

## **Chapter 2 – The Economic Way of Thinking**

**Use the Section Summaries to preview the chapter's content.**

### Section Summaries

The following section summaries appear on the Student Review Cards.

#### **2-1 – Choices, Costs, and Trade-Offs**

We all face scarcity, and as a consequence, we must make choices. Economics is about understanding the effects that scarcity has on our decision making. In a world of scarcity, we all face trade-offs; when we make choices, we forgo other valued alternatives. Society must make trade-offs as well. The highest or best forgone opportunity resulting from a decision is called the opportunity cost. Opportunity costs can include both monetary and nonmonetary costs, such as time. It is easy to mistake “free” for a zero monetary price. Many allegedly free goods may not cost consumers any money, but they still use society’s scarce resources.

#### **2-2 – Marginal Thinking**

Many choices we face involve how much of something to do rather than whether to do something or not. Marginal thinking is concerned with additional, or marginal, choices; marginal choices involve the effects of adding or subtracting, from the current situation, the small (or large) incremental changes to a plan of action. The rule of rational choice tells us that individuals will pursue an activity if the expected marginal benefits are greater than the expected marginal costs. The net benefit is the difference between the expected marginal benefits and the expected marginal costs.

#### **2-3 – Specialization and Trade**

People generally specialize in what they produce because of opportunity costs. By concentrating their energies on only one, or a few, activities, individuals can make the best use of (and thus gain the most benefit from) their limited resources. If an individual can produce a good or service at a lower opportunity cost than others, we say that she has a comparative advantage in the production of that good or service.

The primary advantages of specialization are that employees acquire greater skill from repetition, they avoid wasted time in shifting from one task to another, and they do the types of work for which they are best suited. Specialization also promotes the use of specialized equipment for specialized tasks.

Trade, or voluntary exchange, directly increases wealth by making both parties better off. Standards of living can be increased through trade and exchange. The economy as a whole can create more wealth when each person specializes in the task that he or she does best. Through specialization and trade, a country can gain a greater variety of goods and services at a lower cost.

## 2-4 – The Production Possibilities of an Economy

The production possibilities curve represents the potential total output combinations of any two goods for an economy, given the inputs and technology available to the economy. It illustrates an economy's potential for allocating its limited resources in producing various combinations of goods in a given time period.

An economy cannot operate outside the production possibilities curve because in the given time period, it does not have sufficient resources to produce that level of output. If, however, the economy operates inside the production possibility curve, it is not producing at full capacity and is operating inefficiently. Efficiency requires society to use its resources to the fullest extent—getting the most from its scarce resources and wasting none.

The law of increasing opportunity cost tells us that the opportunity cost of producing additional units of a good rises as society produces more of that good. This is because some resources and skills cannot be easily adapted from their current uses to alternative uses.

The economy can only grow with qualitative or quantitative changes in the factors of production—for instance, advancement in technology or improvements in labor productivity. Growth, however, does not eliminate scarcity. An economy can also grow by increasing its capital stock.

## 2-5 – Economic Systems

Every economy must answer three fundamental questions: (1) What goods and services will be produced? (2) How will the goods and services be produced? (3) Who will get the goods and services produced? Consumer sovereignty explains how individual consumers in market economies determine what is to be produced. Economies can be organized as command economies, market economies, and mixed economies. When deciding how to produce goods and services, firms may face a trade-off between using more machines (capital) or more workers (labor). This decision will depend on relative factor prices. In a market economy, the goods and services an individual can obtain depend on her income.

<b>Use the Teaching Tips to plan what key concepts you wish to emphasize.</b>
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### Teaching Tips

You can also find selected teaching tips located on your Chapter 2 Instructor Prep Card.

- It is crucial to clearly discuss the basic paradigm that underlies all that we do in economics. Show what we mean by scarcity; how scarcity implies the necessity of making choices; how choices imply the bearing of opportunity costs; and how, when combined with the assumption of self-interest, that results in the Rule of Rational Choice: whatever the choice or action, do “it” if and only if  $E(MB) > E(MC)$ . This, in turn, when continued as long as that inequality holds, becomes the basic intuition leading to what economists define as equilibrium. (We’ll discuss market equilibrium in more detail in Chapter 3.) When this is clear, it can become the focus for student retention (e.g., how is this technique or diagram an application of the rule of rational

choice), and there is almost no end to the examples and illustrations that can be made to show students the applicability of the economic way of thinking.

