollars, 922
Market Equilibrium, 924
Exchange Rate Expectations, 926
Purchasing Power Parity, 926
Monetary Policy and the Exchange Rate, 928
Pegging the Exchange Rate, 928
The People's Bank of China in the Foreign Exchange
Market, 929

**CHECKPOINT 34.2** 932

#### **CHAPTER SUMMARY** 933

#### **CHAPTER CHECKPOINT** 934

#### EYE on the U.S. ECONOMY

The U.S. Balance of Payments, 911

#### EYE on the GLOBAL ECONOMY

Current Account Balances Around the World, 915

#### EYE on the DOLLAR

Why Does Our Dollar Fluctuate? 925

#### EYE on the GLOBAL ECONOMY

Purchasing Power Parity, 927

#### EYE on the GLOBAL ECONOMY

The Managed Yuan, 931

#### EYE on YOUR LIFE

Your Foreign Exchange Transactions, 931

Glossary G-1 Index I-1 Credits C-1

#### **Preface**



Students know that throughout their lives they will make economic decisions and be influenced by economic forces. They want to understand the economic principles that can help them navigate these forces and guide their decisions. *Foundations of Economics* is our attempt to satisfy this want.

The response to our earlier editions from hundreds of colleagues across the United States and throughout the world

tells us that most of you agree with our view that the principles course must do four things well. It must

- Motivate with compelling issues and questions
- Focus on core ideas
- Steer a path between an overload of detail and too much left unsaid
- Encourage and aid learning by doing

The Foundations icon with its four blocks (on the cover and throughout the book) symbolizes this four-point approach that has guided all our choices in writing this text and creating its comprehensive teaching and learning supplements.

#### WHAT'S NEW IN THE SEVENTH EDITION

Two big stories dominate this Seventh Edition revision: A careful fine-tuning of the heavily revised and successful Sixth Edition content, and a massive investment in enhanced electronic features to bring the text to life and provide an exciting interactive experience for the student on all platforms and devices.

#### **■** Fine-Tuning the Content

The content of this revision is driven by the drama of the extraordinary period of economic history in which we are living and its rich display of events and forces through which students can be motivated to discover the economic way of thinking. Persistent unemployment and slow growth; headwinds from Europe's unresolved debt crisis; ongoing tensions arising from offshore outsourcing; a slowing pace of China's expansion; enhanced concern about climate change; falling U.S. energy imports as fracking boosts domestic production; relentless pressure on the federal budget from the demands of an aging population and a sometimes dysfunctional Congress; the dilemma posed by slow

recovery and rising government debt; the question of when and how fast to exit an era of extreme monetary stimulus; and a fluctuating dollar are just a few of these interest-arousing events. All of them feature at the appropriate points in our new edition.

Every chapter contains many small changes, all designed to enhance clarity and currency, and the text and examples are all thoroughly updated to reflect the most recently available data and events. We have also made a few carefully selected larger changes that we describe below.

#### ■ Enhanced eText and New Interactive Electronic Features

The new enhanced Pearson eText extends the functionality of the current eText to integrate it with MyEconLab's Study Plan, now powered by Knewton Adaptive Learning, and with MyEconLab's Gradebook. The new eText also takes full advantage of available technologies to bring the student an enriched set of tools that aid comprehension and bring those moments of discovery that stick in the memory. These tools are

- A "Big Picture" video that motivates and summarizes each chapter and provides an outline answer to the chapter's motivating question.
- A series of "Snapshot" videos that illustrate and explain the key ideas in each section of a chapter. The Snapshots also contain animations and explanations of each figure, which can be played separately.
- A series of "Solutions" videos that walk the student through the solutions to the Practice Problems and In the News exercises in each Checkpoint.
- "Study Plan" links that provide opportunities for more practice with problems similar to those in the text that give targeted feedback to guide the student in answering the exercises.
- "Key Terms Quiz" links that provide opportunities for students to check their knowledge of the definitions and uses of the key terms.
- Automatic real-time updating from the St. Louis Federal Reserve data base, FRED, of all time-series figures.

#### **■ Notable Content Changes**

Because the previous edition revision was so extensive and well-received, we have limited our interventions and changes in this Seventh Edition to addressing the small number of issues raised by our reviewers and users, to ensuring that we are thoroughly up-to-date, and to focusing on the new electronic tools that we've just described. Nonetheless, some changes that we now summarize are worth noting.

We have reorganized the section in Chapter 1 on "The Economic Way of Thinking" to provide a clearer sequencing of the key ideas.

In Chapter 2, The U.S. and Global Economies, we use the new example of the complex production of the Dreamliner to motivate and illustrate what, how, and for whom in the U.S. and global economies. A new *Eye on the Past* looks at the dramatic changes in manufacturing in the U.S. economy through the example of the domestic production of shoes. Also a new photo essay highlights global differences in how goods and services are produced and the section on government has been compressed and simplified.

