

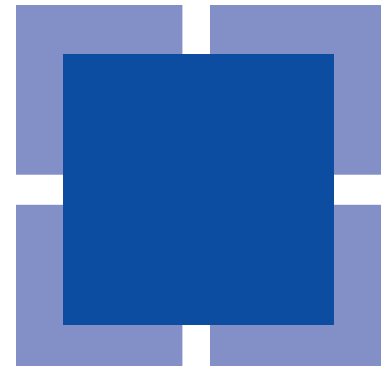
Foundations of  
**ECONOMICS**

AP<sup>®</sup> Edition

Robin Bade

Michael Parkin

*University of Western Ontario*



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

Image Permission Manager: Rachel Youdelman  
Photo Researcher: Joseph Songco  
Art Director, Cover: Jonathan Boylan  
Cover Image: Rich Carey/Shutterstock  
Copyeditor: Catherine Baum  
Technical Illustrator: Richard Parkin  
Project Management, Page Makeup, Design: Integra  
Printer/Binder: Courier/Kendallville  
Cover Printer: Courier/Kendallville  
Text Font: 10/12, Palatino-Roman

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-1–C-2.

FRED<sup>®</sup> is a registered trademark and the FRED<sup>®</sup> logo and ST.LOUIS FED are trademarks of the Federal Reserve Bank of St. Louis, <http://researchstlouisfed.org/fred2/>

AP<sup>®</sup> is a trademark registered and/or owned by the College Board, which was not involved in the production of, and does not endorse, this product.

---

Copyright © 2015, 2013, 2011 by Pearson Education, Inc. 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 likewise. To obtain permission(s) to use material from this work, please submit a written request to Pearson Education, Inc., Permissions Department, One Lake Street, Upper Saddle River, New Jersey 07458, or you may fax your request to 201-236-3290.

Many of the designations by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and the publisher was aware of a trademark claim, the designations have been printed in initial caps or all caps.

10 9 8 7 6 5 4 3 2 1

**PEARSON**

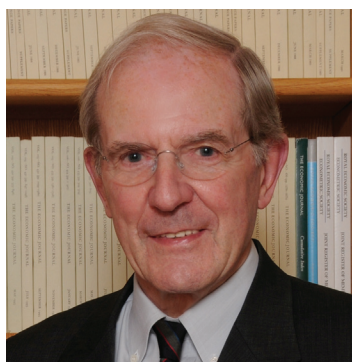
AP<sup>®</sup> Edition School Binding  
ISBN 10: 0-13-381270-7  
ISBN 13: 978-0-13-381270-1

## 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.

PART 1	INTRODUCTION
	1 Getting Started, 1
	2 The U.S. and Global Economies, 31
	3 The Economic Problem, 57
	4 Demand and Supply, 81
PART 2	A CLOSER LOOK AT MARKETS
	5 Elasticities of Demand and Supply, 111
	6 Efficiency and Fairness of Markets, 137
PART 3	HOW GOVERNMENTS INFLUENCE THE ECONOMY
	7 Government Actions in Markets, 167
	8 Taxes, 189
	9 Global Markets in Action, 213
PART 4	MARKET FAILURE AND PUBLIC POLICY
	10 Externalities, 241
	11 Public Goods and Common Resources, 265
	12 Markets with Private Information 291
PART 5	A CLOSER LOOK AT DECISION MAKERS
	13 Consumer Choice and Demand, 315
	14 Production and Cost, 343
PART 6	PRICES, PROFITS, AND INDUSTRY PERFORMANCE
	15 Perfect Competition, 371
	16 Monopoly, 399
	17 Monopolistic Competition, 431
	18 Oligopoly, 455
PART 7	INCOMES AND INEQUALITY
	19 Markets for Factors of Production, 483
	20 Economic Inequality, 507

PART 8	MONITORING THE MACROECONOMY
	<b>21</b> GDP: A Measure of Total Production and Income, 533
	<b>22</b> Jobs and Unemployment, 563
	<b>23</b> The CPI and the Cost of Living, 585
PART 9	THE REAL ECONOMY
	<b>24</b> Potential GDP and the Natural Unemployment Rate, 609
	<b>25</b> Economic Growth, 633
	<b>26</b> Finance, Saving, and Investment, 659
PART 10	THE MONEY ECONOMY
	<b>27</b> The Monetary System, 685
	<b>28</b> Money, Interest, and Inflation, 715
PART 11	ECONOMIC FLUCTUATIONS
	<b>29</b> Aggregate Supply and Aggregate Demand, 743
	<b>30</b> Aggregate Expenditure Multiplier, 769
	<b>31</b> The Short-Run Policy Tradeoff, 795
PART 12	MACROECONOMIC POLICY
	<b>32</b> Fiscal Policy, 817
	<b>33</b> Monetary Policy, 843
	<b>34</b> International Finance, 871
	Glossary G-1
	Index I-1
	Credits C-1

# Contents

## PART 1 INTRODUCTION

### CHAPTER 1 Getting Started 1

#### CHAPTER CHECKLIST 1

- 1.1 Definition and Questions 2
  - Scarcity, 2
  - Economics Defined, 2
  - What, How, and For Whom? 3
  - Can the Pursuit of Self-Interest Be in the Social Interest? 4
- CHECKPOINT 1.1 7

### 1.2 The Economic Way of Thinking 8

- Economic Ideas, 8
- A Choice Is a Tradeoff, 8
- Cost: What You *Must* Give Up, 8
- Benefit: What You Gain, 9
- Rational Choice, 9
- How Much? Choosing at the Margin, 10
- Choices Respond to Incentives, 11
- Economics as Social Science, 12
- Economics as Policy Tool, 14
- CHECKPOINT 1.2 16

#### CHAPTER SUMMARY 17

#### CHAPTER CHECKPOINT 18

### Appendix: Making and Using Graphs 21

- Basic Idea 21
- Interpreting Data Graphs, 22
- Interpreting Graphs Used in Economic Models, 24
- The Slope of a Relationship, 27
- Relationships Among More Than Two Variables, 28
- APPENDIX CHECKPOINT 30

#### EYE on the PAST

Adam Smith and the Birth of Economics as a Social Science, 13

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

Did You Make the Right Decision? 15

### CHAPTER 2 The U.S. and Global Economies 31

#### CHAPTER CHECKLIST 31

- 2.1 What, How, and For Whom? 32
  - What Do We Produce? 32
  - How Do We Produce? 34
  - For Whom Do We Produce? 37
- CHECKPOINT 2.1 38

### 2.2 The Global Economy 39

- The People, 39
- The Economies, 39
- What* in the Global Economy? 40
- How* in the Global Economy? 42
- For Whom* in the Global Economy? 42
- CHECKPOINT 2.2 45

### 2.3 The Circular Flows 46

- Households and Firms, 46
- Markets, 46
- Real Flows and Money Flows, 46
- Governments, 48
- Governments in the Circular Flow, 49
- Circular Flows in the Global Economy, 50
- CHECKPOINT 2.3 52

#### CHAPTER SUMMARY 53

#### CHAPTER CHECKPOINT 54

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

What We Produce, 33

#### EYE on the PAST

Changes in What We Produce, 34

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

Changes in How We Produce in the Information Economy, 36

#### EYE on the Dreamliner

Who Makes the Dreamliner? 41

- **EYE on the GLOBAL ECONOMY**  
Differences in How We Produce, 43
- **EYE on YOUR LIFE**  
The U.S. and Global Economies in Your Life, 45
- **EYE on the PAST**  
Growing Government, 50
- **EYE on the GLOBAL ECONOMY**  
The Ups and Downs in International Trade, 52

## **CHAPTER 3** **The Economic Problem 57**

### **CHAPTER CHECKLIST 57**

- 3.1 Production Possibilities 58**  
Production Possibilities Frontier, 58  
**CHECKPOINT 3.1 63**
- 3.2 Opportunity Cost 64**  
The Opportunity Cost of a Cell Phone, 64  
Opportunity Cost and the Slope of the *PPF*, 65  
Opportunity Cost Is a Ratio, 65  
Increasing Opportunity Costs Are Everywhere, 66  
Your Increasing Opportunity Cost, 66  
**CHECKPOINT 3.2 67**
- 3.3 Economic Growth 68**  
**CHECKPOINT 3.3 70**
- 3.4 Specialization and Trade 71**  
Absolute Advantage and Comparative Advantage, 71  
Comparative Advantage: An Example, 72  
Achieving Gains from Trade, 74  
**CHECKPOINT 3.4 76**

### **CHAPTER SUMMARY 77**

### **CHAPTER CHECKPOINT 78**

- **EYE on YOUR LIFE**  
Your Production Possibilities Frontier, 62
- **EYE on the ENVIRONMENT**  
Is Wind Power Free? 66
- **EYE on the U.S. ECONOMY**  
Expanding Our Production Possibilities, 69
- **EYE on the GLOBAL ECONOMY**  
Hong Kong's Rapid Economic Growth, 70

- **EYE on the U.S. ECONOMY**  
No One Knows How to Make a Pencil, 71
- **EYE on YOUR LIFE**  
Your Comparative Advantage, 74

## **CHAPTER 4** **Demand and Supply 81**

### **CHAPTER CHECKLIST 81**

### **Competitive Markets 82**

- 4.1 Demand 83**  
The Law of Demand, 83  
Demand Schedule and Demand Curve, 83  
Individual Demand and Market Demand, 85  
Changes in Demand, 86  
Change in Quantity Demanded Versus Change in Demand, 88  
**CHECKPOINT 4.1 89**
- 4.2 Supply 90**  
The Law of Supply, 90  
Supply Schedule and Supply Curve, 90  
Individual Supply and Market Supply, 92  
Changes in Supply, 93  
Change in Quantity Supplied Versus Change in Supply, 95  
**CHECKPOINT 4.2 97**
- 4.3 Market Equilibrium 98**  
Price: A Market's Automatic Regulator, 98  
Predicting Price Changes: Three Questions, 99  
Effects of Changes in Demand, 100  
Effects of Changes in Supply, 102  
Effects of Changes in Both Demand and Supply, 104  
**CHECKPOINT 4.3 106**

### **CHAPTER SUMMARY 107**

### **CHAPTER CHECKPOINT 108**

- **EYE on YOUR LIFE**  
Understanding and Using Demand and Supply, 96
- **EYE on TUITION**  
Why Does Tuition Keep Rising? 101
- **EYE on the GLOBAL ECONOMY**  
The Market for Solar Panels, 103