- A good opportunity cost illustration is that of celebrities donating their time and services to charities. If they are turning down an alternative “gig” to show up, the foregone income is an opportunity cost to the celebrity; but if they are not turning down a potential paid opportunity to appear, the opportunity cost of them appearing may be far less than their regular asking price for an appearance.
- Because this chapter introduces appropriate handling of the concept of opportunity cost, it needs to be emphasized that costs attach to choices, not goods. One effective way to do this in class is to ask “What is the cost of a car?” One can then lead students to see that their answers do not make sense without a verb describing what action involving a car is being contemplated. One can speak of the varying costs of different ways of *verbing* (buying, owning, driving, insuring, borrowing, selling, etc.) a car, but not sensibly of the cost of a car.
- A potential mugging illustrates the importance of focusing on the relevant margin with muggers. Say you are walking through Central Park with \$200 in your wallet. When someone tries to mug you, you don’t start negotiating: You can have \$200 if you leave me alone, \$150 if you rough me up a little, \$100 if you take a swipe at me with a knife. . . . How much a mugger will take and how he will treat you are not choices under your control. In this situation, you basically have an all-or-nothing choice between handing over the money and taking your chances by resisting. This illustration can then be extended to other examples of the often crucial importance of focusing on the relevant margin (the choice actually being made).
- An analogy to the question of whether we want the zero pollution discussed in the text is to ask whether the goal of education is zero ignorance. The answer is no, and for the same reason. The cost of eliminating some forms of ignorance is greater than the benefits. This can also be extended to show that one of the advantages of specialization and exchange is the vast saving in the costs of becoming informed.
- One way of introducing the issue of specialization and exchange versus self-sufficiency is to ask students why people are always portrayed as being so self-sufficient in Westerns, then lead them to see that the reason is that when the cost of trading (particularly transportation) was very high, the cost of trading outweighed the gains from specialization. However, when the costs of trading become lower, increasing specialization and trade is the result.
- An interesting ethics question can be used in class as an example of specialization and exchange: ask why students aren’t allowed to buy papers. The reason is that the point of education is more about teaching the process of how to do something than the final product per se. Buying a paper allows students to “produce” a paper without learning anything, which is the real purpose of writing papers (where the final product is used to judge the extent of learning). If all that mattered were the final product (say, a paper), and who did it and how were unimportant (as is typical in most market purchases of goods and services), then purchasing a paper would be fine.
- In talking about the economic questions all societies face, emphasize the various answers are interdependent. For example, “what gets produced” is not independent of “who gets what” because the “who gets what” answer determines the incentives facing producers.

- It is often worth reinforcing the point that the production possibilities curve does not establish the only efficient solution for an economy, and that the chosen solution also depends on preferences. One way to illustrate this point is to draw a production possibilities curve with meat and vegetables on the axes and ask students where the efficient output combination is. Students will typically pick a point other than the extremes (reflecting the fact that most do not consume just one thing). Then ask them what difference it makes if it is a society of vegetarians. This will help them to see that such different preferences would lead to different efficient results. You can also do this with guns (or cruise missiles) and butter (or Big Macs) in a world of military “hawks” versus one of military “doves.”
- There are several examples of seemingly inefficient behavior students would recognize that can be used to make efficiency issues clearer to them. They include such things as students taking textbooks home for the holidays when they often don’t read them (which looks like incurring the cost of taking books back and forth for no benefit but can be seen as efficient insurance against Mom imposing on you to help clean the house or go to a family get-together you would rather avoid); senioritis (which can be viewed as an efficient response to “end of period” incentives students face as the end of their senior year approaches); procrastination (which, by making it obvious you couldn’t possibly handle anything more, reduces how much work you have to do by imposing it on others); strategic inefficiency (being obviously incompetent at some task, like doing laundry, as a way to avoid being required to do it); etc.
- It is probably worth reinforcing the point that even though higher rates of investment can make an economy’s production possibilities curve shift outward at a faster rate, it will take a smaller economy quite a long time to “catch up” to a larger economy with a slower growth rate. This can be used to discuss why the young have far more of an interest in increasing growth rates (a larger cumulative effect on them than on older generations) as well as why faster growth high-investment policies often lead to unrest in countries when results do not improve as fast as rising expectations.
- You can introduce issues of institutional reform and how it can shift the effective production possibilities curve of a society by giving examples of how rulers can benefit themselves in ways that reduce total societal output (such as the selling of monopoly privileges) then asking students both whether they can think of other examples of such policies (such as protectionist policies) and what would happen to potential output in such a society if those inefficient policies were ended.