In Chapter 3, The Economic Problem, we illustrate economic growth and the expansion of production possibilities with the dramatic example of hydraulic

fracturing—fracking—in the United States and its effects on the production and opportunity cost of energy.

Chapter 4, Demand and Supply, has a new motivating issue: "Why does tuition keep rising?" Not only is the question a deeply personal one for students but it is also a good example of how the demand-supply model enables us to isolate increasing demand as the source of a rising price. Events in the increasingly important market for solar panels provide a contrasting example of the effects of an increase in supply. We have revised the section on changes in both demand and supply to better explain the unambiguous and ambiguous cases and leave the student to pull all possible cases together.

In Chapter 10, Externalities, we have reorganized our discussion of ideas for achieving efficiency in the face of external costs. We now explain these ideas in four categories: establish property rights, mandate clean technology, tax pollution, and cap-and-trade pollution permits. The discussion of mandates is new.

In Chapter 11, Public Goods and Common Resources, we have sharpened our explanation of the concept of sustainability and distinguish between unsustainability and inefficiency.

In Chapter 15, we motivate the working of competitive markets with the example of the vanishing record stores.

In Chapter 18, Oligopoly, we have updated our description of how the HHI is used to evaluate the effects of proposed mergers.

In Chapter 25, Economic Growth, we have simplified the explanation of the contributions to productivity growth of capital accumulation and technological change to the fluctuating pace of productivity growth.

Topical policy issues pervade the macro chapters. These include the persistence of high unemployment in the United States, Eurozone's extreme unemployment problem, and the falling U.S. labor force participation rate in Chapter 22; the ever-widening Lucas wedge, now greater than \$400,000 per person, and the persistence of U.S./E.U. productivity differences in Chapter 24; QE3 and the explosion of monetary base, the rise in bank reserves, and the collapse of the money multiplier in Chapter 27; the decrease in the demand for M1 in Chapter 28; the persistent recessionary gap in Chapter 29; the persistent federal budget deficit and rising debt to GDP ratio, and the ongoing structural deficit in Chapter 32; and the ongoing near-zero federal funds rate, an update of the contrast between monetary policy today and during the Great Depression, and nominal GDP targeting in Chapter 33.

#### THE FOUNDATIONS VISION

#### **■** Focus on Core Concepts

Each chapter of *Foundations* concentrates on a manageable number of main ideas (most commonly three or four) and reinforces each idea several times throughout the chapter. This patient, confidence-building approach guides students through unfamiliar terrain and helps them to focus their efforts on the most important tools and concepts of our discipline.

#### ■ Many Learning Tools for Many Learning Styles

Foundations' integrated print and electronic package builds on the basic fact that students have a variety of learning styles. Students have powerful tools at their fingertips: With links from eText, they can get an immediate sense of the content

of a chapter by playing the Big Picture video; learn the key ideas by playing the Snapshot videos, and get a quick walkthrough of the Checkpoint Practice Problems and In the News exercises with the Solutions videos.

In MyEconLab, students can complete all Checkpoint problems and In the News exercises online and get instant feedback, work with interactive graphs and real-time data graphs, assess their skills by taking Practice Tests, receive a personalized Study Plan, and step-by-step help through the feature called "Help Me Solve This."

#### Diagrams That Tell the Whole Story

We developed the style of our diagrams with extensive feedback from faculty focus-group participants and student reviewers. All of our figures make consistent use of color to show the direction of shifts and contain detailed, numbered captions designed to direct students' attention step-by-step through the action.

Because beginning students of economics are often apprehensive about working with graphs, we have made a special effort to present material in as many as three ways—with graphs, words, and tables—in the same figure. In an innovation that seems necessary, but is to our knowledge unmatched, nearly all of the information supporting a figure appears on the same page as the figure itself. No more flipping pages back and forth!

#### Real-World Connections That Bring Theory to Life

Students learn best when they can see the purpose of what they are studying, apply it to illuminate the world around them, and use it in their lives.

Eye on boxes offer fresh new examples to help students see that economics is everywhere. Current and recent events appear in Eye on the U.S. Economy boxes; we place current U.S. economic events in global and historical perspectives in our Eye on the Global Economy and Eye on the Past boxes; and we show how students can use economics in day-to-day decisions in Eye on Your Life boxes.

The *Eye On* boxes that build off of the chapter-opening question help students see the economics behind key issues facing our world and highlight a major aspect of the chapter's story.