## PART 2 A CLOSER LOOK AT MARKETS

**CHAPTER 5**  
**Elasticities of Demand and Supply 111****CHAPTER CHECKLIST** 111

- 5.1 The Price Elasticity of Demand** 112  
 Percentage Change in Price, 112  
 Percentage Change in Quantity Demanded, 113  
 Comparing the Percentage Changes in Price and Quantity, 113  
 Elastic and Inelastic Demand, 114  
 Influences on the Price Elasticity of Demand, 114  
 Computing the Price Elasticity of Demand, 116  
 Interpreting the Price Elasticity of Demand Number, 117  
 Elasticity Along a Linear Demand Curve, 118  
 Total Revenue and the Price Elasticity of Demand, 120  
 Applications of the Price Elasticity of Demand, 122  
**CHECKPOINT 5.1** 123
- 5.2 The Price Elasticity of Supply** 124  
 Elastic and Inelastic Supply, 124  
 Influences on the Price Elasticity of Supply, 124  
 Computing the Price Elasticity of Supply, 126  
**CHECKPOINT 5.2** 128
- 5.3 Cross Elasticity and Income Elasticity** 129  
 Cross Elasticity of Demand, 129  
 Income Elasticity of Demand, 130  
**CHECKPOINT 5.3** 132

**CHAPTER SUMMARY** 133**CHAPTER CHECKPOINT** 134**EYE on the GLOBAL ECONOMY**

Price Elasticities of Demand, 119

**EYE on the PRICE OF GASOLINE**

What Do You Do When the Price of Gasoline Rises? 121

**EYE on YOUR LIFE**

Your Price Elasticities of Demand, 131

**CHAPTER 6**  
**Efficiency and Fairness of Markets 137****CHAPTER CHECKLIST** 137

- 6.1 Allocation Methods and efficiency** 138  
 Resource Allocation Methods, 138  
 Using Resources Efficiently, 141  
**CHECKPOINT 6.1** 145
- 6.2 Value, Price, and Consumer Surplus** 146  
 Demand and Marginal Benefit, 146  
 Consumer Surplus, 147  
**CHECKPOINT 6.2** 148
- 6.3 Cost, Price, and Producer Surplus** 149  
 Supply and Marginal Cost, 149  
 Producer Surplus, 150  
**CHECKPOINT 6.3** 151
- 6.4 Are Markets Efficient?** 152  
 Marginal Benefit Equals Marginal Cost, 152  
 Total Surplus Is Maximized, 153  
 The Invisible Hand, 153  
 Market Failure, 155  
 Sources of Market Failure, 156  
 Alternatives to the Market, 157  
**CHECKPOINT 6.4** 158
- 6.5 Are Markets Fair?** 159  
 It's Not Fair If the *Rules* Aren't Fair, 159  
 It's Not Fair If the *Result* Isn't Fair, 159  
 Compromise, 161  
**CHECKPOINT 6.5** 162

**CHAPTER SUMMARY** 163**CHAPTER CHECKPOINT** 164**EYE on the U.S. ECONOMY**

The Invisible Hand and e-Commerce, 154

**EYE on PRICE GOUGING**

Should Price Gouging Be Illegal? 160

**EYE on YOUR LIFE**

Allocation Methods, Efficiency, and Fairness, 161



## PART 3 HOW GOVERNMENTS INFLUENCE THE ECONOMY

## CHAPTER 7 Government Actions in Markets 167

### CHAPTER CHECKLIST 167

- 7.1 Price Ceilings** 168  
 A Rent Ceiling, 168  
 Are Rent Ceilings Efficient? 171  
 Are Rent Ceilings Fair? 172  
 If Rent Ceilings Are So Bad, Why Do We Have Them? 172  
**CHECKPOINT 7.1** 173
- 7.2 Price Floors** 174  
 The Minimum Wage, 175  
 Is the Minimum Wage Efficient? 178  
 Is the Minimum Wage Fair? 179  
 If the Minimum Wage Is So Bad, Why Do We Have It? 179  
**CHECKPOINT 7.2** 180
- 7.3 Price Supports in Agriculture** 181  
 How Governments Intervene in Markets for Farm Products, 181  
 Price Support: An Illustration, 181  
**CHECKPOINT 7.3** 184

### CHAPTER SUMMARY 185

### CHAPTER CHECKPOINT 186

- **EYE on the U.S. ECONOMY**  
 The Federal Minimum Wage, 177
- **EYE on PRICE REGULATION**  
 Can the President Repeal the Laws of Supply and Demand? 179
- **EYE on YOUR LIFE**  
 Price Ceilings and Price Floors, 183

## CHAPTER 8 Taxes 189

### CHAPTER CHECKLIST 189

- 8.1 Taxes on Buyers and Sellers** 190  
 Tax Incidence, 190  
 Taxes and Efficiency, 191  
 Incidence, Inefficiency, and Elasticity, 192  
 Incidence, Inefficiency, and the Elasticity of Demand, 193

Incidence, Inefficiency, and the Elasticity of Supply, 194

### CHECKPOINT 8.1 195

- 8.2 Income Tax and Social Security Tax** 196  
 The Personal Income Tax, 196  
 The Effects of the Income Tax, 198  
 The Social Security Tax, 202  
**CHECKPOINT 8.2** 205
- 8.3 Fairness and the Big Tradeoff** 206  
 The Benefits Principle, 206  
 The Ability-to-Pay Principle, 206  
 The Marriage Tax Problem, 207  
 The Big Tradeoff, 208  
**CHECKPOINT 8.3** 208

### CHAPTER SUMMARY 209

### CHAPTER CHECKPOINT 210

- **EYE on the U.S. ECONOMY**  
 Taxes in the United States Today, 196
- **EYE on CONGRESS**  
 Does Congress Decide Who Pays the Taxes? 200
- **EYE on the PAST**  
 The Origins and History of the U.S. Income Tax, 204
- **EYE on YOUR LIFE**  
 Tax Freedom Day, 204

## CHAPTER 9 Global Markets in Action 213

### CHAPTER CHECKLIST 213

- 9.1 How Global Markets Work** 214  
 International Trade Today, 214  
 What Drives International Trade? 214  
 Why the United States Imports T-Shirts, 216  
 Why the United States Exports Airplanes, 217  
**CHECKPOINT 9.1** 218
- 9.2 Winners, Losers, and Net Gains From Trade** 219  
 Gains and Losses from Imports, 220  
 Gains and Losses from Exports, 221  
**CHECKPOINT 9.2** 222
- 9.3 International Trade Restrictions** 223  
 Tariffs, 223  
 Import Quotas, 227

