

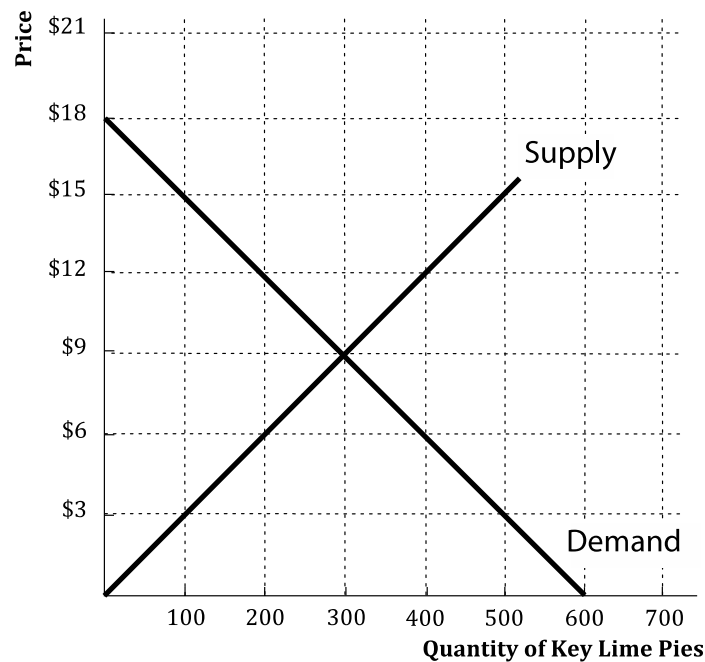
***Economics Today - The Micro View 21st edition  
Miller Solutions Manual***

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**PRICE CONTROLS AND TAXES  
WORKSHEET 2**

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Below, you are provided with the demand and supply curves for key lime pies. You will use this information to analyze the effect of a price ceiling set below the equilibrium price of a key lime pie. You will identify the equilibrium price and quantity of pies before the price ceiling is imposed, and the market price and quantity of pies after the price ceiling is imposed. You will also examine the changes in consumer surplus, producer surplus, and total surplus before and after the price ceiling is imposed.



*Part 1:* Identify the equilibrium price of a key lime pie and the equilibrium quantity of key lime pies that are bought and sold at that price.

**The equilibrium price is \$9 per pie, and the equilibrium quantity is 300 pies.**

*Part 2:* Calculate the amount of consumer surplus that is generated by this market.

**\$1,350**

*Part 3:* Calculate the amount of producer surplus that is generated by this market.

**\$1,350**

Name: \_\_\_\_\_ Student ID: \_\_\_\_\_ Section: \_\_\_\_\_

*Part 4:* Calculate the amount of total surplus that is generated by this market.

**\$2,700**

*Part 5:* Suppose that the government imposes a price ceiling of \$6 per key lime pie. Identify the resulting market price of a key lime pie and the quantity of key lime pies that are bought and sold at this price.

**The market price is \$6 per pie, and the quantity is 200 pies.**

*Part 6:* Suppose that the government imposes a price ceiling of \$6 per key lime pie. Calculate the amount of consumer surplus that is generated by this market after the imposition of this price ceiling.

**\$1,800**

*Part 7:* Suppose that the government imposes a price ceiling of \$6 per key lime pie. Calculate the amount of producer surplus that is generated by this market after the imposition of this price ceiling.

**\$600**

*Part 8:* Suppose that the government imposes a price ceiling of \$6 per key lime pie. Calculate the amount of total surplus that is generated by this market after the imposition of this price ceiling.

**\$2,400**

*Part 9:* Suppose that the government imposes a price ceiling of \$6 per key lime pie. Calculate the amount of deadweight loss associated with this price ceiling.

**\$300**

*Part 10:* Complete the statement below.