#### **ORGANIZATION**

We have organized the sequence of material and chapters in what we think is the most natural order in which to cover the material. But we recognize that there are alternative views on the best order. We have kept this fact and the need for flexibility firmly in mind throughout the text. Many alternative sequences work, and the Flexibility Charts on pp. 34–35 explains the alternative pathways through the chapters. In using the flexibility information, keep in mind that the best sequence is the one in which we present the material. And even chapters that the flexibility charts identify as strictly optional are better covered than omitted.

MyEconLab has been designed and refined with a single purpose in mind: to create those moments of understanding that transform the difficult into the clear and obvious. With comprehensive homework, quiz, test, activity, and tutorial options, instructors can manage all their assessment needs in one program.

- All of the Checkpoint and Chapter Checkpoint Problems and Applications are assignable and can be graded in MyEconLab.
- Extra problems and applications, including algorithmic, draw-graph, and numerical exercises are available for student practice or instructor assignment.
- Problems and applications that use real-time data continuously update.
- Test Item File questions are available for assignment as homework.
- Custom Exercise Builder gives instructors the flexibility of creating their own problems for assignment.
- Gradebook records each student's performance and time spent on the Tests and Study Plan and generates reports by student or by chapter.

New for the Seventh Edition is an enhanced Pearson eText that extends the functionality of the current eText with its embedded assessments that feed directly into MyEconLab's Study Plan, now powered by Knewton Adaptive Learning. The enhanced eText includes video, animations, and problem-solving tools designed for student success.

The enhanced Pearson eText is available within the online course materials and offline via an iPad app. It also allows instructors and students to highlight, bookmark, and take notes.

#### ■ Features of the Enhanced eText

**Big Picture Videos** Big Picture videos, tied to the Chapter Checklist, set the stage for the main concept that will be introduced throughout the chapter. Students can use these videos to prepare for today's lecture or to help them focus on main chapter ideas.

**Snapshot Videos** Snapshot videos accompany every major section of each chapter and are designed to briefly present the major concepts and graphical tools covered within key sections. Using text, audio, and animation, Snapshot videos enable students with different learning styles to efficiently study and review key concepts of the chapter.

#### **DEMAND and SUPPLY: THE BIG PICTURE**

Buyers like a low price, and the lower the price, the greater is the quantity they plan to buy—the law of demand.

Sellers like a high price, and the higher the price, the greater is the quantity they plan to sell—the law of supply.

Too high a price brings a surplus, and too low a price brings a shortage.

When there is a surplus, the price falls; and when there is a shortage, the price rises—the law of market forces.

#### 4.2 SUPPLY: SNAPSHOT

#### ■ Individual Supply and Market Supply

You've just seen Agua's individual supply.

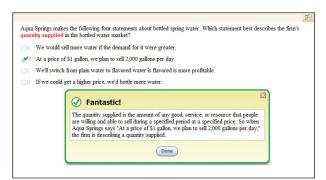
Market supply is the sum of the supplies of all the sellers in a market.

The market supply curve is the horizontal sum of the supply curves of all sellers in the market.

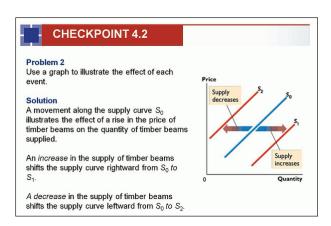
Figure 4.6 illustrates individual supply and market supply when just Aqua and Prima sell bottled water.

**Animations** Every textbook figure includes a step-by-step animation, with audio, to help students learn the intuition behind reading and interpreting graphs. These animations may be used for review, or as an instructional aid in the classroom. Figures labeled *MyEconLab Real-Time Data* update using the most recent data available from the Federal Reserve Bank of St. Louis's FRED site.

**Embedded MyEconLab Assessment** Every Checkpoint Practice Problem, every In the News problem, and every Study Plan Problem and Application in the enhanced eText can be worked by the student directly from the eText page on which it occurs. These problems feed into the MyEconLab's Study Plan, which is now powered by Knewton Adapative Learning and where students receive recommendations based upon their performance.



**Key Terms Quiz** The Key Terms Quiz, accessible from each Checkpoint, allows students to check their understanding of key chapter concepts before moving onto the next section. The Interactive Glossary that supports the enhanced eText provides the key term definition, an example, and related terms.



**Solutions Videos** Every Checkpoint Practice problem and In the News Problem is supported by a solutions video that provides a step-by-step review of the problem and its solution, including graphical analysis. Text, audio, and animation ensure that a student understands how to set-up and solve each of the problems.

#### ■ MyEconLab also includes:

**Economics in the News** Economics in the News is a turn-key solution to bringing daily news into the classroom. Updated daily during the academic year, we upload two relevant articles (one micro, one macro) and provide questions that may be assigned for homework or for classroom discussion.