Other Import Barriers, 229

Export Subsidies, 229

**CHECKPOINT 9.3** 230

**9.4 The Case Against Protection** 231

Three Traditional Arguments for Protection, 231

Four Newer Arguments for Protection, 233

Why Is International Trade Restricted? 234

**CHECKPOINT 9.4** 236

**CHAPTER SUMMARY** 237

**CHAPTER CHECKPOINT** 238

■ **EYE on the U.S. ECONOMY**

U.S. Exports and Imports, 215

■ **EYE on GLOBALIZATION**

Who Wins and Who Loses from Globalization? 219

■ **EYE on the PAST**

The History of U.S. Tariffs, 223

■ **EYE on YOUR LIFE**

International Trade, 235

**PART 4 MARKET FAILURE AND PUBLIC POLICY**

**CHAPTER 10**  
**Externalities** 241

**CHAPTER CHECKLIST** 241

**Externalities in Our Daily Lives** 242

Negative Production Externalities, 242

Positive Production Externalities, 242

Negative Consumption Externalities, 243

Positive Consumption Externalities, 243

**10.1 Negative Externalities: Pollution** 244

Private Costs and Social Costs, 244

Production and Pollution: How Much? 246

Establish Property Rights, 247

Mandate Clean Technology, 249

Tax or Cap and Price Pollution, 249

**CHECKPOINT 10.1** 253

**10.2 Positive Externalities: Education** 254

Private Benefits and Social Benefits, 254

Government Actions in the Face of External Benefits, 256

**CHECKPOINT 10.2** 260

**CHAPTER SUMMARY** 261

**CHAPTER CHECKPOINT** 262

■ **EYE on the U.S. ECONOMY**

U.S. Air Pollution Trends, 251

■ **EYE on CLIMATE CHANGE**

How Can We Limit Climate Change? 252

■ **EYE on the U.S. ECONOMY**

Education Quality: Charter Schools and Vouchers, 259

■ **EYE on YOUR LIFE**

Externalities in Your Life, 259

**CHAPTER 11**  
**Public Goods and Common Resources** 265

**CHAPTER CHECKLIST** 265

**11.1 Classifying Goods and Resources** 266

Excludable, 266

Rival, 266

A Fourfold Classification, 266

**CHECKPOINT 11.1** 268

**11.2 Public Goods and the Free-Rider Problem** 269

The Free-Rider Problem, 269

The Marginal Benefit from a Public Good, 270

The Marginal Cost of a Public Good, 270

The Efficient Quantity of a Public Good, 272

Private Provision: Underproduction, 272

Public Provision: Efficient Production, 273

Public Provision: Overproduction, 274

Why Government Is Large and Growing, 275

**CHECKPOINT 11.2** 277

**11.3 Common Resources** 278

Unsustainable Use of a Common Resource, 278

Inefficient Use of a Common Resource, 279

Using the Commons Efficiently, 282

**CHECKPOINT 11.3** 286

**CHAPTER SUMMARY** 287

**CHAPTER CHECKPOINT** 288

■ **EYE on the PAST**

Is a Lighthouse a Public Good? 268

■ **EYE on the U.S. INFRASTRUCTURE**

Should America Build a High-Speed Rail Network like Europe's? 276

■ **EYE on YOUR LIFE**

A Student's Free-Rider Problem, 276

■ **EYE on the PAST**

The Commons of England's Middle Ages, 278

■ **EYE on the GLOBAL ECONOMY**

The North Atlantic Cod Tragedy of the Commons, 280

■ **EYE on the GLOBAL ECONOMY**

ITQs Work, 285

## CHAPTER 12 Markets with Private Information 291

CHAPTER CHECKLIST 291

### 12.1 The Lemons Problem and its Solution 292

A Market for Used Cars with a Lemons Problem, 292

A Used-Car Market with Dealers' Warranties, 296

CHECKPOINT 12.1 298

### 12.2 Information Problems in Insurance Markets 299

Insurance Markets, 299

Asymmetric Information in Insurance, 300

Screening in Insurance Markets, 302

Separating Equilibrium with Screening, 302

CHECKPOINT 12.2 304

### 12.3 Health-Care Markets 305

Economic Problems in Health-Care Markets, 305

Missing Insurance Market, 306

Public-Health Externalities, 306

Health-Care Systems in Other Countries, 306

A Reform Idea, 309

CHECKPOINT 12.3 310

CHAPTER SUMMARY 311

CHAPTER CHECKPOINT 312

■ **EYE on the MARKET FOR USED CARS**

How Do You Avoid Buying a Lemon? 296

■ **EYE on the U.S. ECONOMY**

Insurance in the United States, 299

■ **EYE on the U.S. ECONOMY**

Health Care in the United States: A Snapshot, 307

■ **EYE on the GLOBAL ECONOMY**

Health-Care Expenditures and Health Outcomes, 308

■ **EYE on YOUR LIFE**

Signaling Your Ability, 309

## PART 5 A CLOSER LOOK AT DECISION MAKERS

## CHAPTER 13 Consumer Choice and Demand 315

CHAPTER CHECKLIST 315

### 13.1 Consumption Possibilities 316

The Budget Line, 316

A Change in the Budget, 317

Changes in Prices, 318

Prices and the Slope of the Budget Line, 319

CHECKPOINT 13.1 321

### 13.2 Marginal Utility Theory 322

Total Utility, 322

Marginal Utility, 322

Graphing Tina's Utility Schedules, 324

Maximizing Total Utility, 324

Finding an Individual Demand Curve, 326

CHECKPOINT 13.2 328

### 13.3 Efficiency, Price, and Value 329

Consumer Efficiency, 329

The Paradox of Value, 329

CHECKPOINT 13.3 332

CHAPTER SUMMARY 333

CHAPTER CHECKPOINT 334

### Appendix: Indifference Curves 337

An Indifference Curve, 337

Marginal Rate of Substitution, 338

Consumer Equilibrium, 339

Deriving the Demand Curve, 340

Appendix Checkpoint 342

■ **EYE on the U.S. ECONOMY**

Relative Prices on the Move, 320

■ **EYE on the PAST**

Jeremy Bentham, William Stanley Jevons, and the Birth of Utility, 323

■ **EYE on Song Downloads**

How Much Would You Pay for a Song? 330

■ **EYE on YOUR LIFE**

Do You Maximize Your Utility? 332

**CHAPTER 14**



**Production and Cost 343**

**CHAPTER CHECKLIST** 343

**14.1 Economic Cost and Profit 344**

The Firm's Goal, 344

Accounting Cost and Profit, 344

Opportunity Cost, 344

Economic Profit, 345

**CHECKPOINT 14.1** 347

**Short Run and Long Run 348**

**14.2 Short-Run Production 349**

Total Product, 349

Marginal Product, 350

Average Product, 352

**CHECKPOINT 14.2** 354

**14.3 Short-Run Cost 355**

Total Cost, 355

Marginal Cost, 356

Average Cost, 357

Why the Average Total Cost Curve Is U-Shaped, 359

Cost Curves and Product Curves, 360

Shifts in the Cost Curves, 360

**CHECKPOINT 14.3** 362

**14.4 Long-Run Cost 363**

Plant Size and Cost, 363

The Long-Run Average Cost Curve, 364

**CHECKPOINT 14.4** 366

**CHAPTER SUMMARY** 367

**CHAPTER CHECKPOINT** 368

■ **EYE on YOUR LIFE**

Your Average and Marginal Grades, 353

■ **EYE on RETAILERS' COSTS**

Which Store Has the Lower Costs: Wal-Mart or 7-Eleven? 365

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



**CHAPTER 15**

**Perfect Competition 371**

**CHAPTER CHECKLIST** 371

**Market Types 372**

Perfect Competition, 372

Other Market Types, 372

**15.1 A Firm's Profit-Maximizing Choices 373**

Price Taker, 373

Revenue Concepts, 373

Profit-Maximizing Output, 374

Marginal Analysis and the Supply Decision, 376

Temporary Shutdown Decision, 377

The Firm's Short-Run Supply Curve, 378

**CHECKPOINT 15.1** 380

**15.2 Output, Price, and Profit in the Short run 381**

Market Supply in the Short Run, 381

Short-Run Equilibrium in Normal Times, 382

Short-Run Equilibrium in Good Times, 383

Short-Run Equilibrium in Bad Times, 384

**CHECKPOINT 15.2** 385

**15.3 Output, Price, and Profit in the Long Run 386**

Entry and Exit, 387

The Effects of Exit, 388

Change in Demand, 389

Technological Change, 389

Is Perfect Competition Efficient? 392

Is Perfect Competition Fair? 393

**CHECKPOINT 15.3** 394

**CHAPTER SUMMARY** 395

**CHAPTER CHECKPOINT** 396

■ **EYE on RECORD STORES**

Where Have All the Record Stores Gone? 390

■ **EYE on YOUR LIFE**

The Perfect Competition that You Encounter, 393

## CHAPTER 16 Monopoly 399

CHAPTER CHECKLIST 399

- 16.1 Monopoly and How it Arises** 400  
How Monopoly Arises, 400  
Monopoly Price-Setting Strategies, 402  
**CHECKPOINT 16.1** 403
- 16.2 Single-Price Monopoly** 404  
Price and Marginal Revenue, 404  
Marginal Revenue and Elasticity, 405  
Output and Price Decision, 406  
**CHECKPOINT 16.2** 408
- 16.3 Monopoly and Competition Compared** 409  
Output and Price, 409  
Is Monopoly Efficient? 410  
Is Monopoly Fair? 411  
Rent Seeking, 411  
**CHECKPOINT 16.3** 413
- 16.4 Price Discrimination** 414  
Price Discrimination and Consumer Surplus, 414  
Profiting by Price Discriminating, 415  
Perfect Price Discrimination, 416  
Price Discrimination and Efficiency, 418  
**CHECKPOINT 16.4** 419
- 16.5 Monopoly Regulation** 420  
Efficient Regulation of a Natural Monopoly, 420  
Second-Best Regulation of a Natural Monopoly, 421  
**CHECKPOINT 16.5** 426

CHAPTER SUMMARY 427

CHAPTER CHECKPOINT 428

■ **EYE on the U.S. ECONOMY**

Airline Price Discrimination, 418

■ **EYE on MICROSOFT**

Are Microsoft's Prices Too High? 423

■ **EYE on YOUR LIFE**

Monopoly in Your Everyday Life, 424

## CHAPTER 17 Monopolistic Competition 431

CHAPTER CHECKLIST 431

- 17.1 What is Monopolistic Competition?** 432  
Large Number of Firms, 432  
Product Differentiation, 432

Competing on Quality, Price, and Marketing, 432  
Entry and Exit, 433

Identifying Monopolistic Competition, 433

**CHECKPOINT 17.1** 437

**17.2 Output and Price Decisions** 438

The Firm's Profit-Maximizing Decision, 438

Profit Maximizing Might Be Loss Minimizing, 439

Long Run: Zero Economic Profit, 440

Monopolistic Competition and Perfect Competition, 441

Is Monopolistic Competition Efficient? 442

**CHECKPOINT 17.2** 443

**17.3 Product Development and Marketing** 444

Product Development, 444

Marketing, 445

Using Advertising to Signal Quality, 448

Brand Names, 449

Efficiency of Advertising and Brand Names, 449

**CHECKPOINT 17.3** 450

CHAPTER SUMMARY 451

CHAPTER CHECKPOINT 452

■ **EYE on the U.S. ECONOMY**

Examples of Monopolistic Competition, 436

■ **EYE on CELL PHONES**

Which Cell Phone? 445

■ **EYE on YOUR LIFE**

Some Selling Costs You Pay, 448

## CHAPTER 18 Oligopoly 455

CHAPTER CHECKLIST 455

**18.1 What is Oligopoly?** 456

Small Number of Firms, 456

Barriers to Entry, 456

Identifying Oligopoly, 458

**CHECKPOINT 18.1** 459

**18.2 The Oligopolists' Dilemma** 460

Monopoly Outcome, 460

Perfect Competition Outcome, 461

Other Possible Cartel Breakdowns, 461

The Oligopoly Cartel Dilemma, 462

**CHECKPOINT 18.2** 464

**18.3 Game Theory** 465

What Is a Game? 465

The Prisoners' Dilemma, 465

- The Duopolists' Dilemma, 467
- The Payoff Matrix, 467
- Advertising and Research Games in Oligopoly, 468
- Repeated Games, 470
- Is Oligopoly Efficient? 471
- CHECKPOINT 18.3** 472

**18.4 Antitrust Law** 473

- The Antitrust Laws, 473
- Three Antitrust Policy Debates, 473
- Recent Antitrust Showcase: The United States Versus Microsoft, 475
- Merger Rules, 476
- CHECKPOINT 18.4** 478

**CHAPTER SUMMARY** 479

**CHAPTER CHECKPOINT** 480

- **EYE on the U.S. ECONOMY**  
Examples of Oligopoly, 458
- **EYE on the GLOBAL ECONOMY**  
The OPEC Global Oil Cartel, 463
- **EYE on YOUR LIFE**  
A Game You Might Play, 470
- **EYE on the CELL-PHONE OLIGOPOLY**  
Is Two Too Few? 471
- **EYE on the U.S. ECONOMY**  
No Cell-Phone Service Merger, 477

**PART 7 INCOMES AND INEQUALITY**

 **CHAPTER 19**  
**Markets for Factors of Production** 483

**CHAPTER CHECKLIST** 483

**The Anatomy of Factor Markets** 484

**19.1 The Demand for a Factor of Production** 485

- Value of Marginal Product, 485
- A Firm's Demand for Labor, 486
- A Firm's Demand for Labor Curve, 487
- Changes in the Demand for Labor, 488
- CHECKPOINT 19.1** 489

**19.2 Labor Markets** 490

- The Supply of Labor, 490
- Influences on the Supply of Labor, 491
- Competitive Labor Market Equilibrium, 492
- Labor Unions, 494
- CHECKPOINT 19.2** 496

**19.3 Capital and Natural Resource Markets** 497

- Capital Markets, 497
- Land Markets, 498
- Nonrenewable Natural Resource Markets, 499
- CHECKPOINT 19.3** 502

**CHAPTER SUMMARY** 503

**CHAPTER CHECKPOINT** 504

- **EYE on the COACH**  
Why Is a Coach Worth \$5.5 Million? 493

■ **EYE on YOUR LIFE**

- Job Choice and Income Prospects, 499

■ **EYE on the GLOBAL ECONOMY**

- Oil and Metal Prices, 501

 **CHAPTER 20**  
**Economic Inequality** 507

**CHAPTER CHECKLIST** 507

**20.1 Measuring Economic Inequality** 508

- Lorenz Curves, 509
- Inequality over Time, 510
- Economic Mobility, 510
- Poverty, 513
- CHECKPOINT 20.1** 515