*The deadweight loss associated with a price ceiling that is set below the equilibrium price of a good or service is the amount by which \_\_\_\_\_ (consumer, producer, **total**) surplus falls in response to the imposition of the price ceiling.*

# Chapter 1

## The Nature of Economics

### ■ Overview

This chapter introduces economics as a science. Economics is defined, and its subareas, macroeconomics and microeconomics, are introduced. The chapter also discusses the three fundamental questions faced by every nation of what to produce, how to produce, and for whom to produce. The chapter then presents the two types of economic systems—the command-and-control system and the price system—that are used to answer the three fundamental questions. Economic rationality and self-interest are discussed along with their implications for decision-making and economic model building. The concept of behavioral economics is introduced. Economics as a science is closely associated with the development of models. To aid understanding, a significant section on the methodology of economics discusses model construction, the role of assumptions, and determining the usefulness of a model. Finally, the difference between positive and normative economics is presented. There is a discussion of why it is important to separate these two areas of analysis clearly.

### ■ Learning Objectives

After studying this chapter, students should be able to:

- 1.1 Define economics and discuss the difference between microeconomics and macroeconomics
- 1.2 Identify the three basic economic questions and the two opposing sets of answers
- 1.3 Evaluate the role that rational self-interest plays in economic analysis
- 1.4 Explain why economics is a science
- 1.5 Distinguish between positive and normative economics

### ■ Outline

- I. **The Power of Economic Analysis:** The analytical framework of the course is *the economic way of thinking*. The economic way of thinking permits the student to reach informed conclusions about what is happening in the world.

**A. Defining Economics:** The study of how people allocate their limited resources to satisfy their unlimited wants. The ultimate purpose of economics is to explain how people make choices.

**B. Microeconomics versus Macroeconomics:** Economics is divided into two types of analysis: microeconomics and macroeconomics.

1. **Microeconomics:** The part of economic analysis that studies decision-making undertaken by individuals (or households) and by firms.

2. **Macroeconomics:** The part of economic analysis that studies the behavior of the economy as a whole. It deals with economywide phenomena such as changes in unemployment, the general price level, and national income.

**II. The Three Basic Economic Questions and Two Opposing Sets of Answers:** Every nation must address three fundamental questions that concern the problem of how an economic system allocates a society's scarce resources.

**A. The Three Basic Questions:** (1) *What and how much will be produced?* (2) *How will items be produced?* (3) *For whom will items be produced?*

**B. Two Opposing Sets of Answers**

1. **Centralized Command and Control:** A centralized command and control system, also called central planning, has a centralized authority that decides what items to produce and how many of each, determines how the scarce resources will be organized in the items' production, and identifies who will be able to obtain the items.

2. **The Price System:** A price system, also called a market system, answers the three basic questions using decentralized decision-making. In a pure price system, individuals own all the scarce resources used in production. This means those choices about what and how many of each item to produce are made by private parties on their own initiative, as are the decisions about how to produce those items. Individuals and families choose how to allocate their incomes to obtain those items at prices established by privately organized mechanisms. Those prices signal the relative scarcity of different resources, which provides information about what and how many items to produce, how each item should be produced, and who will choose to buy the items.

3. **Mixed Economic Systems:** Most economic systems of the world incorporate aspects of both centralized command and control and a decentralized price system.

**III. The Economic Approach: Systematic Decisions:** Economists assume that individuals act as if they pursue self-motivated interests and respond predictably to perceived opportunities to obtain those interests.

**A. The Rationality Assumption:** The assumption that individuals will not intentionally make decisions that would leave them worse off.

**B. Responding to Incentives:** An incentive is the reward for engaging in a given activity. Much of human behavior can be explained in terms of how individuals respond to changing incentives over time. In general, before making decisions,

individuals compare costs and benefits of their actions and choose those actions which result in higher benefits than costs.

- C. Defining Self-Interest:** The pursuit of goals that make the individual better off. In economic analysis, these goals are often those which can be measured in monetary terms, although the pursuit of other goals such as prestige, love, power, or others can be analyzed using this concept.

**IV. Economics as a Science:** Economics is a social science that utilizes the same types of methods used in biology, physics, and chemistry. Economic models, or theories, are simplified representations of the real world that are developed and used as aids in understanding, explaining, and predicting economic phenomena in the real world.

- A. Models and Realism:** A model should capture the essential relationships that are sufficient to analyze the specific problem or answer the specific question being asked. No economic model is complete in the sense of capturing every detail and relationship that exists in the real world.

A model is, by definition, an abstraction from reality. This does not mean that models are deficient simply because they are not perfectly realistic and use simplified assumptions. Every model in every science requires simplification compared to the real world but can still be useful if it explains the issue at hand.