**Current News** Each week during the academic year, we upload multi-part microeconomic and macroeconomic exercises, with links to relevant articles, into the MyEconLab assignment manager. These enable instructors to bring current issues and events into the course with easy to assign exercises.

Real-Time Data Analysis Exercises (FRED) Easy to assign Real-Time Data Analysis exercises communicate directly with the Federal Reserve Bank of St. Louis's FRED site, so every time FRED posts new data, students see new data. As a result, Real-Time Data Analysis exercises offer a no-fuss solution for instructors who want to make the most recent data a central part of their macro course. End-of-chapter exercises accompanied by the Real-Time Data Analysis icon (()) include Real-Time Data versions in MyEconLab. Select in-text figures, labeled Real-time data, update in the eText using FRED data.

**Experiments in MyEconLab** Experiments are a fun and engaging way to promote active learning and mastery of important economic concepts. Pearson's Experiments program is flexible and easy for instructors to assign and students to use.

- Single-player experiments, available to assign, allow your students to play
  against virtual players from anywhere at anytime so long as they have an
  internet connection.
- Pre and post-questions for each experiment are available for assignment in MyEconLab.
- Experiments are auto-graded using algorithms that objectively evaluate a student's economic gain and performance during the experiment.

For a complete list of available experiments, visit www.myeconlab.com.

**AACSB and Learning Outcomes** All end-of-chapter and Test Item File questions are tagged in two ways: to AACSB standards and to discipline-specific Learning Outcomes. These two separate tagging systems allow professors to build assessments around desired departmental and course outcomes and track results in MyEconLab's gradebook.

#### **■** MyEconLab and Adaptive Learning

Adaptive Study Plan MyEconLab's Study Plan is now powered by a sophisticated adaptive learning engine that tailors learning material to meet the unique needs of each student. MyEconLab's new Adaptive Learning Study Plan monitors students' performance on homework, quizzes, and tests and continuously makes recommendations based on that performance.

If a student is struggling with a concept such as supply and demand, or having trouble calculating a price elasticity of demand, the Study Plan provides customized remediation activities—a pathway based on personal proficiencies, number of attempts, or difficulty of questions—to get the student back on track. Students will also receive recommendations for additional practice in the form of rich multi-media learning aids such as videos, an interactive eText, Help Me Solve This tutorials, and graphing tools.

The Study Plan can extrapolate a student's future trouble spots and provide learning material and practice to avoid pitfalls. In addition, students who are showing a high degree of success with the assessment material are offered a chance to work on future topics based on the professor's course coverage preferences. This personalized and adaptive feedback and support ensures that your

students are optimizing their current and future course work and mastering the concepts, rather than just memorizing and guessing answers.

**Dynamic Study Modules** Dynamic Study Modules, which focus on key topic areas and are available from within MyEconLab, are an additional way for students to obtain tailored help. These modules work by continuously assessing student performance and activity on discrete topics and provide personalized content in real time to reinforce concepts that target each student's particular strengths and weaknesses.

Each Dynamic Study Module, accessed by computer, smartphone, or tablet, promotes fast learning and long-term retention. Because MyEconLab and Dynamic Study Modules help students stay on track and achieve a higher level of subject-matter mastery, more class time is available for interaction, discussion, collaboration, and exploring applications to current news and events.

Instructors can register, create, and access all of their MyEconLab courses at www.pearsonmylab.com.

#### SUPPORT MATERIALS FOR INSTRUCTORS AND STUDENTS

Foundations of Economics is accompanied by the most comprehensive set of teaching and learning tools ever assembled. Each component of our package is organized by Checkpoint topic for a tight, seamless integration with both the textbook and the other components. In addition to authoring the MyEconLab and PowerPoint content, we have helped in the reviewing and revising of the Study Guide, Solutions Manual, Instructor's Manual, and Test Item Files to ensure that every element of the package achieves the consistency that students and teachers need.

#### PowerPoint Resources

We have created the PowerPoint resources based on our 20 years of experience using this tool in our own classrooms. We have created five sets of PowerPoint presentations for instructors.

They are:

- Lecture notes with full-color, animated figures, and tables from the textbook
- Figures and tables from the textbook, animated with step-by-step walkthrough for instructors to use in their own personal slides
- *Eye On* features
- Checkpoint Practice Problems and solutions
- Alternative micro lecture notes with full-color, animated figures and tables that use examples different from those in the textbook

A student version of the lecture notes is also available on MyEconLab.

#### Instructor's Manual

The Instructor's Manual, written by Luke Armstrong and reviewed by Mark Rush, contains chapter outlines and road maps, additional exercises with solutions, a comprehensive Chapter Lecture resource, and a virtual encyclopedia of suggestions on how to enrich class presentation and use class time efficiently.