**20.2 How Economic Inequality Arises** 516

- Human Capital, 516
- Discrimination, 519
- Financial and Physical Capital, 520
- Entrepreneurial Ability, 520
- Personal and Family Characteristics, 520
- CHECKPOINT 20.2** 521

**20.3 Income Redistribution** 522

- How Governments Redistribute Income, 522
- The Scale of Income Redistribution, 523
- Why We Redistribute Income, 525
- The Major Welfare Challenge, 526
- CHECKPOINT 20.3** 528

**CHAPTER SUMMARY** 529**CHAPTER CHECKPOINT** 530■ **EYE on the GLOBAL ECONOMY**

Global Inequality, 511

■ **EYE on INEQUALITY**

Who Are the Rich and the Poor? 512

■ **EYE on the U.S. ECONOMY**

Does Education Pay? 518

■ **EYE on the U.S. ECONOMY**

Sex and Race Earnings Differences, 519

■ **EYE on YOUR LIFE**

What You Pay and Gain Through Redistribution, 527

**PART 8 MONITORING THE MACROECONOMY**

**CHAPTER 21**  
**GDP: A Measure of Total Production and Income 533**
**CHAPTER CHECKLIST** 533**21.1 GDP, Income, and Expenditure 534**

GDP Defined, 534

Circular Flows in the U.S. Economy, 535

Expenditure Equals Income, 536

**CHECKPOINT 21.1** 538**21.2 Measuring U.S. GDP 539**

The Expenditure Approach, 539

The Income Approach, 541

GDP and Related Measures of Production and Income, 543

Real GDP and Nominal GDP, 544

Calculating Real GDP, 544

Using the Real GDP Numbers, 545

**CHECKPOINT 21.2** 546**21.3 The Uses and Limitations of Real GDP 547**

The Standard of Living Over Time, 547

Tracking the Course of the Business Cycle, 548

The Standard of Living Among Countries, 550

Goods and Services Omitted from GDP, 551

Other Influences on the Standard of Living, 552

**CHECKPOINT 21.3** 554**CHAPTER SUMMARY** 555**CHAPTER CHECKPOINT** 556**Appendix: Measuring Real GDP 559**

The Problem With Base-Year Prices, 559

Value Production in the Prices of Adjacent Years, 559

**APPENDIX CHECKPOINT** 562■ **EYE on the U.S. ECONOMY**

Is a Computer Program an Intermediate Good or a Final Good? 540

■ **EYE on the BOOMS AND BUSTS**

How Do We Track the Booms and Busts of our Economy? 550

■ **EYE on YOUR LIFE**

Making GDP Personal, 552

■ **EYE on the GLOBAL ECONOMY**

Which Country Has the Highest Standard of Living? 553


**CHAPTER 22**  
**Jobs and Unemployment 563**
**CHAPTER CHECKLIST** 563**22.1 Labor Market Indicators 564**

Current Population Survey, 564

Population Survey Criteria, 564

Two Main Labor Market Indicators, 565

Alternative Measures of Unemployment, 566

**CHECKPOINT 22.1** 568**22.2 Labor Market Trends and Fluctuations 569**

Unemployment Rate, 569

The Participation Rate, 570

Alternative Measures of Unemployment, 572

A Closer Look at Part-Time Employment, 573

**CHECKPOINT 22.2** 574**22.3 Unemployment and Full Employment 575**

Frictional Unemployment, 575

Structural Unemployment, 575

Cyclical Unemployment, 576

"Natural" Unemployment, 576

Unemployment and Real GDP, 577

**CHECKPOINT 22.3** 580**CHAPTER SUMMARY** 581**CHAPTER CHECKPOINT** 582

- **EYE on the U.S. ECONOMY**  
The Current Population Survey, 567
- **EYE on the GLOBAL ECONOMY**  
Unemployment Around the World, 570
- **EYE on the GLOBAL ECONOMY**  
Women in the Labor Force, 571
- **EYE on the UNEMPLOYED**  
How Long Does it Take to Find a Job? 576
- **EYE on YOUR LIFE**  
Your Labor Market Status and Activity, 578

## CHAPTER 23 The CPI and the Cost of Living 585

**CHAPTER CHECKLIST** 585

- 23.1 The Consumer Price Index** 586
  - Reading the CPI Numbers, 586
  - Constructing the CPI, 586
  - The CPI Market Basket, 586
  - The Monthly Price Survey, 587
  - Calculating the CPI, 588
  - Measuring Inflation and Deflation, 589
- 23.2 The CPI and Other Price Level Measures** 592
  - Sources of Bias in the CPI, 592

- The Magnitude of the Bias, 593
- Two Consequences of the CPI Bias, 594
- Alternative Measures of the Price Level and Inflation Rate, 595

**CHECKPOINT 23.2** 597

- 23.3 Nominal and Real Values** 598
  - Dollars and Cents at Different Dates, 598
  - Nominal and Real Values in Macroeconomics, 599
  - Nominal GDP and Real GDP, 599
  - Nominal Wage Rate and Real Wage Rate, 600
  - Nominal Interest Rate and Real Interest Rate, 602

**CHECKPOINT 23.3** 604

**CHAPTER SUMMARY** 605

**CHAPTER CHECKPOINT** 606

- **EYE on the PAST**  
700 Years of Inflation and Deflation, 590
- **EYE on the U.S. ECONOMY**  
Deflating the GDP Balloon, 599
- **EYE on the PAST**  
The Nominal and Real Wage Rates of Presidents of the United States, 601
- **EYE on BOX OFFICE HITS**  
Which Movie *Really* Was the Biggest Box Office Hit? 602
- **EYE on YOUR LIFE**  
A Student's CPI, 603

## PART 9 THE REAL ECONOMY

### CHAPTER 24 Potential GDP and the Natural Unemployment Rate 609

**CHAPTER CHECKLIST** 609

**Macroeconomic Approaches and Pathways** 610

- The Three Main Schools of Thought, 610
- Today's Consensus, 611
- The Road Ahead, 612

- 24.1 Potential GDP** 613
    - The Production Function, 614
    - The Labor Market, 615
- CHECKPOINT 24.1** 621

- 24.2 The Natural Unemployment Rate** 622
  - Job Search, 623
  - Job Rationing, 624

**CHECKPOINT 24.2** 628

**CHAPTER SUMMARY** 629

**CHAPTER CHECKPOINT** 630

- **EYE on the U.S. ECONOMY**  
The Lucas Wedge and the Okun Gap, 612
- **EYE on the GLOBAL ECONOMY**  
Potential GDP in the United States and European Union, 613
- **EYE on U.S. POTENTIAL GDP**  
Why Do Americans Earn More and Produce More Than Europeans? 620



■ **EYE on the PAST**

Average Unemployment Rates over Six Decades, 622

■ **EYE on the GLOBAL ECONOMY**

Unemployment Benefits and the Natural Unemployment Rate, 624

■ **EYE on the U.S. ECONOMY**

The Federal Minimum Wage, 627

■ **EYE on YOUR LIFE**

Natural Unemployment, 627

## CHAPTER 25 Economic Growth 633

**CHAPTER CHECKLIST** 633

### 25.1 The Basics of Economic Growth 634

Calculating Growth Rates, 634

The Magic of Sustained Growth, 635

**CHECKPOINT 25.1** 637

### 25.2 Labor Productivity Growth 638

Labor Productivity, 638

Saving and Investment in Physical Capital, 638

Expansion of Human Capital and Discovery of New Technologies, 640

Combined Influences Bring Labor Productivity Growth, 642

**CHECKPOINT 25.2** 645

### 25.3 Economic Growth Theories: Old and New 646

Old Growth Theory, 646

New Growth Theory, 646

**CHECKPOINT 25.3** 649

### 25.4 Achieving Faster Growth 650

Preconditions for Economic Growth, 650

Policies to Achieve Faster Growth, 651

How Much Difference Can Policy Make? 652

**CHECKPOINT 25.4** 654

**CHAPTER SUMMARY** 655

**CHAPTER CHECKPOINT** 656

■ **EYE on the PAST**

How Fast Has Real GDP per Person Grown? 636

■ **EYE on the U.S. ECONOMY**

U.S. Labor Productivity Growth Since 1960, 644

■ **EYE on YOUR LIFE**

How You Influence and Are Influenced by Economic Growth, 648

■ **EYE on RICH AND POOR NATIONS**

Why Are Some Nations Rich and Others Poor? 653

## CHAPTER 26 Finance, Saving, and Investment 659

**CHAPTER CHECKLIST** 659

### 26.1 Financial Institutions and Markets 660

Some Finance Definitions, 660

Markets for Financial Capital, 661

Financial Institutions, 663

Insolvency and Illiquidity, 664

Interest Rates and Asset Prices, 664

**CHECKPOINT 26.1** 665

### 26.2 The Loanable Funds Market 666

Flows in the Loanable Funds Market, 666

The Demand for Loanable Funds, 666

The Supply of Loanable Funds, 669

Equilibrium in the Loanable Funds Market, 672

Changes in Demand and Supply, 673

**CHECKPOINT 26.2** 675

### 26.3 Government in Loanable Funds Market 676

A Government Budget Surplus, 676

A Government Budget Deficit, 677

**CHECKPOINT 26.3** 680

**CHAPTER SUMMARY** 681

**CHAPTER CHECKPOINT** 682

■ **EYE on the U.S. ECONOMY**

The Loanable Funds Market in a Financial Crisis, 674

■ **EYE on YOUR LIFE**

Your Participation in the Loanable Funds Market, 678

■ **EYE on FINANCIAL MARKETS**

Why Have Interest Rates Been So Low? 679

## PART 10 THE MONEY ECONOMY

### CHAPTER 27 The Monetary System 685

CHAPTER CHECKLIST 685

- 27.1 What is Money?** 686  
 Definition of Money, 686  
 The Functions of Money, 686  
 Money Today, 688  
 Official Measures of Money: M1 and M2, 688  
 Checks, Credit Cards, Debit Cards, and E-Checks, 689  
 An Embryonic New Money: E-Cash, 690

CHECKPOINT 27.1 691

- 27.2 The Banking System** 692  
 Commercial Banks, 692  
 Thrift Institutions, 695  
 Money Market Funds, 695

CHECKPOINT 27.2 696

- 27.3 The Federal Reserve System** 697  
 The Structure of the Federal Reserve, 697  
 The Fed's Policy Tools, 698  
 How the Fed's Policy Tools Work, 699

