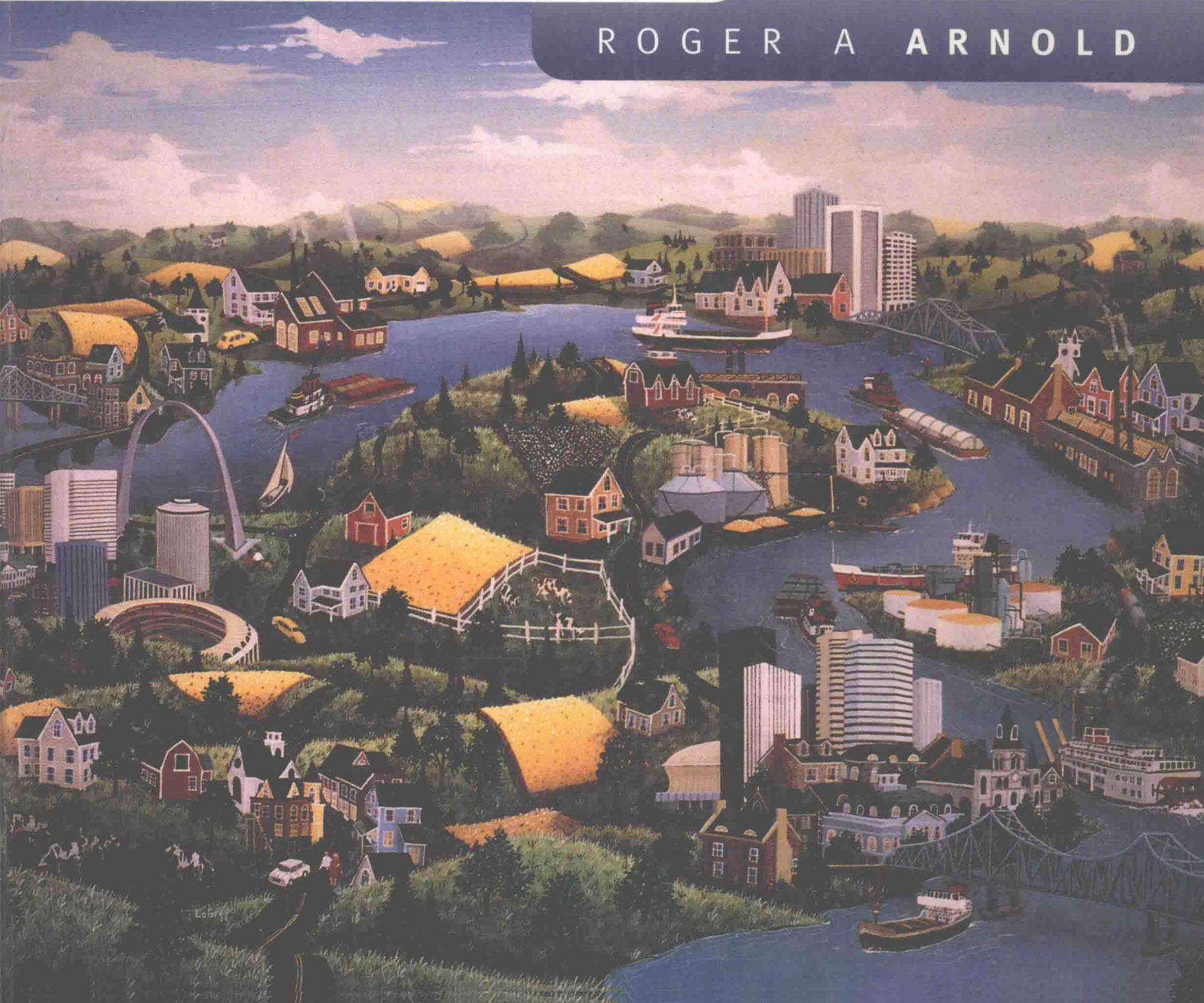


# ECONOMICS

EDITION

5

ROGER A. ARNOLD



# Economics

FIFTH EDITION

**ROGER A. ARNOLD** CALIFORNIA STATE UNIVERSITY, SAN MARCOS

# To Sheila, David, and Daniel

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## PREFACE

# To the Instructor

*When I first started teaching the principles of economics course, I adopted one of the many introductory economics texts on the market at the time. I read it carefully, prepared my lectures based on what I had read, and then assigned the book to my students. The textbook worked fairly well in the classroom, but I knew that something was missing. So I adopted a different text the next semester. The second text worked about as well as the first, but still something was missing. Over the next few years, I changed textbooks at least six to eight times. Every time I came away with the same feeling: Something was missing.*

---

## Identifying What Was Missing

Finally, I tried to identify what was missing. All the theories and policies were there, the economic terms were defined completely, and the graphs were drawn properly—but I realized that *these textbooks didn't seem to communicate to students the excitement that I feel about economics*. To me, economics is a powerful tool of analysis that I can use to understand the world. I know that economics can be found almost everywhere—in the newspaper and on the television news, of course—but also walking across a college campus, buying a cup of coffee, or watching a prime-time television show.