- B. Assumptions:** Assumptions define the set of circumstances in which a model is most likely to be applicable. Every model, therefore, must be based on a set of assumptions.

- 1. The *Ceteris Paribus* Assumption: All Other Things Being Equal:** The assumption that nothing changes except the factors being studied. It is used to isolate the effect of a change in one variable on another one by assuming that all other variables do not change.

- C. Deciding on the Usefulness of a Model:** A model is useful if it yields usable predictions supported by real-world observations. If a model makes a prediction and factual evidence supports the prediction, then the model is useful.

Economics is an empirical science; that is, it relies on real-world data in evaluating the usefulness of a model.

- D. Models of Behavior, *Not* Thought Processes:** Economic models predict how people act and what they will do in life with their limited resources, not the way they think. Economic models normally generalize people's behavior.

Economists are interested in what people actually do (revealed preferences) rather than what they think they will do (declared preferences).

- E. Behavioral Economics and Bounded Rationality:** An approach to consumer behavior that emphasizes psychological limitations and complications that potentially interfere with rational decision-making.

- 1. Bounded Rationality:** The idea that people are nearly, but not fully, rational so that they cannot examine every choice available to them. Proponents of behavioral economics suggest that economic models assume people exhibit three "unrealistic" characteristics: (1) unbounded selfishness, (2) unbounded willpower, and (3) unbounded rationality.

2. **Rules of Thumb:** A behavioral implication of bounded rationality is that people will use *rules of thumb*; that is, simplified methods for making decisions. An important issue is that people who appear to use rules of thumb may behave *as if* they are fully rational.
  3. **Behavioral Economics Goes Mainstream:** A number of economists are exploring ways in which psychological elements might improve analysis of decision-making by individual consumers, firm owners and managers, and government officials.
- V. **Positive versus Normative Economics:** Positive economics deals with what is. Positive economic statements are “if-then” statements and no subjective or moral judgments enter into the analysis. Normative economics deals with what ought to be. Normative economic statements involve value judgments and normally have the words “ought” or “should” in them. Because positive economics predicts consequences of actions, it can be used to predict the effects of various policies to determine if those policies aid in achieving some desired goal. Positive economics cannot provide criteria for choosing which outcomes or goals are preferable.
- A. **Distinguishing between Positive and Normative Economics:** Positive economics is an analysis that is strictly limited to making either purely descriptive statements or scientific predictions. Normative economics is analysis involving value judgments about economic policies as it relates to whether outcomes are good or bad.
  - B. **A Warning: Recognize Normative Analysis:** Although it is easy to define positive economics, it is often difficult to identify unlabeled normative statements, even in a textbook.

## ■ Points to Emphasize

### THE DISCIPLINE OF ECONOMICS

Economics is the study of how people make choices to satisfy their wants. Wants have a special meaning in economics. Wants represent those things that people would buy if they had unlimited income. In economics, we note that income is in fact limited, and thus, people must make choices. These choices are made based on rational self-interest. This means that people make choices that, in their view, make them better off. People do not voluntarily make choices that they believe will make them worse off. This assumption of rational behavior underlies all economic decision-making.

### ECONOMIC SYSTEMS AND THE ALLOCATION OF SCARCE RESOURCES

Because resources are scarce, every nation must answer the three fundamental questions of what and how much of each item to produce, how each item will be produced, and for whom items will be produced. Emphasize that there are not enough resources to produce as much of everything that the citizens of any nation would want. Because resources are scarce, decisions about which resources and how much of each resource will be used need to be made. Again, compared to wants, resources are limited. Scarcity also means in practice that everyone cannot have as much of everything that they would like to have.

Thus, some mechanism must exist to determine which items get produced, how much of those items get produced, and which members of each nation will receive those items.

### **ECONOMIC MODELS**

Economic models are simplified representations of the real world. Economic models frequently present problems for students because they are so abstract. The goal is for students to realize that only essential relationships are needed to deal with the problem at hand. A classic example of using an abstract theory is the decision of whether to take an umbrella when going outside. If a person misses the weather report, the person can look outside at the sky. If the sky is overcast or if dark clouds can be seen in the distance, then a prudent person will carry an umbrella. A person reasons that clouds are often associated with rain. If there are clouds of a certain type, then rain is likely but not certain. To actually know if rain will fall in a given place requires a complete knowledge of atmospheric conditions in a rather large area. Even the weather service does not have this kind of information. The simplest theory that can be used to accurately predict an outcome is the one that should be used.