CHECKPOINT 27.3 700

- 27.4 Regulating the Quantity of Money** 701  
 Creating Deposits by Making Loans, 701  
 How Open Market Operations Change the  
 Monetary Base, 703  
 The Multiplier Effect of an Open Market  
 Operation, 706  
 The Money Multiplier, 707

CHECKPOINT 27.4 710

CHAPTER SUMMARY 711

CHAPTER CHECKPOINT 712

 **EYE on the PAST**

The "Invention" of Banking, 693

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

Commercial Banks Under Stress in the Financial  
 Crisis, 695

 **EYE on YOUR LIFE**

Money and Your Role in Its Creation, 701

 **EYE on CREATING MONEY**

How Does the Fed Create Money and Regulate Its  
 Quantity? 708

### CHAPTER 28 Money, Interest, and Inflation 715

CHAPTER CHECKLIST 715

**Where We are and Where We're  
 Heading** 716

- The Real Economy, 716  
 The Money Economy, 716  
 Real and Money Interactions and Policy, 716

**28.1 Money and the Interest Rate** 717

- The Demand for Money, 717  
 Changes in the Demand for Money, 719  
 The Supply of Money, 720  
 The Nominal Interest Rate, 720  
 Changing the Interest Rate, 722

CHECKPOINT 28.1 724

**28.2 Money, The Price Level, and Inflation** 725

- The Money Market in the Long Run, 725  
 A Change in the Quantity of Money, 727  
 The Price Level in a Baby-Sitting Club, 728  
 The Quantity Theory of Money, 728  
 Inflation and the Quantity Theory of Money 730  
 Hyperinflation, 732

CHECKPOINT 28.2 734

**28.3 The Cost of Inflation** 735

- Tax Costs, 735  
 Shoe-Leather Costs, 736  
 Confusion Costs, 736  
 Uncertainty Costs, 737  
 How Big Is the Cost of Inflation? 737

CHECKPOINT 28.3 738

CHAPTER SUMMARY 739

CHAPTER CHECKPOINT 740

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

Credit Cards and Money, 722

 **EYE on YOUR LIFE**

Money Holding and Fed Watching, 723

 **EYE on the PAST**

Hyperinflation in Germany in the 1920s, 732

 **EYE on INFLATION**

What Causes Inflation? 733

## PART 11 ECONOMIC FLUCTUATIONS




## CHAPTER 29 Aggregate Supply and Aggregate Demand 743

**CHAPTER CHECKLIST** 743

- 29.1 Aggregate Supply** 744  
Aggregate Supply Basics, 744  
Changes in Aggregate Supply, 747  
**CHECKPOINT 29.1** 749
- 29.2 Aggregate Demand** 750  
Aggregate Demand Basics, 750  
Changes in Aggregate Demand, 752  
The Aggregate Demand Multiplier, 754  
**CHECKPOINT 29.2** 755
- 29.3 Explaining Economic Trends and Fluctuations** 756  
Macroeconomic Equilibrium, 756  
Three Types of Macroeconomic Equilibrium, 757  
Economic Growth and Inflation Trends, 758  
The Business Cycle, 759  
Inflation Cycles, 760  
Deflation and the Great Depression, 762  
**CHECKPOINT 29.3** 764

**CHAPTER SUMMARY** 765

**CHAPTER CHECKPOINT** 766

-  **EYE on the U.S. ECONOMY**  
U.S. Economic Growth, Inflation, and the Business Cycle, 758
-  **EYE on YOUR LIFE**  
Using the AS-AD Model, 762
-  **EYE on the BUSINESS CYCLE**  
Why Did the U.S. Economy Go into Recession in 2008? 763

## CHAPTER 30 Aggregate Expenditure Multiplier 769

**CHAPTER CHECKLIST** 769

- 30.1 Expenditure Plans and Real GDP** 770  
The Consumption Function, 770  
Imports and Real GDP, 774  
**CHECKPOINT 30.1** 775

- 30.2 Equilibrium Expenditure** 776  
Induced Expenditure and Autonomous Expenditure, 776  
Aggregate Planned Expenditure and Real GDP, 776  
Equilibrium Expenditure, 778  
Convergence to Equilibrium, 779  
**CHECKPOINT 30.2** 781

- 30.3 Expenditure Multipliers** 782  
The Basic Idea of the Multiplier, 782  
The Size of the Multiplier, 783  
The Multiplier and the MPC, 783  
The Multiplier, Imports, and Income Taxes, 784  
Business-Cycle Turning Points, 786  
**CHECKPOINT 30.3** 787





## **30.4 The AD Curve and Equilibrium Expenditure** 788

Deriving the AD Curve from Equilibrium Expenditure, 788

**CHECKPOINT 30.4** 790

**CHAPTER SUMMARY** 791

**CHAPTER CHECKPOINT** 792

-  **EYE on the U.S. ECONOMY**  
The U.S. Consumption Function, 774
-  **EYE on the PAST**  
Say's Law and Keynes' Principle of Effective Demand, 780
-  **EYE on YOUR LIFE**  
Looking for Multipliers, 785
-  **EYE on the MULTIPLIER**  
How Big Is the Government Expenditure Multiplier? 786

## CHAPTER 31 The Short-Run Policy Tradeoff 795

**CHAPTER CHECKLIST** 795

- 31.1 The Short-Run Phillips Curve** 796  
Aggregate Supply and the Short-Run Phillips Curve, 797  
Aggregate Demand Fluctuations, 799  
Why Bother with the Phillips Curve? 800  
**CHECKPOINT 31.1** 801

### 31.2 Short-Run and Long-Run Phillips Curves 802

- The Long-Run Phillips Curve, 802
- Expected Inflation, 803
- The Natural Rate Hypothesis, 804
- Changes in the Natural Unemployment Rate, 805
- Have Changes in the Natural Unemployment Rate Changed the Tradeoff? 806

**CHECKPOINT 31.2** 808

### 31.3 influencing Inflation and unemployment 809

- Influencing the Expected Inflation Rate, 809
- Targeting the Unemployment Rate, 810

**CHECKPOINT 31.3** 812

**CHAPTER SUMMARY** 813

**CHAPTER CHECKPOINT** 814

■ **EYE on the GLOBAL ECONOMY**

Inflation and Unemployment, 799

■ **EYE on the PAST**

The U.S. Phillips Curve, 800

■ **EYE on the PAST**

A Live Test of the Natural Rate Hypothesis, 805

■ **EYE on the TRADEOFF**

Can We Have Low Unemployment *and* Low Inflation? 807

■ **EYE on YOUR LIFE**

The Short-Run Tradeoff in Your Life, 811

## PART 12 MACROECONOMIC POLICY

### CHAPTER 32 Fiscal Policy 817

**CHAPTER CHECKLIST** 817

#### 32.1 The Federal Budget 818

- The Institutions and Laws, 818
- Budget Balance and Debt, 818
- The Federal Budget in Fiscal 2014, 819
- A Social Security and Medicare Time Bomb, 820

**CHECKPOINT 32.1** 822

#### 32.2 Fiscal Stimulus 823

- Schools of Thought and Cracks in Today's Consensus, 823
- Fiscal Policy and Aggregate Demand, 824
- Automatic Fiscal Policy, 824
- Cyclical and Structural Budget Balances, 825
- Discretionary Fiscal Policy, 826
- A Successful Fiscal Stimulus, 827
- Limitations of Discretionary Fiscal Policy, 828

**CHECKPOINT 32.2** 829

#### 32.3 The Supply Side: Potential GDP and Growth 830

- Full Employment and Potential GDP, 830
- Fiscal Policy, Employment, and Potential GDP, 830

Fiscal Policy and Potential GDP: A Graphical Analysis, 832

Taxes, Deficits, and Economic Growth, 833

The Supply-Side Debate, 834

Combined Demand-Side and Supply-Side Effects, 836

Long-Run Fiscal Policy Effects, 837

**CHECKPOINT 32.3** 838

**CHAPTER SUMMARY** 839

**CHAPTER CHECKPOINT** 840

■ **EYE on the PAST**

Federal Tax Revenues, Outlays, Deficits, and Debt, 821

■ **EYE on the GLOBAL ECONOMY**

The U.S. Budget in Global Perspective, 822

■ **EYE on the U.S. ECONOMY**

The U.S. Structural and Cyclical Budget Balances, 825

■ **EYE on the GLOBAL ECONOMY**

Some Real-World Tax Wedges, 831

■ **EYE on FISCAL STIMULUS**

Can Fiscal Stimulus End a Recession? 835

■ **EYE on YOUR LIFE**

Your Views on Fiscal Policy and How Fiscal Policy Affects You, 837

## CHAPTER 33 Monetary Policy 843

### CHAPTER CHECKLIST 843

#### 33.1 How the Fed Conducts Monetary Policy 844

- Monetary Policy Objectives, 844
- Operational “Maximum Employment” Goal, 845
- Operational “Stable Prices” Goal, 845
- Responsibility for Monetary Policy, 846
- Choosing a Policy Instrument, 846
- The Federal Funds Rate, 846
- The Fed’s Decision-Making Strategy, 847
- Hitting the Federal Funds Rate Target, 849
- Restoring Financial Stability in a Financial Crisis, 850

#### CHECKPOINT 33.1 851

#### 33.2 Monetary Policy Transmission 852

- Quick Overview, 852
- Interest Rate Changes, 852
- Exchange Rate Changes, 854
- Money and Bank Loans, 854
- The Long-Term Real Interest Rate, 855
- Expenditure Plans, 855
- The Fed Fights Recession, 856
- The Fed Fights Inflation, 858
- Loose Links and Long and Variable Lags, 860
- A Final Reality Check, 860

#### CHECKPOINT 33.2 861

#### 33.3 Alternative Monetary Policy Strategies 862

- Why Rules? 862
- Inflation Targeting Rule, 862
- Money Targeting Rule, 863
- Nominal GDP Targeting Rule, 865

#### CHECKPOINT 33.3 866

#### CHAPTER SUMMARY 867

#### CHAPTER CHECKPOINT 868

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

- The Fed’s Interest Rate Decisions and the Taylor Rule, 848

##### EYE on the GLOBAL ECONOMY

- Inflation Targeting Around the World, 863

##### EYE on the FED IN A CRISIS

- Did the Fed Save Us From Another Great Depression? 864

##### EYE on YOUR LIFE

- Your Views on Monetary Policy and How Monetary Policy Affects You, 865

## CHAPTER 34 International Finance 871

### CHAPTER CHECKLIST 871

#### 34.1 Financing International Trade 872

- Balance of Payments Accounts, 872
- Borrowers and Lenders, Debtors and Creditors, 874
- Current Account Balance, 875
- Net Exports, 875