I know that once a person learns how to think like an economist, he or she will never be the same. Somehow the textbooks that I was adopting for class didn't communicate these wonderful things to the students.

So I rewrote my lectures the way I wanted to teach economics—to communicate the power and excitement of economics. The result was that both the students and I were a lot happier, and the students learned a lot more economics. I then set out to do in a book what I was doing in the classroom.

---

## What Makes This Book Different

If you are newcomer to *Economics*, at this point you may be scratching your head and saying, “Wait a minute, I’ve leafed through this book, and it looks much like other principles books: same diagrams, fairly standard topic coverage, etc. What is so different here?”

I agree that if you give this book only five minutes, it looks a lot like its competition. But having taught from many principles books, I’ve been *surprised how books that look alike can be so different*. Adopters of the past four editions of *Economics* seem to agree. When they write or talk to me, they often say they were *surprised* by the book.

“Surprised by what?” I ask. Surprised by the fact that it is one of the few textbooks they’ve adopted that the student actually reads.

They also say that they not only find it a more interesting textbook to teach from than most, but that their students ask more questions about economics having read this book than having read others, and that the reason they continue to use it is because it presents topics in a 1-2-3, logical way. Huge gaps aren’t left for the student to fill in.





## Why This Book Works

I think the book works because it does three things well. First, it gets the student's attention. It does this by discussing and analyzing many of the things that today's college students want to talk about. Economics isn't only about economic growth, interest rates, and the theory of the firm. Economics is about driving on a freeway, watching a movie, listening to music, kissing, finding a parking space, watching a Las Vegas show, and much more.

I often receive e-mail from students and the most common remark they make is, "I didn't know economics was about so many different things. I thought I was going to dislike studying economics, but to my surprise, I don't."

The second reason I think the book works is that I make connections between things that students often don't realize are connected. I think that education is largely about making the invisible visible. If we, as instructors, can help students better understand the world they live in, then we have done our jobs. There is nothing more exciting than when a student reads the text and says, "I had no idea that an economic policy change halfway around the world could impact my chances of getting a job after college."

Finally, and perhaps most importantly, this book works because it conveys to students the power of the economic way of thinking. According to James Buchanan, the Nobel-prize winning economist, "what a science [such as economics] does, or should do, is simply to allow the average man . . . to command the heights of genius." I think this book leaves students with a true sense of intellectual enrichment upon completion of the course because it successfully communicates to students how economists think.

Almost every textbook states that it teaches students how to "think like economists." But I believe that most books fail to accomplish what they set out to do, not because the authors don't know how economists think and not because they fail to write clearly, interestingly, and compellingly. It's because most texts are too narrowly focused. The only way that students come to think like economists is by applying economics to hundreds of topics—many of which are of particular interest to them. In other words, one doesn't learn how economists think by applying economics to the handful of topics chosen by the professor. He or she learns how economists think by applying economics to almost everything in life. The representative student learns more about how economists think by applying economics to driving a car, sleeping, or watching a movie than by studying the mundane topics found in many introductory texts.

The economic concepts, theories, and ways of thinking in this textbook are not mine, of course. They belong to the economists of two centuries. It is from them that the student has to learn. My main objective in writing the first edition of the book was to make sure that I did not get in the way of students' learning. I've continually worked toward refining this objective in subsequent editions. To this end, I have attempted to present the truths, tools, and theories of great economists in a way that is clear, understandable, relevant, interesting, and exciting. It is only with this Fifth Edition that I believe I have fully accomplished what I originally set out to do. The Fifth Edition is better organized; the more difficult material is broken down into more manageable pieces; the features are more relevant to economics professors and their students; the economic way of thinking is more visible; there are more ways for the student to work with the material; and it is a much faster read.