**If you wish to use the PowerPoint slides, use the Chapter Outline to plan your lecture.**

### Chapter Outline

<b>PowerPoint Slides 3-4</b>	<b>2-1 – Choices, Costs, and Trade-Offs</b>
<b>PowerPoint Slide 5 Choices</b>	A. Scarcity Forces Us to Choose  The fact of scarcity means that we must make choices.

<p><b>PowerPoint Slide 6</b> Choices</p> <p><b>PowerPoint Slides 7–8</b> Opportunity Cost</p> <p><b>PowerPoint Slide 9</b> Opportunity Cost: Money Price</p> <p><b>PowerPoint Slide 10</b> Opportunity Cost: Example</p> <p><b>PowerPoint Slide 11</b> Does a Free Lunch Exist?</p> <p><b>PowerPoint Slide 12</b></p>	<p>B. Trade-Offs</p> <p>Each time we buy one good or service, we reduce our ability to buy other things (a preview of opportunity cost).</p> <p>C. To Choose Is to Lose</p> <p><b>Opportunity cost</b> is the value of the forgone alternative that was not chosen.</p> <p>To get more of any desirable thing, you must accept less of something else that you also value.</p> <p>The money price is what you pay for the items that you buy. It is an opportunity cost.</p> <p>Non-price costs are additional opportunity costs.</p> <p>Going to college illustrates opportunity cost.</p> <p>D. Is That Really a Free Lunch, a Freeway, or a Free Beach?</p> <p>Some of society's scarce resources that could have been used to produce something else of value will have been used in preparation of the lunch.</p> <p>Just because the monetary price is zero does not mean that the good or service is free.</p> <p>Section Check 1</p>
<p><b>PowerPoint Slides 13–14</b></p>	<p><b>2-2 – Marginal Thinking</b></p>
<p><b>PowerPoint Slides 15–16</b> Marginal Thinking</p> <p><b>PowerPoint Slides 17–18</b> Marginal Thinking: Example</p> <p><b>PowerPoint Slide 19</b> Marginal Thinking: The Rule of Rational Choice</p> <p><b>PowerPoint Slide 20</b> Marginal Thinking: Net Benefits</p> <p><b>PowerPoint Slide 21</b></p>	<p>A. Many Choices We Face Involve Marginal Thinking</p> <p>Focus on how much of something to do. <b>Marginal thinking</b> involves the effects of the adding or subtracting, from the current situation, the small (or large) incremental changes to a plan of action.</p> <p>Use the example of airline seats to emphasize the difference between average and marginal costs. An auction illustrates how a buyer compares marginal benefit to marginal cost.</p> <p>The <b>rule of rational choice</b> states that individuals will pursue an activity if the expected marginal benefits are greater than the expected marginal costs. <math>E(MB) &gt; E(MC)</math>.</p> <p><b>Net benefit</b> is the difference between the expected marginal benefits and the expected marginal costs.</p> <p>Weigh the expected marginal benefits of a cleaner environment against the</p>