#### CHECKPOINT 34.1 878

#### 34.2 The Exchange Rate 879

- Demand in the Foreign Exchange Market, 880
- The Law of Demand for Foreign Exchange, 880
- Changes in the Demand for Dollars, 881
- Supply in the Foreign Exchange Market, 883
- The Law of Supply of Foreign Exchange, 883
- Changes in the Supply of Dollars, 884
- Market Equilibrium, 886
- Exchange Rate Expectations, 888
- Purchasing Power Parity, 888
- Monetary Policy and the Exchange Rate, 890
- Pegging the Exchange Rate, 890
- The People’s Bank of China in the Foreign Exchange Market, 891

#### CHECKPOINT 34.2 894

#### CHAPTER SUMMARY 895

#### CHAPTER CHECKPOINT 896

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

- The U.S. Balance of Payments, 873

##### EYE on the GLOBAL ECONOMY

- Current Account Balances Around the World, 877

##### EYE on the DOLLAR

- Why Does Our Dollar Fluctuate? 887

##### EYE on the GLOBAL ECONOMY

- Purchasing Power Parity, 889

##### EYE on the GLOBAL ECONOMY

- The Managed Yuan, 893

##### EYE on YOUR LIFE

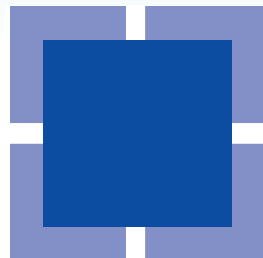
- Your Foreign Exchange Transactions, 893

*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, AP<sup>®</sup> Edition* 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 of Economics*, AP<sup>®</sup> Edition 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 of Economics*, AP<sup>®</sup> Edition's 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. xxxvii–xxxviii 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

MyEconLab

---

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, teachers can manage all their assessment needs in one program.

- All of the Checkpoint and Chapter Checkpoint Problems and Applications are assignable and automatically graded in MyEconLab.
- Extra problems and applications, including algorithmic, draw-graph, and numerical exercises are available for student practice or teacher 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 teachers 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 and auto-graded MyEconLab assessment that feeds 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 class materials and offline when you download the Pearson eText app. It also allows teachers and students to highlight, bookmark, and take notes.

## ■ Features of the Enhanced eText

### 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 Agua and Prima sell bottled water.

**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.

**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 are auto-graded and feed into the MyEconLab's Study Plan, which is now powered by Knewton Adaptive 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

Aqua Springs makes the following four statements about bottled spring water. Which statement best describes the firm's **quantity supplied** in the bottled water market?

A We would sell more water if the demand for it were greater.

B At a price of \$1 gallon, we plan to sell 2,000 gallons per day.

C We'll switch from plain water to flavored water if flavored is more profitable.

D If we could get a higher price, we'd bottle more water.

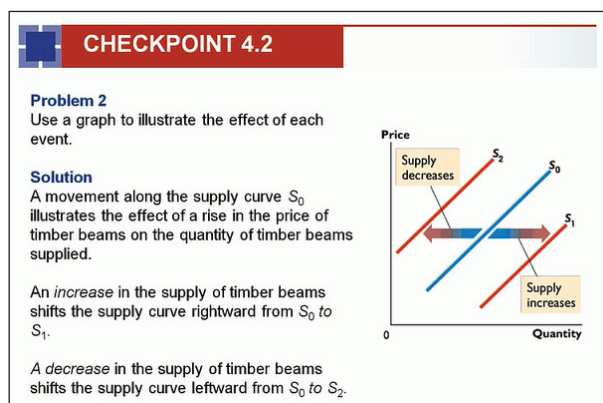
**Fantastic!**

The quantity supplied is the amount of any good, service, or resource that people are willing and able to sell during a specified period at a specified price. So when Aqua Springs says "At a price of \$1 gallon, we plan to sell 2,000 gallons per day," the firm is describing a quantity supplied.

Done

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 teachers to bring current issues and events into the class with easy to assign and auto-graded exercises.

**Real-Time Data Analysis Exercises (FRED)** Easy to assign and automatically graded, 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 teachers who want to make the most recent data a central part of their macro class. 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 teachers to assign and students to use.

- Single-player experiments, available to assign, allow students to play against virtual players from anywhere at anytime so long as they have an internet connection.
- Multiplayer experiments allow teachers to assign and manage a real-time experiment with their class.
- 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](http://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 class 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 teacher's class coverage preferences. This personalized and adaptive feedback and support ensures that students are optimizing their current and future class work and mastering the concepts, rather than just memorizing and guessing answers.

Learn more about adaptive learning at <http://www.myeconlab.com/product-info/adaptive>.

**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.

Upon textbook purchase, students and teachers are granted access to MyEconLab with Pearson eText. High school teachers can obtain preview or adoption access for MyEconLab in one of the following ways:

### Preview Access

- Teachers can request preview access by visiting [PearsonSchool.com/access\\_request](http://PearsonSchool.com/access_request). Select Initial Access then using Option 2, select your discipline and title from the drop-down menu and complete the online form. *Preview Access* information will be sent to the teacher via e-mail.

### Adoption Access

- With the purchase of a textbook program that offers a media resource, a *Pearson Adoption Access Card*, with student and teachers codes and a complete Instructor's Manual, will be delivered with your textbook purchase. (ISBN 0-13-354087-1)

- Ask your sales representative for an *Adoption Access Code Card/Instructor Manual package* (ISBN: 0-13-354087-1)

OR

- Visit [PearsonSchool.com/access\\_request](http://PearsonSchool.com/access_request). Select Initial Access then using Option 3, select your discipline and title from the drop-down menu and complete the online form. Access information will be sent to the teacher via e-mail.

Students, ask your teacher for access.

## SUPPORT MATERIALS FOR INSTRUCTORS AND STUDENTS

*Foundations of Economics*, AP<sup>®</sup> Edition 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.

### ■ For the Teacher

Most of the teacher supplements and resources for this text are also available electronically to qualified adopters on the Instructor Resource Center (IRC). Upon adoption or to preview, please go to [www.pearsonschool.com/access\\_request](http://www.pearsonschool.com/access_request) and select Instructor Resource Center. You will be required to complete a brief one-time registration subject to verification of educator status. Upon verification, access information and instructions will be sent to you via e-mail. Once logged into the IRC, enter 978-0-13-381270-1 in the "Search our Catalog" box to locate resources.

### ■ 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 educators.

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 walk-through for teachers 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. Both the micro and macro portions have been updated to reflect changes in the main text

as well as infused with a fresh and intuitive approach to teaching this class. The Instructor's Manual is available for download in Word and PDF formats.

### ■ Solutions Manual

The Solutions Manual, written by Mark Rush and checked for accuracy by Jeannie Gillmore, contains the solutions to all Checkpoint Practice Problems, In the News exercises, and Chapter Checkpoint Problems and Applications. The Solutions Manual is available for download in Word and PDF formats.

### ■ Three Test Item Files and TestGen

More than 12,000 multiple-choice, numerical, fill-in-the-blank, short answer, essay, and integrative questions make up the three Test Item Files that support *Foundations of Economics*, AP<sup>®</sup> Edition. Mark Rush reviewed and edited questions from six dedicated principles instructors to form one of the most comprehensive testing systems on the market. Our microeconomics authors are Gregory E. Givens (University of Alabama); Lee Hoke (University of Tampa); Homer Guevara, Jr. (Northwest Vista College); and Carol Dole (Jacksonville University). Our macroeconomics questions were written by Gregory Givens, Buffie Schmidt (Augusta State University), and Rolando Sanchez (Northwest Vista College). The entire set of questions is available for download in Word, PDF, and TestGen formats.

All three Test Item Files are available in test generator software (TestGen with QuizMaster). TestGen's graphical interface enables teachers to view, edit, and add questions; transfer questions to tests; and print different forms of tests. Teachers also have the option to reformat tests with varying fonts and styles, margins, and headers and footers, as in any word-processing document. Search and sort features let the teacher quickly locate questions and arrange them in a preferred order. QuizMaster, working with your school's computer network, automatically grades the exams, stores the results on disk, and allows the teacher to view and print a variety of reports.

### ■ Instructor's Resource DVD

The IR-DVD contains the Instructor's Manual, Solutions Manual, and Test Item Files in Word and PDF formats. It also contains the Computerized Test Item Files (with a TestGen program installer) and PowerPoint resources. It is compatible with both Windows and Macintosh operating systems.

For your convenience, all instructor resources are also available online via our centralized supplements Web site, the Instructor Resource Center ([www.pearsonhighered.com/irc](http://www.pearsonhighered.com/irc)). For access or more information, contact your local Pearson representative or request access online at the Instructor Resource Center.

### ■ For the Student

#### Test Prep Workbook for AP<sup>®</sup>

Created specifically for *Foundations of Economics*, AP<sup>®</sup> Edition, this comprehensive guide is linked directly to the textbook to help students reinforce important connections between what they learn in class and the AP Exam. This workbook is available for purchase and includes:

- An overview of the AP program and the specific AP test covered by this guide, test taking tips, and strategies to prepare students for peak performance on the AP Exam.

- Correlation between key AP exam topics and the corresponding chapter and section of *Foundations of Economics*, AP<sup>®</sup> Edition.
- Hundreds of practice study questions written by experienced AP educators.

## ■ How to Succeed in Your Economics Class for AP

Any AP class demands a significant commitment of time, and one of your biggest challenges will be to allocate your time efficiently. By applying some analysis to this challenge, you will already be thinking like an economist!

Here are some key strategies for success in this class.

**Keep up with the class material on a weekly basis.** Skim the appropriate chapter in the textbook before it is covered in class to get a general understanding of the basic concepts and issues. After class, work through the problems in the appropriate chapter of *The Test Prep Workbook for AP*. The key to success is repeated practice with your new economic tools.

**Make the Checklist-Checkpoint structure work for you.** To learn economics you have to do economics. The Checklist-Checkpoint system provides you with a structure for doing just that. To make it work for you, start by familiarizing yourself with the Checklist at the opening to each chapter: it tells you where you'll be heading. As you progress through the chapter, you'll see that each major section corresponds to one of the Checklist items. After studying each section, be sure to work the Checkpoint! That's the time to reinforce what you've just read—while it's still fresh in your mind. Don't jump to the next section until you feel you've mastered the Checkpoint of the section at hand. Then, when you reach the end of the chapter, review the Chapter Checklist. It corresponds seamlessly to the Checklist and the key points in the sections. This system is the glue that holds it all together. Used consistently and thoughtfully, it will help you attain success in mastering economics.