## Key Content Changes

Here are some of the major things that are new to the Fifth Edition of *Economics*:

### GENERAL UPDATES & CHANGES

- More discussion of economics and technology.
- More discussion of economics in our everyday lives.
- More discussion of economics in popular culture.
- More and better integration of global economic issues throughout the text.
- More flowcharts that summarize key information and visually establish cause-effect relationships.
- More features to capture the interest and imagination of students.
- More interspersed questions and answers that address how economists think.
- A better means of identifying the key questions that economists try to answer.
- More numerical and graphical questions for the student to answer.

### INTRODUCTORY CHAPTERS

- Two chapters on supply and demand, including a new chapter that applies supply and demand to both market and nonmarket behavior.
- A new chapter on exchange.
- More discussion and use of consumers' surplus and producers' surplus.

### MACRO CHAPTERS

- A cleaner, more complete discussion of Classical economics before the discussion of Keynesian economics.
- The division of macroeconomic measurements material into two shorter, more manageable chapters.
- A policy discussion of taxes, budget deficits and surpluses, and the national debt immediately after the theoretical discussion of fiscal policy.
- More flowcharts to summarize the cause-effect relationships in macroeconomics.
- A much richer discussion of some of the questions that macroeconomists try to answer.

### MICRO CHAPTERS

- A discussion of elasticity immediately following the discussion of supply and demand.
- The expansion of a theme first developed in the second edition—that microeconomics is about objectives, constraints, and choices. Much of the microeconomic discussion now centers around this trilogy.
- An emphasis on giving students an appreciation of how microeconomic tools can be used to answer questions relevant to both individuals and firms.
- A new discussion of network goods and network externalities.
- An expanded discussion of rent seeking.

### INTERNATIONAL CHAPTERS

- A new discussion of optimum currency areas.
- An update of new policy initiatives.



# Supplements

## FOR THE STUDENT

### Study Guide

by Roger A. Arnold

Each chapter explains, reviews, and tests for the important facts, concepts, and diagrams found in corresponding chapters of this book. Chapter parts include a chapter outline, multiple choice questions, problems and exercises, and a self-test. The Study Guide is also available in microeconomics and macroeconomics splits.

Economics Study Guide ISBN: 0-324-01900-9

Macroeconomics Study Guide ISBN: 0-324-01749-9

Microeconomics Study Guide ISBN: 0-324-01748-0

### Practice Tests

by Scott Bloom of North Dakota State University

Each practice test allows students to test their knowledge of the chapter material before they take the assigned test in class.

ISBN: 0-324-01975-0

### Graphing Exercises in Economics

by Roger A. Arnold

For the introductory economics student, the many graphs in economics may initially seem overwhelming. It takes time and practice to master the “language” of graphs. *Graphing Exercises in Economics* provides you with the practice you need to shorten the time it takes you to master this language. There are graphing exercises for 17 different topics, including supply and demand, the production possibilities frontier, perfect competition, monopoly, factor markets, and aggregate demand and aggregate supply.

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### Student Study CD-ROM

This powerful study tool, available packaged with the text, provides additional software tools and learning support—helping you build your level of understanding even when you can’t be online.

ISBN: 0-324-05798-9

### Economics Alive! CD-ROMs

These interactive multimedia study aids for economics are the high-tech, high-fun way to study economics. Through a combination of animated presentations, interactive graphing exercises, and simulations, the core principles of economics come to life and are driven home in an upbeat and entertaining way.