### **PREDICTION—THE TEST OF A THEORY**

A model is useful only if it accurately predicts how things happen in the real world. It is not correct to fault a model because its assumptions are not realistic or because it is too abstract. Because economists cannot do controlled experiments the way chemists can, they must look at evidence to see if the model can accurately predict actions in the real world. Normally models are tested using statistical evidence and techniques; however, a great deal of economic research consists of empirical testing of theories.

### **THE INDIVIDUAL IN ECONOMIC ANALYSIS**

The unit of analysis is the individual. It is often difficult for students to distinguish between the individual as an abstraction and a given individual in the real world. The difference between the two can be explained in the following way. The individual as an abstraction is a hypothetical typical individual or, as psychologists would say, a normal individual. This is a “person” whose behavior is that which is expected most of the time from most persons. Obviously, it is possible to find actual persons who are “abnormal” or who do not behave in the typical way. When we say that the individual is motivated by rational self-interest, this does not exclude the possibility that some persons may choose to not act in their own self-interest (e.g., someone sacrificing his or her life to save a child). It only says that in most of our affairs, we choose to do those things that we believe will benefit us in some way and we choose not to do those things that we believe will make us worse off. Economists have found that economic models work best when the individual is the unit of analysis because individuals making choices are at the basis of every decision.

### **POSITIVE VERSUS NORMATIVE ECONOMICS**

The text points out that normative economics can be identified by statements that use the word “should.” Other words that provide an indicator of a normative statement instead of a positive statement are good, bad, best, desirable, undesirable, better, and worse.

Examples of these are as follows:

1. An increase in extended unemployment benefits is good because the benefits reduce the hardship faced by the unemployed.

2. Increases in interest rates by the Federal Reserve are bad because higher interest rates hurt low-income borrowers.
3. The best policy to get the economy out of a recession is to cut taxes.
4. High gasoline prices are undesirable.
5. It would be desirable to lower the prices of drugs to combat AIDS in poor countries.
6. The increase in prescription drug prices is undesirable because many senior citizens must choose between their drugs and food.
7. It is better to increase the progressive income tax than to increase a regressive sales tax.
8. Of the two methods of financing a war, it is better to raise taxes on the American people rather than to borrow the money.

## ■ For Those Who Wish to Stress Theory

### UNREALISTIC ASSUMPTIONS OF ECONOMIC MODELS?

One of the more frustrating aspects of economic analysis is what appears to be the unrealistic assumptions of many economic models. For example, in the realm of macroeconomics, the rational expectations hypothesis in its pure form talks about workers not being fooled by expected changes in the money supply by the Federal Reserve. It is true that most workers cannot tell you what the latest money supply growth rate figures are. They do not subscribe to the *Federal Reserve Bulletin* or read the Federal Open Market Committee report. However, workers do respond to what they perceive to be the expected state of the economy as it affects them. If the Fed is increasing the money supply at a faster rate and the inflation rate rises, workers will react **as if** they had a model of expected inflation. It is their behavior that we measure and predict, not what they are thinking. If the assumption of economic rationality is correct, then they will not be systematically fooled. One way of explaining the same approach outside economics is to point out that it is highly unlikely that a champion pool player knows the laws of physics with regard to the exact force needed to hit the cue ball and the mathematical formulas needed to compute the exact angle to hit the pool table bank, but his behavior is the same **as if** he did.

## ■ Further Questions for Class Discussion

1. Political disturbances such as wars and threats of wars in the Middle East often lead to increases in the price of oil. You will often hear people say that the U.S. government should not let the price rise. Ask your students the difference between these statements. Obviously, the first is a positive statement. Generally, a political disturbance leads to reduced supplies or to fears of reduced supplies, or both. Price then rises. Whether or not oil prices should rise is a normative statement. Nothing scientific can be said about it because it is based on a value judgment.
2. It is worth examining the idea that changes in incentives cause people to change their behavior.  
For example, any decrease in costs tends to encourage an activity, *ceteris paribus*. In recent years, streaming services have entered the entertainment market at a lower price point than cable or satellite subscriptions. What has happened with cable

subscriptions with the introduction of Netflix, Hulu, and Amazon Prime? Many households have “cut the cord” and use streaming services for all their entertainment needs.