<p>Marginal Thinking: Pollution Example</p> <p><b>PowerPoint Slides 22–23</b> Marginal Thinking: Safety Example</p> <p><b>PowerPoint Slide 24</b></p>	<p>expected marginal costs. Does the class agree that zero pollution would be too costly?</p> <p>The issue is not safe versus unsafe products, but <i>how much</i> safety or risk we want. Additional safety comes at a higher cost</p> <p>Section Check 2</p>
<p><b>PowerPoint Slides 25–26</b></p>	<p><b>2-3 – Specialization and Trade</b></p>
<p><b>PowerPoint Slide 27</b> Specialization</p> <p><b>PowerPoint Slide 28</b> Comparative Advantage</p> <p><b>PowerPoint Slide 29</b> We All Specialize</p> <p><b>PowerPoint Slide 30</b> Advantages of Specialization</p> <p><b>PowerPoint Slides 31–32</b> Specialization and Trade</p> <p><b>PowerPoint Slide 33</b></p>	<p>A. Why Do People Specialize?</p> <p><b>Specializing</b> means concentrating on the production of one or a few goods.</p> <p><b>Comparative advantage</b> occurs when a person or country can produce a good or service at a lower opportunity cost than others. A person or country should specialize in production of the good or service in which there is a comparative advantage.</p> <p>B. We All Specialize</p> <p>We rely on others, specialists, to produce most of the goods and services we want. The specialists use their wages to buy products from other specialists.</p> <p>C. The Advantages of Specialization</p> <p>Primary advantages: Employees acquire greater skill from repetition; they avoid wasting time shifting from one task to another; they do the types of work for which they are best suited.</p> <p>D. Specialization and Trade Lead to Greater Wealth and Prosperity</p> <p>The prospect of wealth-increasing exchange leads to productive specialization. For example, the United States is better at producing wheat, and Brazil is better at producing coffee. The two countries trade these goods with each other.</p> <p>Section Check 3</p>
<p><b>PowerPoint Slides 34–35</b></p>	<p><b>2-4 – The Production Possibilities of an Economy</b></p>
<p><b>PowerPoint Slide 36</b> The Production Possibilities Curve</p> <p><b>PowerPoint Slide 36</b> The Production Possibilities Curve: Food and Shelter</p>	<p>A. The Production Possibilities Curve</p> <p>The <b>production possibilities curve</b> measures the potential total output combinations of any two goods for an economy. The curve illustrates an economy's potential for allocating its limited or scarce resources for producing various combinations of goods in a given time period. Choice and trade-offs are factors.</p> <p>An example involving food and shelter. Show the concave production possibilities curve.</p>

<p><b>PowerPoint Slide 37</b> Exhibit 2.1</p>	<p><i>Ex. 2.1 – Production Possibilities Curve: The Trade-Off between Food and Shelter</i></p>
<p><b>PowerPoint Slides 38–39</b> Off the Production Possibilities Curve</p>	<p>During a given time period, there are not enough resources to produce beyond the production possibilities curve. An economy is not using all its scarce resources efficiently if it is operating inside its production possibilities curve.</p>
<p><b>PowerPoint Slides 41–42</b> Using Resources Efficiently</p>	<p>B. Using Resources Efficiently</p> <p>Most modern economies have resources that are idle at least some of the time. Unemployed resources create a serious problem whether they are labor or other resources, such as capital or land. However, social concern focuses on labor.</p>
<p><b>PowerPoint Slides 43–45</b> Efficiency</p>	<p>C. Inefficiency and Efficiency</p> <p>Efficiency means getting the most we can out of our scarce resources. No waste. Points along the production possibilities curve depict efficiency. Efficiency, however, does not tell which single point along the curve is <i>best</i>.</p>
<p><b>PowerPoint Slide 46</b> The Law of Increasing Opportunity Cost</p>	<p>D. The Law of Increasing Opportunity Cost</p> <p>The production possibilities is concave from below (bowed outward from the origin) because of <b>increasing opportunity cost</b>. The opportunity cost of producing additional units of a good rises as society produces more of that good.</p>
<p><b>PowerPoint Slide 47</b> Exhibit 2.2</p>	<p><i>Ex. 2.2 – Increasing Opportunity Cost and the Production Possibilities Curve</i></p>
<p><b>PowerPoint Slide 48</b> The Law of Increasing Opportunity Cost</p>	<p>Some resources cannot be easily adapted from their current uses to alternative uses. Increased production of one good forces you to employ inputs that are relatively more suitable for producing other goods.</p>
<p><b>PowerPoint Slide 49</b> Generating Economic Growth</p>	<p>E. Generating Economic Growth</p> <p>An economy can grow only with qualitative or quantitative changes in the factors of production: land, labor, capital, and entrepreneurship.</p>
<p><b>PowerPoint Slide 50</b> Generating Economic Growth</p>	<p>Economic growth is represented by an outward shift of the production possibilities curve. More of both goods are now possible.</p>
<p><b>PowerPoint Slide 51</b> Exhibit 2.3</p>	<p><i>Ex. 2.3 – Economic Growth and Production Possibilities</i></p>
<p><b>PowerPoint Slide 52</b> Growth Does Not Eliminate Scarcity</p>	<p>F. Growth Does Not Eliminate Scarcity</p> <p>Even when output grows more rapidly than population, people will still face trade-offs. It is always true that at any point along the production possibilities curve in order to get more of one thing, you must give up something else.</p>
<p><b>PowerPoint Slides 53–54</b> Capital Goods and</p>	<p>To generate economic growth, a society must produce fewer consumer goods and more capital goods in the present. Investment in capital goods increases the production capacity of the economy.</p>