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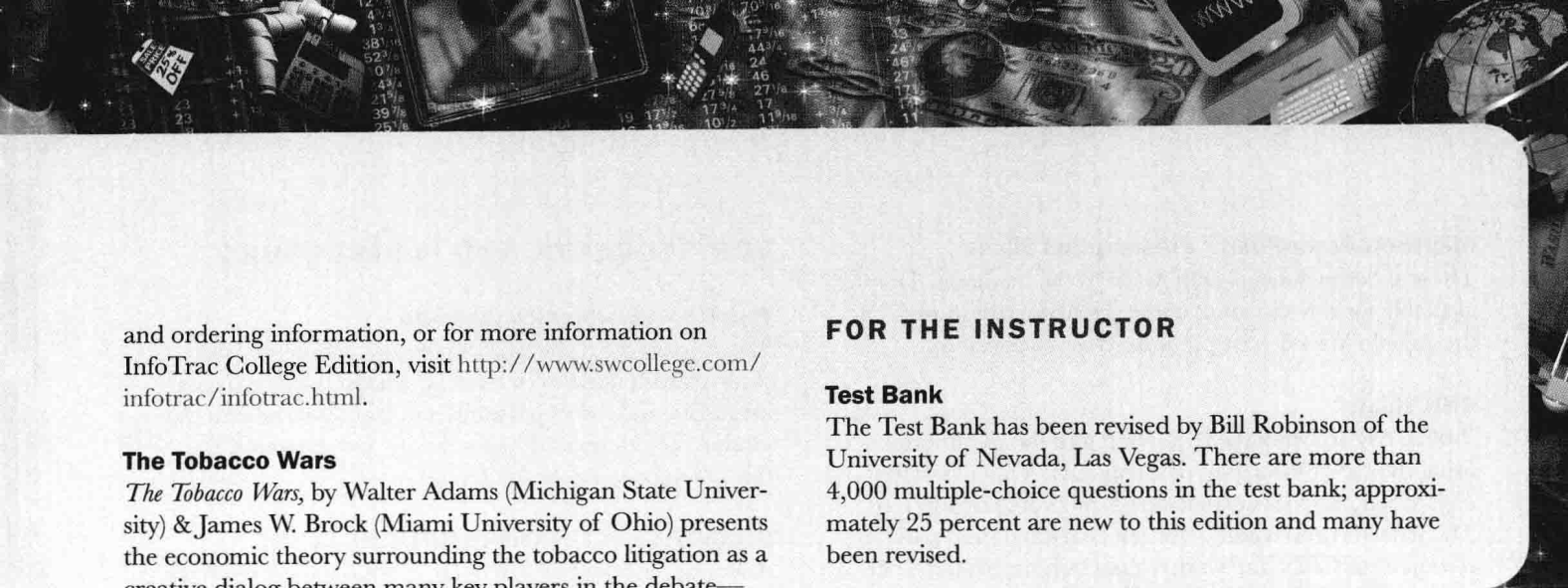
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### The Wall Street Journal Edition

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### **The Tobacco Wars**

*The Tobacco Wars*, by Walter Adams (Michigan State University) & James W. Brock (Miami University of Ohio) presents the economic theory surrounding the tobacco litigation as a creative dialog between many key players in the debate—including tobacco industry executives, consumers, attorneys, economists, health care professionals, historians, and political activists. Their fictional conversations illustrate the real-life issues, controversies, and points of view currently at play, giving readers a balanced and provocative framework to reach their own conclusions. The text provides a unique way to illustrate microeconomic principles, such as:

- Consumer behavior
- Industrial organization and public policy
- Antitrust policy
- Externalities, social costs, and market imperfections

ISBN: 0-324-01296-9

### **The New York Times Guide to Economics**

by Sliger, Jennings, and Murphy

This guide is a collection of the best economics related articles from *The New York Times* and can be used formally in the classroom or informally for life-long learning. All articles are accompanied by exploratory exercises and probing questions developed by experts in the field. Previews provide context for each chapter of articles and link them to key economic principles. The guide is divided into six sections organized to highlight critical factors in economics today. This organization allows for easy integration into any economics course. Also available are *The New York Times Guides*—for business communication, business law, economics, finance, management, and marketing.

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## **FOR THE INSTRUCTOR**

### **Test Bank**

The Test Bank has been revised by Bill Robinson of the University of Nevada, Las Vegas. There are more than 4,000 multiple-choice questions in the test bank; approximately 25 percent are new to this edition and many have been revised.

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Microeconomics Test Bank ISBN: 0-324-01971-8

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ExamView for Macroeconomics ISBN: 0-324-06498-5

ExamView for Microeconomics ISBN: 0-324-06497-7

### **Instructor's Manual**

by Bill Robinson of University of Nevada, Las Vegas

The Instructor's Manual offers detailed lecture assistance, including an overview of each chapter, a list of chapter objectives, key terms, a detailed chapter outline with lecture notes, answers to end-of-chapter questions, and supplemental lecture and reading material.

ISBN: 0-324-01974-2

### **Transparency Acetates**

More than 150 full color transparencies of key exhibits in the text are available for classroom use.

Macroeconomics Acetates ISBN: 0-324-05851-9

Microeconomics Acetates ISBN: 0-324-05852-7





### **Microsoft PowerPoint™ Presentation Slides**

These slides include all exhibits from the textbook. They are available for downloading under “Teaching Resources” at the Arnold Web site: <http://arnold.swcollege.com>.

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<http://arnold.swcollege.com> provides instructors and students with updates to the text, teaching and learning resources, and the opportunity to communicate with the author. All Internet addresses in the text are found at this site and are updated regularly.