3. An important issue raised after the financial meltdown in 2008 and the resulting recession was how to deal with the recession. The economic stimulus policies of cutting taxes and increasing government spending contributed to a very large increase in the federal government’s deficit. As a result, the recession moderated, the economy began to grow, and gross domestic product (GDP) began to rise. During this period, a debate began in the United States that the size of government had gotten too large; therefore, spending should be cut. Discuss the positive and normative economic issues presented.

**Positive:** Increases in government spending have contributed to a large increase in the federal deficit, which resulted in economic growth. These are positive statements because they are testable statements about the economic effect of increases in federal spending and reduced taxes on the size of the federal deficit, as well as the effect of increased spending and tax cuts on the level of economic activity.

**Normative:** The statements that “the size of government had gotten too large” and that “spending should be cut” are not testable—they are based on value judgments about what “ought to be.”

4. Some widely reported and watched polls are viewed as economic indicators of future levels of economic activity and as various measures of “consumer confidence.” The Conference Board, the University of Michigan, and *ABC News/Money Magazine* all use polls of consumers to measure their confidence in the economy. These polls ask people about their thoughts on the economy and about their spending plans. Why are these polls not likely to provide a reliable model for predictions? These polls measure people’s plans, rather than what they actually do; their plans may be different from their actions.
5. Scarcity forces society to come up with a mechanism to determine how output is to be distributed. Typically, prices of items are used to determine this distribution. If price is not used as an allocative mechanism, what other mechanisms can be used to allocate output? Universities can allocate seats in classes using price (where students bid for classes) instead of using a first-come, first-served system based on some sort of administrative procedure. An objection to this allocation method is almost certainly that the wealthier students would get the most desirable courses with the best professors, and poorer students would get the less desirable courses with less talented professors. Suppose that the university responds by providing more sections of the high-demand courses by paying the best professors more to teach an overload? The availability of seats will increase, and more students can take the course. Under administrative methods, there is little or no incentive to make more sections available (e.g., by paying qualified professors more to teach an overload in the short run and in the long run by hiring more faculty in those areas).

## ■ Answers to Questions for Critical Analysis

**POLICY EXAMPLE: BUSINESSES MIGRATE BETWEEN STATES IN RESPONSE TO TAXING INCENTIVES (P. 6)*****For Critical Thinking***

*Why do you suppose that economists have found that other forms of state tax burdens on small businesspeople, such as property and gross-receipts taxes, also influence small-business migration decisions?*

Any state tax burdens (income, property, or gross-receipts taxes) will create higher costs for small businesses and give them an incentive to migrate to a state with lower taxes, and therefore, lower costs.

***Real Application***

*If you decide to move your small business to a lower-tax state, you'll obviously benefit from paying lower state taxes. What costs might you incur that you should consider in making your calculations?*

The costs of moving your business to another state would be the costs of moving (searching for a new house and new storefront, the costs of hiring movers and packing belongings), as well as the costs of starting your business in a new location (advertising, establishing a new clientele base, finding new suppliers).

**DIVERSITY TRENDS: ECONOMIC MODELS CONFRONT THE ISSUE OF DIFFERENCES IN OUTCOMES RELATIVE TO UNDERLYING OPPORTUNITIES OF DIVERSE GROUPS (P. 7)*****For Critical Thinking***

*Why do you suppose that more economists are developing empirical measures of different groups' opportunities?*

With the increasing role that data plays in every sector of the economy today, the amount of data available and the quality of that data have also increased. This allows for economists to more accurately test current models and develop new ones that are more consistent with real world data. By developing empirical measures of different groups' opportunities, economists will be able to test models' predictions to explain divergences in economic outcomes that different groups experience.