<p>Consumer Goods</p> <p><b>PowerPoint Slide 55</b> Exhibit 2.4</p> <p><b>PowerPoint Slide 56</b> The Production Possibilities Curve: Technological Change</p> <p><b>PowerPoint Slide 57</b> Exhibit 2.5</p> <p><b>PowerPoint Slide 58</b> The Production Possibilities Curve: Summary</p> <p><b>PowerPoint Slide 59</b> Exhibit 2.6</p> <p><b>PowerPoint Slide 60</b></p>	<p><i>Ex. 2.4 – Economic Growth and the Production Possibilities Curve</i></p> <p>G. The Effects of a Technological Change on the Production Possibilities Curve</p> <p>Technological advance does not have to impact all sectors of the economy equally. It is possible for the production possibilities to shift out farther on one axis than the other.</p> <p><i>Ex. 2.5 – The Effects of a Technological Change on the Production Possibilities Curve</i></p> <p>H. Summing Up the Production Possibilities Curve</p> <p>Technological advance in agriculture allows us to shift some of resources to housing. Use Exhibit 2.6 to remind students about points inside the production possibilities curve (<i>A</i>) and beyond the curve (<i>D</i>). Describe how a move from point <i>B</i> to point <i>C</i> represents an opportunity cost. Economic growth can make point <i>D</i> attainable.</p> <p><i>Ex. 2.6 – Production Possibilities Curve</i></p> <p>Section Check 4</p>
<p><b>PowerPoint Slides 61-62</b></p>	<p><b>2-4 – Economic Systems</b></p>
<p><b>PowerPoint Slide 63</b> The Three Fundamental Economic Questions</p> <p><b>PowerPoint Slide 64</b> Consumer Sovereignty</p> <p><b>PowerPoint Slides 65–67</b> Types of Economic Systems</p> <p><b>PowerPoint Slides 68–69</b> How Will the Goods and Services Be Produced?</p> <p><b>PowerPoint Slide 70</b> What Is the Best Form of Production?</p>	<p>A. Scarcity and the Allocation of Resources</p> <ol style="list-style-type: none"> <li>1. What is to be produced?</li> <li>2. How are these goods to be produced?</li> <li>3. For whom are the goods produced?</li> </ol> <p>B. What Goods and Services Will Be Produced?</p> <p><b>Consumer sovereignty</b> means that consumers vote with their dollars in a market economy; this accounts for what is produced.</p> <p>In a <b>command economy</b>, the government uses central planning to coordinate most economic activities. A <b>market economy</b> allocates goods and services through the private decisions of consumers, input suppliers, and firms. In a <b>mixed economy</b>, government and the private sector determine the allocation of resources.</p> <p>C. How Will the Goods and Services Be Produced?</p> <p>Because of scarcity, economies of all types must decide how to produce the goods and services they want. The least-cost method is best.</p> <p>Use production processes that conserve your relatively scarce resources and use more of your relatively abundant resources.</p>



<b>PowerPoint Slide 71</b> Methods of Production	<b>Labor intensive</b> production uses a large amount of labor. <b>Capital intensive</b> production uses a large amount of capital.
<b>PowerPoint Slides 72–73</b> Who Will Get the Goods and Services Produced?	D. Who Will Get the Goods and Services Produced?  Why do some people get to consume far more goods and services than others? In a market economy, the amount of output one is able to obtain depends on one's income, which in turn depends on the quantity and quality of the scarce resources that the individual controls.
<b>PowerPoint Slide 74</b> Who Will Get the Goods and Services Produced: Example	<i>Castaway's</i> Chuck Noland uses his entrepreneurial talents to answer the <i>what</i> , <i>how</i> , and <i>for whom</i> questions.
<b>PowerPoint Slide 75</b>	Section Check 5