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Roger A. Arnold





## STUDENT LEARNING GUIDE

# To the Student

*As a 20-year-old college student, I went to an ophthalmologist to have my eyes examined. He placed several sets of lenses before my eyes and asked if I could see better with them. After doing this for about 15 minutes, he told me that I needed eyeglasses. When I first put my new glasses on, I thought, “There is so much to see.” It was only after I had the glasses that I realized I hadn’t seen as much as I should have been seeing.*

I had a similar experience after learning economics. I recall my first few economics professors telling me that economics was an exciting subject that would help me understand the world I lived in. I also recall not paying too much attention to what they said. But as I learned more economics, I realized they were right. Without economics, I was blind to many of the things that I could easily see after studying it. In short, economics turned out to be much like my first pair of eyeglasses: it helped me to see what I had been blind to before.

There is no doubt about it: I would like for you to have the same thrilling experience learning economics that started for me many years ago and continues to this day. In fact,

if you don’t have that experience, I have to some degree failed to meet my objective. But I can’t do it alone. It takes you and me working together to make it happen. You have to have the motivation, interest, and patience to learn economics, and I have to present economics to you in as clear, relevant, and interesting a way as possible.

Before you begin your study of economics, it is important to know something about the road you are about to travel. That’s what this preface is about. Let me tell you how you should read and study this book to get the most out of it. It is important that you know something about the structure of each chapter, and about the pedagogical devices used throughout.

## Chapter Structure and Pedagogy

Keep in mind that an economics textbook is not a novel. It is easy to read a novel straight through without stopping.

It is not so easy to read a chapter of an economics textbook without stopping.

I’ve built numerous features into this book to help you read more actively—stopping frequently to absorb, apply, and test yourself on the material in each chapter.

### AFTER YOU STUDY THIS CHAPTER, YOU WILL BE ABLE TO . . .

As you begin to read a chapter, you might wonder, “What topics are discussed in this chapter? What will I learn or be able to do after studying this chapter?” This feature responds to these questions. Keep the chapter objectives in mind as you read to help you pay close attention to the main ideas you should remember. Reviewing the chapter objectives after you’ve finished reading the chapter is a useful study tool in helping you determine whether or not you have indeed absorbed the chapter’s central concepts.

way of thinking in this chapter and throughout the book.

#### AFTER YOU STUDY THIS CHAPTER, YOU WILL BE ABLE TO:

- 1 Identify many of the consequences of scarcity.
- 2 Explain how changes in opportunity cost affect behavior.
- 3 Explain what it means to think like an economist.
- 4 Discuss how theory is used in economics.
- 5 Explain how and why economists use the *ceteris paribus* condition.
- 6 Identify the components of scientific thinking.
- 7 State the difference between microeconomics and macroeconomics and between positive and normative economics.

#### YOU WILL ALSO LEARN:

*Why young rock stars, movie stars, and fashion models rarely go to college.*

*What the amount you earn has to do with how long you sleep.*

*Why you're not likely to live with your parents and grandparents after you're in your twenties.*

*Quantity demanded* is the number of units of a good that individuals are willing and able to buy at a particular price during some time period. For example, suppose individuals are willing and able to buy 100 TV dinners per week at the price of \$4 per unit. Therefore, 100 units is the quantity demanded of TV dinners at \$4.

**Q:** If a person is willing and able to buy a particular car at \$40,000, will she actually make this purchase?

**A:** Not necessarily. Willingness and ability to buy refers to the buyer, but both a buyer and a seller are required for an exchange to be made. A person may be willing and able to buy a particular car for \$40,000, but that car may not currently exist, or it may exist but the seller may not be willing to sell it for \$40,000.

of supply and demand, profits, production, costs, international trade, and competition. Both know the language of economics. It is becoming an increasingly important language for you to know, too.

#### Self-Test (Answers to Self-Test questions are in the Self-Test Appendix.)

1. Why do people and societies have to make choices?
2. Scarcity is the condition of finite resources. True or false? Explain your answer.
3. An economist said: "Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist." Who said this and what does it mean?

#### Thinking Like an Economist

seller would be willing and able to sell the ticket for is **producers' (or sellers') surplus**. For this trade, the producers' surplus is \$2. A seller prefers a large producers' surplus. The seller would have preferred to sell the movie ticket for \$8 and receive \$3 worth of producers' surplus.

Producers' (or sellers') surplus = Price received - Minimum selling price

Consumers' surplus and producers' surplus are important ideas in economics. Some of the ways they are used to analyze situations are considered in the following sections.