**Tailor your learning style to the many study tools available.** Do you work best interactively in an online environment? Are you a visual learner? Do you like to break tasks down into smaller, bite-sized pieces? Whatever your learning style, there is something for you in this fully integrated learning system. If you like to be in charge of your own learning, you'll find the MyEconLab is a powerful tool; you'll be able to complete Checkpoints and exercises online, work graphs, take Practice Tests, receive a customized Study Plan, and step through guided solutions—all at your own pace. If you're a visual learner, the graphs will be key to your understanding—color is used consistently to convey specific actions, numbered captions walk you step by step through key figures, and accompanying data tables show you the main plotting points. If you like patient explanation of concepts, *The Test Prep Workbook for AP* will amplify the material in the text for you and allow you to work additional problems.

**Look for economics in the world around you.** To give you some inspiration in this direction, read the *Eye On* features that will show you how the theory connects with the everyday world around you.

The AP course description outline that follows on the subsequent pages provides the major topics included on the AP exam. Look closely at these topics and note how the textbook follows the sequence of ideas to be mastered.

## ■ Understanding the AP Economics Examinations

The AP Economics Examinations make use of a variety of question types and graphical analyses to assess the skill level of AP students. The AP examinations reflect the types of assessment that occur at the college level.

The AP Economics Examinations take two hours and 10 minutes to complete. In both the multiple-choice and free-response sections of the exams, AP students can expect to work with graphs, charts, and tables. Each examination consists of a 70-minute, multiple-choice section and a 60-minute free-response section that may require graphical analysis. The free-response section begins with a mandatory 10-minute reading period that can be used to read each of the questions, sketch graphs, make notes, and plan answers in the green insert. AP students then have 50 minutes to write the answers in the booklet.

## ■ Section I: Multiple-Choice Questions

The multiple-choice section of each exam contains 60 questions, with 70 minutes allotted for Section I. The multiple-choice section accounts for 2/3 of the AP student's examination grade. Each question has five choices and only one choice is judged correct. The questions are straightforward, and many require analysis and interpretation. Some will require analysis of a graph, chart, or table.

The AP Economics Examinations contain these distinct question types:

- Definition or identification questions
- Graph or table questions
- Analysis or cause and effect questions
- Multiple-choice questions

**Hints on Grading** The multiple-choice section of each exam is worth 2/3 of the AP student's score. The questions are machine scored and determined by crediting one point for a correct answer. No points are gained or lost for incorrect or unanswered questions. If you can eliminate two or more of the five choices, you should make an educated guess.

## ■ Section II: Free-Response Questions

The free-response section begins with a mandatory 10-minute reading period, during which AP students are encouraged to read the questions, sketch graphs, make notes, and plan answers in the green insert. AP students then have 50 minutes to write their answers in the booklet.

The free-response questions in Section II of each exam will require AP students to analyze a given economic situation and use economic principles to explain answers. Using explanatory diagrams that clarify the analysis and clearly explain the reasoning results in the greatest number of points. Sometimes a graph is given as part of the question and the AP student's task is to derive the answer from the graph data. Generally, the longer free-response questions require you to interrelate several content areas, while the two shorter free-response questions focus on a specific topic in a given content area.

**Hints on Grading** This section of the exam is 1/3 of the score. The raw score for Section II is composed of the scores from the three questions and then apportioned according to value assigned to each (larger question—50% of score and two smaller questions—25% of score).



## AP ECONOMICS CORRELATION CHARTS

---

This chart correlates the Advanced Placement Microeconomics topics as outlined by The College Board with the corresponding chapters and section numbers in *Foundations of Economics*, AP<sup>®</sup> Edition. Use this chart to help you quickly find a topic you want to study or review.

### AP Microeconomic Topics

#### I. Basic Economic Concepts

- A. Scarcity, choice, and opportunity cost
- B. Production possibilities curve
- C. Comparative advantage, absolute advantage, specialization, and trade
- D. Economic systems
- E. Property rights and the role of incentives
- F. Marginal analysis

#### II. Nature and Functions of Product Markets

- A. Supply and demand
  - 1. Market equilibrium
  - 2. Determinants of supply and demand
  - 3. Price and quantity controls
  - 4. Elasticity
    - a. Price, income, and cross-price elasticities of demand
    - b. Price elasticity of supply
  - 5. Consumer surplus, producer surplus, and allocative efficiency
  - 6. Tax incidence and deadweight loss
- B. Theory of consumer choice
  - 1. Total utility and marginal utility
  - 2. Utility maximization: equalizing marginal utility per dollar
  - 3. Individual and market demand curves
  - 4. Income and substitution effects
- C. Production and costs
  - 1. Production functions: short and long run
  - 2. Marginal product and diminishing returns
  - 3. Short-run costs
  - 4. Long-run costs and economies of scale
  - 5. Cost minimizing input combination and productive efficiency
- D. Firm behavior and market structure
  - 1. Profit
    - a. Accounting versus economic profits
    - b. Normal profit
    - c. Profit maximization:  $MR = MC$  rule

### Textbook Chapters and Checkpoints

#### Chapters 1, 2, 3, 11, 14

- 1.1, 1.2, 3.2, 14.1
- 2.1, 3.1, 3.3
- 3.4
- 2.2, 2.3
- 1.2, 11.1
- 1.2

#### Chapters 4, 5, 6, 7, 8, 13, 14, 15, 16, 17, 18

- Chapter 4
- 4.3
- 4.1, 4.2
- Chapter 7
- Chapter 5
- 5.1, 5.3
- 5.2
- Chapter 6
- 8.1
- Chapter 13
- 13.2
- 13.2
- 13.2
- The *AP Test Prep Workbook*, Chapter 13
- Chapter 14
- 14.2, 14.3
- 14.2
- 14.3
- 14.4
- The *AP Test Prep Workbook*, Chapters 14 and 19
- Chapters 14, 15, 16, 17, 18
- Chapters 14, 15, 16
- 14.1
- 14.1
- 15.2, 16.2

2. Perfect competition	Chapter 15
a. Profit maximization	15.1
b. Short-run supply and shutdown decision	15.1, 15.2
c. Behavior of firms and markets in the short run and in the long run	15.2, 15.3
d. Efficiency and perfect competition	Chapter 6, 15.3, 16.3
3. Monopoly	Chapter 16
a. Sources of market power	16.1
b. Profit maximization	16.2
c. Inefficiency of monopoly	16.3
d. Price discrimination	16.4
e. Natural monopoly	16.1, 16.5
4. Oligopoly	Chapter 18
a. Interdependence, collusion, and cartels	18.1, 18.2
b. Game theory and strategic behavior	18.3
c. Dominant strategy	18.3
d. Nash equilibrium	18.3
5. Monopolistic competition	Chapter 17
a. Product differentiation and role of advertising	17.1, 17.3
b. Profit maximization	17.2
c. Short-run and long-run equilibrium	17.2
d. Excess capacity and inefficiency	17.2
<b>III. Factor Markets</b>	<b>Chapters 19, 20</b>
A. Derived factor demand	19.1
B. Marginal revenue product	19.1
C. Hiring decisions in the markets for labor and capital	19.1, 19.2, 19.3
D. Market distribution of income	20.1
<b>IV. Market Failure and the Role of Government</b>	<b>Chapters 10, 11, 16, 18, 20</b>
A. Externalities	Chapter 10
1. Marginal social benefit and marginal social cost	Chapters 10 and 11
2. Positive externalities	10.2
3. Negative externalities	10.1, 11.3
4. Remedies	10.1, 10.2, 11.3
B. Public goods	Chapter 11
1. Public versus private goods	11.1, 11.2
2. Provision of public goods	11.2
C. Public policy to promote competition	Chapter 18
1. Antitrust policy	18.4
2. Regulation	16.5
D. Income distribution	Chapter 20
1. Equity	20.3
2. Sources and measures of income inequality	20.1, 20.2

This chart correlates the Advanced Placement Macroeconomics topics as outlined by The College Board with the corresponding chapters and section numbers in *Foundations of Economics*, AP<sup>®</sup> Edition. Use this chart to help you quickly find a topic you want to study or review.

## AP Macroeconomic Topics

### I. Basic Economic Concepts

- A. Scarcity, choice, and opportunity costs
- B. Production possibilities curve
- C. Comparative advantage, specialization, and exchange
- D. Demand, supply, and market equilibrium
- E. Macroeconomic issues: business cycle, unemployment, inflation, and growth

### II. Measurement of Economic Performance

- A. National income accounts
  - 1. Circular flow
  - 2. Gross domestic product
  - 3. Components of gross domestic product
  - 4. Real versus nominal gross domestic product
- B. Inflation measurement and adjustment
  - 1. Price indices
  - 2. Nominal and real values
  - 3. Costs of inflation
- C. Unemployment
  - 1. Definition and measurement
  - 2. Types of unemployment
  - 3. Natural rate of unemployment

### III. National Income and Price Determination

- A. Aggregate demand
  - 1. Determinants of aggregate demand
  - 2. Multiplier and crowding-out effects
- B. Aggregate supply
  - 1. Short-run and long-run analyses
  - 2. Sticky versus flexible wages and prices
  - 3. Determinants of aggregate supply
- C. Macroeconomic equilibrium
  - 1. Real output and price level
  - 2. Short and long run
  - 3. Actual versus full-employment output
  - 4. Business cycle and economic fluctuations

### IV. Financial Sector

- A. Money, banking, and financial markets
  - 1. Definition of financial assets: money, stocks, bonds
  - 2. Time value of money (present and future value)
  - 3. Measures of money supply
  - 4. Banks and creation of money

## Textbook Chapters and Checkpoints

### Chapters 1, 2, 3, 4, 21, 22, 23, 25

- 1.1, 1.2, 3.2
- 2.1, 3.1, 3.3
- 3.4
- Chapter 4
- Chapters 21, 22, 23, 25

### Chapters 2, 21, 22, 23, 24, 28, 31

- Chapter 21
- 2.3, 21.1
- 21.1, 21.2
- 21.1, 21.2
- 21.2
- Chapters 21, 23
- 21.1, 21.2, Chapter 23
- Chapters 21 and 23, 23.3
- 28.3
- Chapters 22, 24
- 22.1, 22.2
- 22.3
- 22.3, 24.2, 31.2

### Chapters 24, 26, 29, 30, 32, 33

- Chapter 29
- 29.2
- 26.2, 29.2, 30.3, 32.2, 32.3
- Chapter 29
- 29.1, 32.3
- Chapter 24, 29.1, Chapter 30
- 29.1
- Chapter 29
- 29.3
- Chapter 29
- Chapters 29, 32, 33
- 29.3, 32.2, 33.2