## Key Terms

<b>capital intensive</b>	<b>labor intensive</b>	<b>opportunity cost</b>
<b>command economy</b>	<b>marginal thinking</b>	<b>production possibilities curve</b>
<b>comparative advantage</b>	<b>market economy</b>	<b>rule of rational choice</b>
<b>consumer sovereignty</b>	<b>mixed economy</b>	<b>specializing</b>
<b>increasing opportunity cost</b>	<b>net benefit</b>	

## Key Formulas

The Student Review Card Deck has a card devoted to the key economic formulas covered in this text. There are no key formulas in Chapter 2.

**You can use the following videos to supplement the discussion of topics discussed in this chapter. You can find them at [www.cengagebrain.com](http://www.cengagebrain.com). At the home page, search for the ISBN of your title (from the back cover of your book) using the search box at the top of the page. This will take you to the product page where the videos can be found.**

## Videos

### **BBC Videos**

1. *Offshoring jobs – is this your future?* – Something to think about as you watch the video: Why do American businesses move to other countries? How can you prepare for the possibility that some day your job will be offshored?

### **Ask the Instructor Videos**

1. *Why is economics difficult for a lot of students?* – Many students find college economics somewhat difficult. This is due to several factors such as poor

study skills and failure to learn the jargon of economists. Frequent use of graphs and simple equations to express relationships among economic variables may be another reason.

2. *Why do economists emphasize marginal analysis?* – Economists place a lot of emphasis on marginal analysis because most decisions that you and I make are incremental in nature. For example, in most instances we don't debate whether to work full time or not work at all. Rather, we are much more likely to choose between working a bit more or a bit less. In other words, our choices involve incremental, or small, changes.
3. *How important is the rate of economic growth to you?* – A small change in the rate of growth can have a major impact on peoples' standard of living if the change persists over many years. Robust growth has a positive effect on wages and output in the future.

### **Graphing Workshop**

1. *Production Possibilities* – In this tutorial, we will learn about an economic model called the production possibilities frontier. Individuals and business firms use resources to produce different kinds of products and services. We will investigate what different combinations of goods the economy can produce.

**You can use the Self-Review as a check of student learning. If students cannot answer questions for a section, plan to reteach that content.**

## Chapter 2 – Self-Review: Questions and Answers

You can find the following quiz on page 45 at the end of Chapter 2. Students can find answers to this quiz online at [www.cengagebrain.com](http://www.cengagebrain.com).

### **2-1–Choices, Costs, and Trade-Offs**

#### **1. Why does scarcity force us to make choices?**

Scarcity—the fact that our wants exceed what our resources can produce—means that we are forced to make choices on how best to use these limited resources.

#### **2. The price of a one-way bus trip from Los Angeles to New York City is \$150. Sarah, a school teacher, pays the same price in February (during the school year) as in July (during her vacation), so the cost is the same in February as in July. Do you agree?**

Because Sarah's time is probably worth more during school (it would cost part of her salary), the opportunity cost of the trip is higher in February than in July.

#### **3. McDonald's once ran a promotion that whenever St. Louis Cardinals slugger Mark McGwire hit a home run into the upper deck at Busch Stadium, McDonald's gave anyone with a ticket to that day's game a free Big Mac. If holders of ticket stubs have to stand in line for 10 minutes, is the Big Mac really "free"?**

No. First of all, McDonald's uses scarce resources to produce the burger, so it's not "free" to them. Secondly, if people value their time at all, ten minutes standing in line to get the burger carries an opportunity cost equal to the value of whatever else they

could have done with the ten minutes. Also included is the opportunity cost of driving to McDonald's to get the "free" Big Mac.