**AI: THE FUTURE IS NOW: PEOPLE'S CLAIMS AND ACTIONS DIFFER REGARDING LETTING AI MANAGE THEIR PERSONAL FINANCES (P. 9)*****For Critical Thinking***

*How might the fact that people typically have to pay a price to utilize AI-based personal-finance services help to explain why fewer people actually have opted to use them?*

How people think can be different from how they actually act. While one out of every three individuals **is** willing to utilize AI applications to assist in personal finance, when it comes to actually choosing and costs have to be considered, fewer individuals are willing to take action. The higher the price people have to pay for AI-based personal-finance services, the fewer services they will be willing and able to purchase. Therefore, the fact that people have to pay to use these services will result in a lower the number of people who actually use them.

***Real Application***

*Clearly, AI financial applications will improve and will become better and cheaper. Will all of you necessarily opt in to the use of such applications for your investment decision-making? (Hint: Might you worry, for example, about privacy problems?)*

As AI financial applications improve and become cheaper, more people will be willing and able to use these applications. There may, however, remain some who are worried about security and privacy and may not trust the applications enough to divulge sensitive financial information. Therefore, we can see that the decision on adoption may not just solely depend on price.

## ■ Economics in Your Life

### WHY IS THE AVERAGE ACTUAL U.S. FAMILY SIZE SMALLER THAN PEOPLE CLAIM IN SURVEYS TO BE “IDEAL”? (P. 12)

#### *Critical Thinking Questions*

*What is at least one element other than the expense of raising a child that likely influences a decision about how many children to bear and raise? (Hint: Why are some prospective parents better financially equipped to cover childrearing expenses than others?)*

One element that is likely to influence a decision about how many children to bear and raise is the income (and expected future income) of the household. The higher the income, the more prepared are parents to cover childrearing expenses. Because income generally increases with age (as people gain more experience), age may be another factor that influences the decision about how many children to bear and raise.

*Would you guess that if survey questions about “ideal” numbers of children included information about child-raising expenses, the survey results might be different? Explain your reasoning. (See Figure 1-1.)*

Yes. Seeing the actual costs of raising children will force survey takers to consider the costs before specifying their “ideal” number of children.

#### *Real Application*

*Assume that you take part in a survey about your ideal family size. What are the issues that concern you most that will determine your answer?*

The desire to have children (for both you and your partner), the costs of bearing and raising children, the benefits of bearing and raising children, the time needed to raise children (finding schools, attending appointments, participating in sports), the support available to help raise children (grandparents, friends, relatives, day-care facilities)

## ■ Issues & Applications

### FOR THE U.S. GOVERNMENT, ONE OF TWO EV CHARGING-SYSTEM STANDARDS IS AN OPTION, BUT THE OTHER IS OBLIGATORY (PP. 13–14)

#### *Critical Thinking Questions*

*How might an EV charging-station network have developed in the absence of any government involvement? Explain briefly.*

As the number of EV vehicles increased, the demand for EV charging stations would rise and so would the price people would be willing to pay to charge their EVs. Therefore, the price system would be used to allocate production to EV charging stations to match the demand, with more stations being constructed in areas that most desire them. The type of connectors used at these charging stations will also depend on market forces. It is likely that privately owned charging stations would provide charging for different types of connectors. However, charging stations paid for by an automaker may end up supporting only the type of connectors that their cars use (as it can increase incentives to purchase that automaker's cars).

*How might an EV charging-station network have been constructed under governmental command and control? Discuss your reasoning.*

The government would determine what kind of charging-station, how many charging-stations, and the locations of those charging stations. The type, number, and location determined by the government, however, might not match what is desired by the market as they may not have the data on consumers' needs in every location, nor would they have the resources to analyze it even if they **do**.

### ***Real Application***

*Assume that you've decided to purchase a new car. Does your physical location have any bearing on whether you would consider the purchase of an EV? (Hint: Will your answer differ depending on whether you live in a small rural town in the mountain states compared with a large city in the South?)*

**Yes. With an** EV, you can always get a charger installed at home, but any travel away from home would require access to charging stations. If you live in a small rural town with few charging stations, you may be less willing to purchase an EV. On the other hand, if you live in a large city with many charging stations, you may be more willing to purchase an EV. In addition to the number and locations of charging stations, the price of gasoline would also be a consideration in purchasing an EV.