### Chapters 23, 26, 27, 28, 33

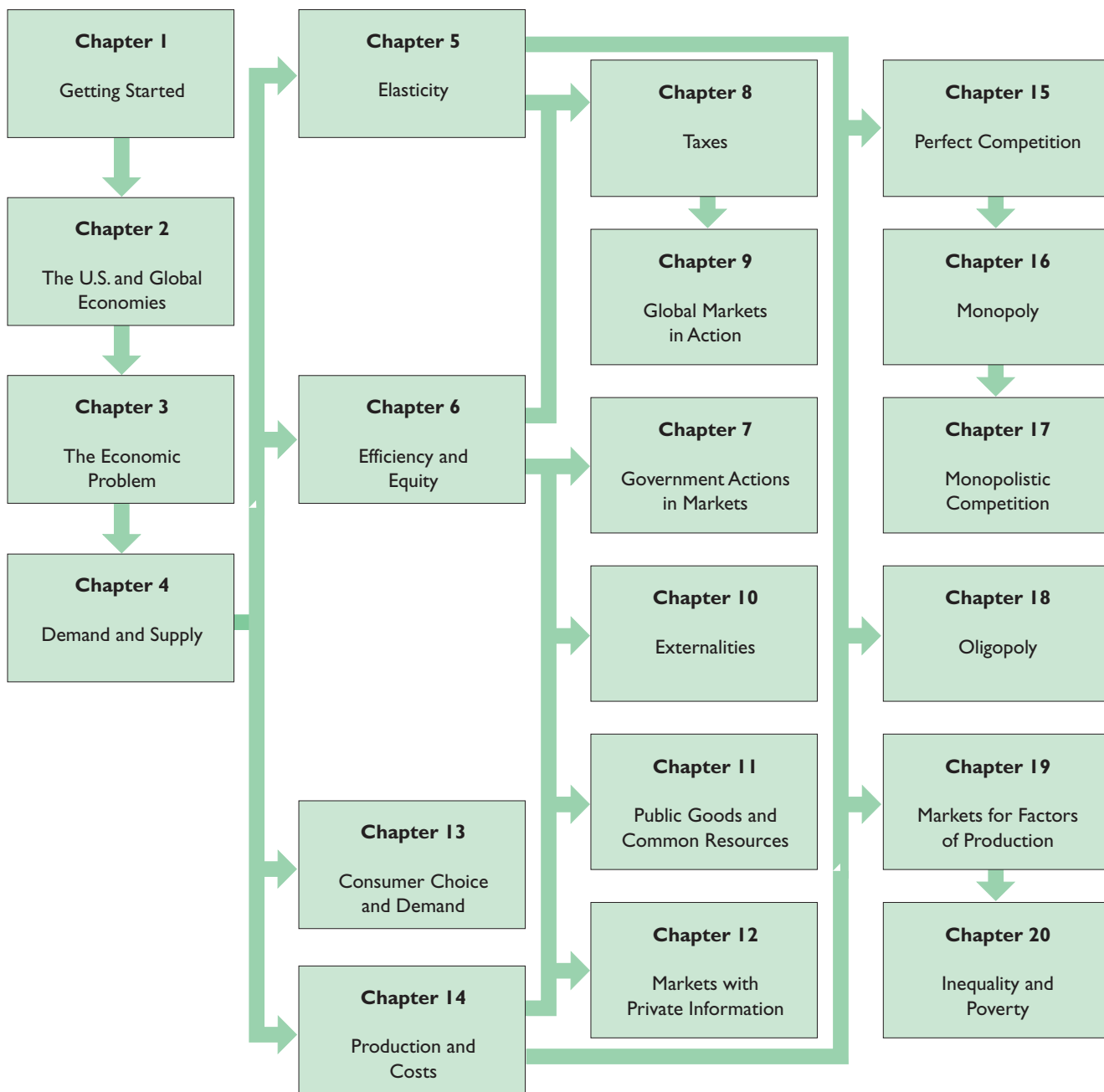
- Chapters 26, 27
- 26.1, 27.1
- 26.1, 26.2
- 27.1
- 27.4

5. Money demand	28.1
6. Money market and the equilibrium nominal interest rate	28.1, 33.2
B. Loanable funds market	Chapter 26
1. Supply of and demand for loanable funds	26.2
2. Equilibrium real interest rate	26.2
3. Crowding out	26.3
C. Central bank and control of the money supply	Chapters 27, 28, 33
1. Tools of central bank policy	27.3, 33.1
2. Quantity theory of money	28.2
3. Real versus nominal interest rates	23.3, 28.1
<b>V. Stabilization Policies</b>	<b>Chapters 29, 31, 32, 33</b>
A. Fiscal and monetary policies	Chapters 32, 33
1. Demand-side effects	32.2, 33.2
2. Supply-side effects	32.3
3. Policy mix	32.3, 33.2, <i>The AP Test Prep Workbook</i> , Chapter 33
4. Government deficits and debt	32.1
B. The Phillips curve	Chapter 31
1. Short-run and long-run Phillips curves	31.1, 31.2
2. Demand-pull versus cost-push inflation	29.3, <i>The AP Test Prep Workbook</i> , Chapter 27
3. Role of expectations	31.2, 31.3
<b>VI. Economic Growth</b>	<b>Chapter 25</b>
A. Definition of economic growth	25.1
B. Determinants of economic growth	Chapter 25
1. Investment in human capital	25.1, 25.2, 25.3, 25.4
2. Investment in physical capital	25.1, 25.2, 25.3
3. Research and development, and technological progress	25.2, 25.3
C. Growth policy	25.4
<b>VII. Open Economy: International Trade and Finance</b>	<b>Chapter 34</b>
A. Balance of payments accounts	Chapter 34
1. Balance of trade	34.1
2. Current account	34.1
3. Financial account (formerly known as capital account)	34.1
B. Foreign exchange market	Chapter 34
1. Demand for and supply of foreign exchange	34.2
2. Exchange rate determination	34.2
3. Currency appreciation and depreciation	34.2
C. Imports, exports, and financial capital flows	34.1
D. Relationships between international and domestic financial and goods markets	34.1

Upon publication, this text was correlated to the College Board's Macroeconomics and Microeconomics Course Description dated Fall 2012. We continually monitor the College Board's AP Course Description for updates to exam topics. For the most current AP Exam Topic correlation for this textbook, visit [PearsonSchool.com/AdvancedCorrelations](http://PearsonSchool.com/AdvancedCorrelations).

## FOUNDATIONS OF ECONOMICS: FLEXIBILITY CHART

### Micro Flexibility

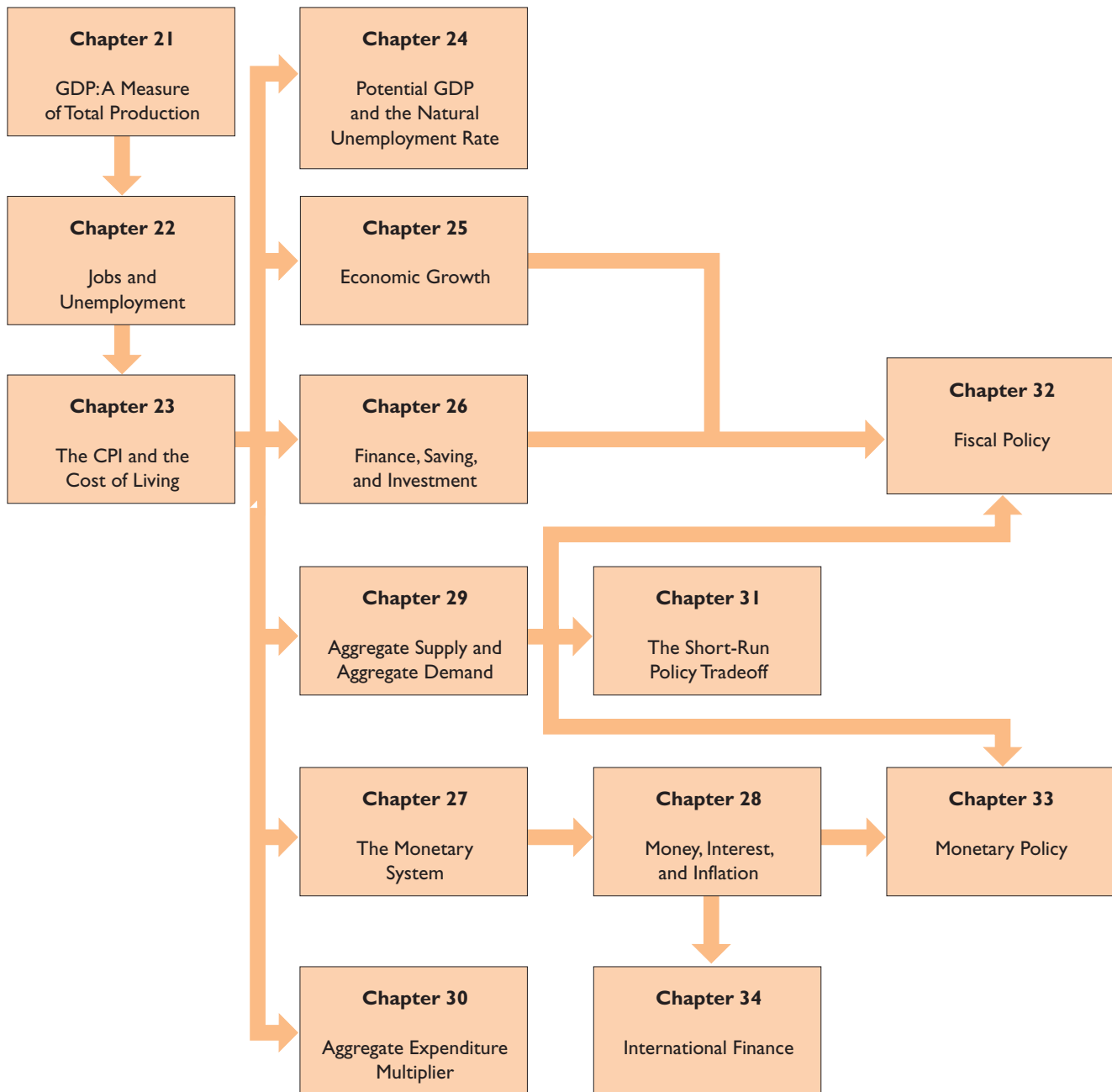


Start here ...

... then jump to  
any of these ...

... and jump to any of these after  
doing the prerequisites indicated

## Macro Flexibility



Start here ...

... then jump to any of these ...

... and jump to any of these after doing the prerequisites indicated