#### WILL A POLICY MAKE YOU BETTER OFF OR WORSE OFF?

Many different policies and laws are put into effect by governments and organizations each year. For example, the federal government may change its tariff policy and place a tariff (tax) on certain imported goods. Or it could subsidize the production of wheat, corn, or sugar. HMOs (Health Maintenance Organizations) may institute a policy in which they will pay for only some of the medicines you may need. The state legislators in your state may increase or decrease the tuition at a state supported college or university. The federal government may block a merger between two major companies that produce and sell office supplies. When you hear about a new policy or law, you may naturally wonder, "How does this affect me? Will I be better off or worse off?"

To answer these questions, you need to remember that you do many things. You buy goods, you sell goods, you may work for a company, you may own your own business. In other words, you wear many hats. One day you wear the hat of a buyer, the next day, that of a seller. On any given day, you may wear both the hat of an employee and the hat of a buyer. As a buyer, there is an easy way to figure out how a policy will affect you. Simply ask, "As a result of the policy, will my consumers' surplus rise, fall,

#### RealityCheck



Is there any way to determine how much consumers' surplus a person receives from buying a ticket to see a movie?

**Answer:** You would need to find out the maximum price the person would be willing to pay for the ticket. Then the ticket price could be subtracted from this amount. If the person would tell you the truth, you could simply ask to find out the maximum price.

#### YOU WILL ALSO LEARN

This feature lists some of the more unusual and unexpected things you will learn by reading the chapter. When finished with the chapter, go back and review these additional learning objectives to make sure that you can apply the analytical skills you've learned in the chapter to explain how economics comes into play in each of these statements.

#### INTERSPERSED QUESTIONS AND ANSWERS

As you are reading, you may have some questions. This feature tries to anticipate the questions you might have. It then answers those questions. These questions and answers are placed at natural stopping places in each chapter.

#### SELF-TESTS

Frequent feedback plays an important role in learning new material, so a Self-Test is included at the end of each section of each chapter. The answers to the Self-Tests are at the end of the book. Don't skip over the Self-Test because you are in a hurry. Stop, take the test, and then check your answers. If you don't answer a question correctly, go back and reread the sectional material so that you can answer it correctly.

#### REALITY CHECK

You can use this feature to test your knowledge. A photo captures an issue in action. An accompanying question asks you to explore the economic implications. An immediate answer lets you make sure you are on the right track.



## Thinking Like an Economist

This section begins a discussion of the economic way of thinking. It is a discussion that will go on for the entire book.

### THINKING IN TERMS OF SCARCITY AND ITS EFFECTS

Recall that *scarcity* is the condition in which our wants are greater than the limited resources available to satisfy them. But what are our wants? Our wants include anything that provides **utility** or satisfaction. In economics, something that provides utility or satisfaction is called a **good**. Something that provides **disutility** or dissatisfaction is

#### Utility

The satisfaction one receives from a good.

#### Good

Anything from which individuals receive utility or satisfaction.

#### Disutility

The dissatisfaction one receives from a bad.

## MARGIN DEFINITIONS

The first time you study economics, you have a lot to learn: language, concepts, theories, ways of thinking. This feature helps you to learn the language of economics.

All key economics terms are in bold type in the text and are defined alongside in the margins of the text.

To more effectively learn and understand these definitions, it is very useful to first read them, and then state in your own words what you just read.

## http:

Go to <http://www.ebay.com>. Click on "New to eBay?" and use the links to read the information on browsing, bidding, and selling. Go back to the main page, select a category of interest, find an item you like and look at the bidding history. How does eBay affect the transactions costs of the bidders and sellers? What does the bidding process tell us about consumer surplus that shopping at a store with predetermined prices does not? The buyer can't be sure that the item offered for sale is exactly as described by the seller. How might this risk influence the bidding process?

into the mall, look in different stores, try on different clothes, pay for the items, get back in his car, and drive home. Suppose Kurt spends an average of 2 hours when he shops and he estimates that an hour of his time is worth \$30. It follows, then, that Kurt incurs \$60 worth of transaction costs when he buys clothes. Usually, he is not willing to incur the transaction costs necessary to buy a pair of trousers or a shirt.

Now, suppose we ask Kurt if he would be more willing to buy clothes if shopping were easier. Suppose, we say, the transaction costs associated with buying clothes could be lowered from \$60 to less than \$10. At lower transaction costs, Kurt says that he would be willing to shop more often.