### **Answers to End-of-Chapter Questions**

- 1-1.** Define economics. Explain briefly how the economic way of thinking—in terms of rational, self-interested people responding to incentives—relates to each of the following situations.
- A student deciding whether to purchase a textbook for a particular class
  - Government officials seeking more funding for mass transit through higher taxes
  - A municipality taxing hotel guests to obtain funding for a new sports stadium

*Economics is the study of how individuals allocate limited resources to satisfy unlimited wants.*

- a. Among the factors that a rational, self-interested student will take into account are income, the price of the textbook, an anticipation of how much the individual is likely to study the textbook, and how much studying the book is likely to affect the individual's grade.
- b. A rational, self-interested government official will, for example, recognize that higher taxes will raise more funds for mass transit while making more voters, who have limited resources, willing to elect other officials.
- c. A municipality's rational, self-interested government will, for instance, take into account that higher hotel taxes will produce more funds if as many visitors continue staying at hotels, but that the higher taxes will also discourage some visitors from spending nights at hotels.

**1-2.** Some people claim that the “economic way of thinking” does not apply to issues such as health care. Explain how economics does apply to this issue by developing a “model” of an individual's choices.

*This issue involves choice and, therefore, can be approached using the economic way of thinking. In the case of health care, an individual typically has an unlimited desire for good health. The individual has a limited budget and limited time, however. The individual must allocate her budget across other desirable goods, such as housing and food, and must allocate her time across waiting in a physician's office, work, leisure, and sleep. Hence, choices must be made in light of limited resources.*

**1-3.** Does the phrase “unlimited wants and limited resources” apply to both a low-income household and a middle-income household? Can the same phrase be applied to a very high-income household?

*Because wants are unlimited, the phrase applies to very high-income households as well as low- and middle-income households. Consider, for instance, a household with a low income and unlimited wants at the beginning of the year. The household's wants will still remain unlimited if it becomes a high-income household later in the year.*

- 1-4.** In a single sentence, contrast microeconomics and macroeconomics. Next, categorize each of the following issues as a microeconomic issue, a macroeconomic issue, or not an economic issue.
- a. The national unemployment rate
  - b. The decision of a worker to work overtime or not
  - c. A family's choice to have a baby
  - d. The rate of growth of the money supply
  - e. The national government's budget deficit
  - f. A student's allocation of study time across two subjects

*Microeconomics is the study of individual decision-making, whereas macroeconomics examines the aggregate behavior of the entire economy.*

- a. macroeconomics
- b. microeconomics

- c. *microeconomics*
- d. *macroeconomics*
- e. *macroeconomics*
- f. *microeconomics*

- 1-5.** One of your classmates, Sally, is a hardworking student, serious about her classes, and conscientious about her grades. Sally is also involved, however, in volunteer activities and an extracurricular sport. Could Sally be displaying rational behavior? Based on what you read in this chapter, construct an argument supporting the conclusion that she is.

*Sally is displaying rational behavior if all of these activities are in her self-interest. For example, Sally likely derives intrinsic benefit from volunteer and extracurricular activities and may believe that these activities, along with good grades, improve her prospects of finding a job after she completes her studies. Hence, these activities are in her self-interest even though they reduce some available study time.*

- 1-6.** Recently, a bank was trying to decide what fee to charge for “expedited payments”—payments the bank would transmit with extra speed so that customers could avoid late fees on cable TV bills, electric bills, and the like. To try to determine what fee customers were willing to pay for expedited payments, the bank conducted a survey. It was able to determine that many of the people surveyed already paid fees for expedited payment services that *exceeded* the maximum fees they said they were willing to pay. How does the bank’s finding relate to economists’ traditional focus on what people do rather than what they *say* they will do?

*This example illustrates that what people say they will do does not actually correspond to what matters in the economy, which is what they actually do.*

- 1-7.** Explain, in your own words, the rationality assumption, and contrast it with the assumption of bounded rationality proposed by adherents of behavioral economics.

*The rationality assumption states that people do not intentionally make choices that leave them worse off. The bounded rationality hypothesis suggests that people are almost, but not completely, rational.*

- 1-8.** Why does the assumption of bounded rationality suggest that people might use rules of thumb to guide their decision-making instead of considering every possible choice available to them?

*The bounded rationality hypothesis indicates that because people cannot study every possible alternative available to them, they consider only the most obvious apparent choices. They find easy ways of deciding which of these obvious choices to select, and according to the hypothesis, these methods are simple rules of thumb.*