How can transaction costs be lowered? Both people and computers can help lower the transaction costs of exchanges. For example, real estate brokers lower the transaction costs of selling and buying a house. Jim has a house to sell but doesn't know how to find a buyer. Karen wants to buy a house but doesn't know how to find a seller. Enter the real estate broker, who brings buyers and sellers together. In so doing, she lowers the transaction costs of buying and selling a house.

As another example, consider e-commerce on the Internet. Ursula can buy a book by getting in her car, driving to a bookstore, getting out of her car, walking into the bookstore, looking at the books on the shelves, taking a book to the cashier, paying for it, leaving the store, getting back in her car, and returning home. Or, Ursula can buy a book over the Internet. She can click on one of the online booksellers, search for the book by title, read a short description of the book, and then click on 1-Click Buying. Buying on the Internet has lower transaction costs than shopping at a store because online buying requires less time and effort. Before online book buying and

## http:

This Internet feature is placed in the margins of the text. It points you to a Web site address at which you can find information that relates to the discussion of the material in the text. You can use this feature to enhance your understanding of the chapter, as a starting point for research, or just to check out some interesting, real-world applications of economics.

## Thinking Like an Economist

### THINKING LIKE AN ECONOMIST

Most economics instructors believe that a primary goal of this course is to teach you how economists think. There's more to thinking like an economist than knowing the concepts and technical tools of analysis. There's a special way of looking at situations, events, decisions, and behavior. Pay attention to this feature in each chapter—it will give you unique insight into the economist's mind, allowing you to see how interesting issues are approached from an economic perspective.

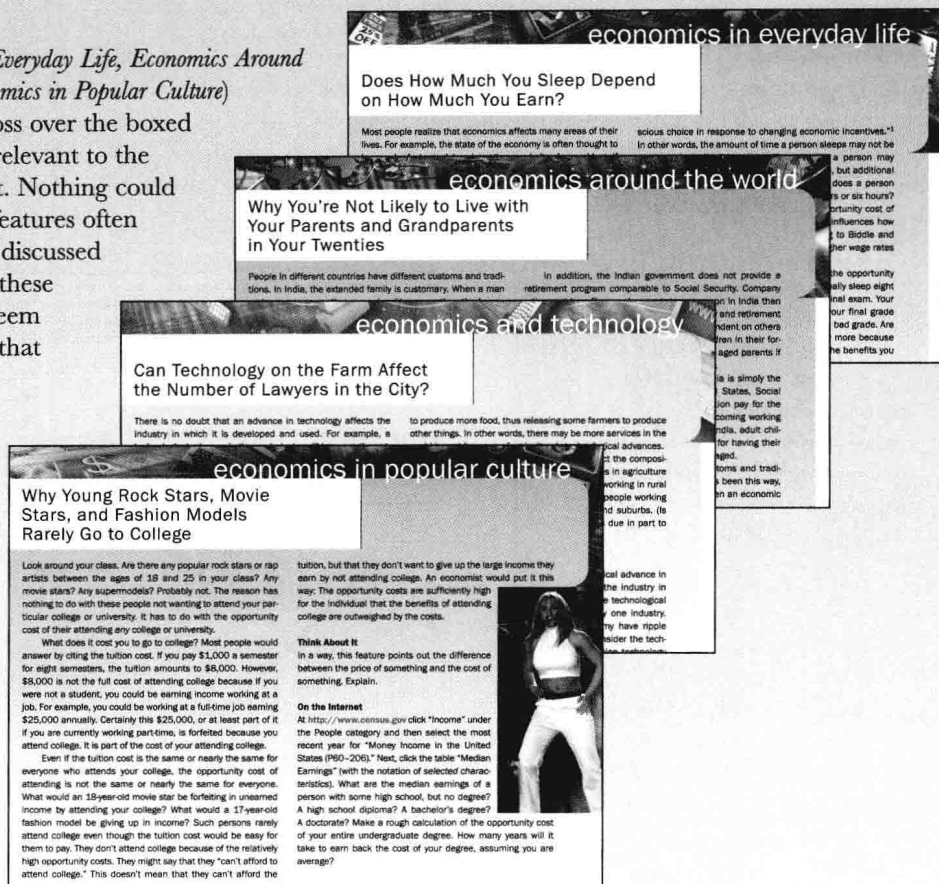
## APPLICATIONS FEATURES

Read the boxed features (*Economics in Everyday Life*, *Economics Around the World*, *Economics and Technology*, *Economics in Popular Culture*) in each chapter. Often students will gloss over the boxed features because they think they are irrelevant to the discussion in the main body of the text. Nothing could be further from the truth. The boxed features often apply the tools, concepts, and theories discussed in the main body of the text. Without these applications, economics may initially seem dry and abstract. To dispel the notion that economics is simply about inflation, unemployment, costs of production, profit, economic growth, monetary and fiscal policy, and so on, I have included these applications features to show you some of the interesting, everyday things that economics is about. Economics, as I hope you will soon learn, is about many more things than you have ever imagined.

Make use of the **Think About It** and **On the Internet** activities that accompany the boxed features. These activities will help you hone the analytical skills you'll need to do well on exams.

Here are some of the things that economics (in this text) has a lot to say about:

- how much you sleep
- parking congestion at your college campus
- the number of friends you have
- the Rolling Stones
- kissing
- the Mafia
- how professors teach
- speeding tickets
- living with your parents
- Hollywood
- fashion models
- spring break
- drug busts





## GRAPHS & EXHIBITS

Take your time with the diagrams. An introductory course in economics is full of diagrams, and they are central to communicating economic material. The sooner you learn to “think diagrammatically,” the more quickly and thoroughly you will learn economics. The way you learn to think in diagrams is to work with them. Read the caption, identify the curves that are mentioned in the text, explain to yourself what they mean when they shift right and left, and so on. Every diagram tells a story; learn what that story is. I’ve tried to make your job in working with diagrams as easy as possible:

### ■ Graphs

I’ve carefully used consistent colors, shaded arrows to show movement, multistep formats, and boxed explanations to make it easy for you to visually interpret important economic concepts at a glance.

rackets and tennis balls are used together to play tennis. If two goods are complements, as the price of one rises (falls), the demand for the other falls (rises). For example, higher tennis racket prices will decrease the demand for tennis balls, as Exhibit 4b shows. Other examples of complements are cars and tires, light bulbs and lamps, and golf clubs and golf balls.

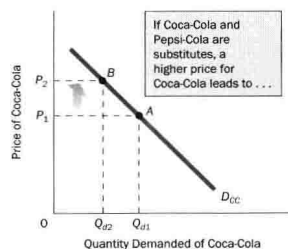
If  $P_A \uparrow$  and  $D_B \downarrow$  then  $A$  and  $B$  are complements.  
If  $P_A \downarrow$  and  $D_B \uparrow$  then  $A$  and  $B$  are complements.

**Number of Buyers** The demand for a good in a particular market area is related to the number of buyers in the area. The more buyers, the higher the demand; the fewer buyers, the lower the demand. The number of buyers may increase owing to a higher

**Exhibit 4**

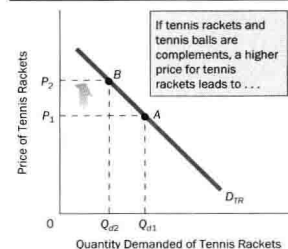
#### Substitutes and Complements

(a) Coca-Cola and Pepsi-Cola are substitutes: The price of one and the demand for the other are directly related. As the price of Coca-Cola rises, the demand for Pepsi-Cola increases. (b) Tennis rackets and tennis balls are complements: The price of one and the demand for the other are inversely related. As the price of tennis rackets rises, the demand for tennis balls decreases.



#### SUBSTITUTES

... a rightward shift in the demand curve for Pepsi-Cola.



#### COMPLEMENTS

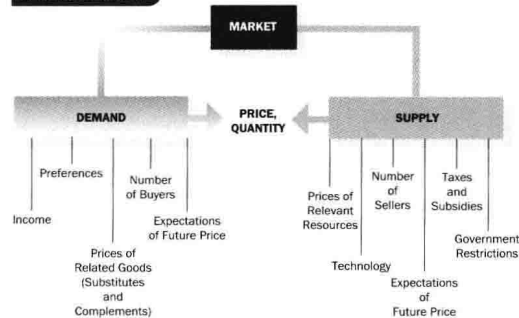
... a leftward shift in the demand curve for tennis balls.

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### ■ A Closer Look

For many students, the difficulty of economics is seeing how it all fits together. Use these special diagrams to more easily understand how the separate pieces of the puzzle fit together to form a cohesive picture of complex interrelationships. Flow diagrams and other unifying devices are used to help you identify cause-effect relationships and clarify the connections between concepts.

#### A Closer Look



**Exhibit 15**

#### A Summary Exhibit of a Market (Supply and Demand)

This exhibit ties together the topics discussed so far in this chapter. A market is composed of both supply and demand, as shown. Also shown are the factors that affect supply and demand and therefore indirectly affect the equilibrium price and quantity of a good.