## 2-2–Marginal Thinking

### 4. Which of the following activities require marginal thinking? Why?

- a. studying
- b. eating
- c. driving
- d. shopping
- e. getting ready for a night out

Marginal thinking involves incremental changes to a plan of action. All of the activities listed involve marginal thinking. When studying, one chooses whether or not to study for one more hour; when eating, one chooses whether or not to consume one more portion; when driving, one chooses whether or not to travel one more mile (or one more mile per hour); when shopping, one chooses whether or not to buy one more item or visit one more store; when getting ready for a night out, one chooses whether or not to spend another minute styling one's hair.

### 5. How could the rule of rational choice be expressed in terms of net benefits?

Because net benefits are expected to be positive when expected marginal benefits exceed expected marginal cost to the decision maker, the rule of rational choice could be restated as: People will make choices for which net benefits are expected to be positive.

## 2-3–Specialization and Trade

### 6. Farmer Fran can grow soybeans and corn. She can grow 50 bushels of soybeans or 100 bushels of corn on an acre of her land for the same cost. The price of soybeans is \$1.50 per bushel and the price of corn is \$0.60 per bushel. Show the benefits to Fran of specialization. What should she specialize in?

The opportunity cost of growing soybeans is the lost value because Fran can't grow corn worth \$60. The opportunity cost of growing corn on her land is the lost opportunity to grow and sell soybeans, which equals \$75. Fran should specialize in soybeans, which is the crop with the lowest opportunity cost. For each acre of corn Fran converts to soybeans, she will gain \$15.

### 7. True or False: Autarky, a government policy under which countries choose not to trade with other countries, is the best way for an emerging nation to grow.

False. Trade increases wealth by allowing a nation to specialize in those products that it produces at a lower opportunity cost and to trade them for products that others produce at a lower opportunity cost.

## 2-4–The Production Possibilities of an Economy

### 8. True or False: Economy A produces more capital goods and fewer consumer goods than Economy B; therefore, Economy A will grow more rapidly than Economy B.

True. Economies that choose to invest more of their resources for the future will grow faster than those that don't.

**9. How does the production possibilities curve illustrate increasing opportunity costs?**

Increasing opportunity costs are illustrated by a bowed (concave from below) production possibilities curve. It shows that initial units of one good can be produced by giving up little of another good, but progressive increases in output will require greater and greater sacrifices of the other good.

**10. If people reduced their savings (thus reducing the funds available for investment), what would that change do to the society's production possibilities curve over time?**

The less people save, the slower the capital stock of the economy will grow through new investment (because saving is the source of the funds for investment), and so the slower the production possibilities curve would shift out over time.

## **2-5–Economic Systems**

**11. What are the three basic economic questions?**

The three basic economic questions are: What is to be produced? How are these goods to be produced? For whom are the goods produced? Scarcity requires that these questions be addressed in some way by every economy.

**12. Why do consumers have to “vote” for a product with their dollars for it to become a success?**

In the market sector, products can be profitable only if they attract dollar votes from consumers.

**You can use the following questions and exercises to work with students as part of your in-class discussion. You might also use them as an in-class quiz or give them to students as an independent homework assignment.**

### Class Exercises

1. List the opportunity costs of the following:
  - a. going to college
  - b. missing a lecture
  - c. withdrawing and spending \$100 from your savings account, which earns 5 percent interest annually
  - d. going snowboarding on the weekend before final examinations

**Answer: The opportunity cost of an activity is always the value of the best alternative given up.**

- a. **The opportunity cost of going to college includes not just expenses such as tuition and books, but also the lost income that could have been earned while attending college. On the other hand, room and board expenses should not be included in the calculation of opportunity cost, if those expenses are equivalent to that which would be incurred in the best foregone alternative to attending college.**
- b. **The opportunity cost of missing a lecture includes the potential damage to one's grade in a course from not being present while important subject**

**material is covered, as well as the knowledge's foregone value in the "real world." The magnitude of the opportunity cost depends partly on how much essential information the instructor provides during the missed class session.**

- c. The opportunity cost of withdrawing and spending \$100 from your savings account is the 5 percent interest that could have been earned annually if the funds remained in the savings account.**
  - d. The opportunity cost of going snowboarding on the weekend before final examinations is likely to include the value of lost study time and possibly a lower course grade, as well as the explicit costs of the snowboarding trip and the financial costs.**
2. Should you go to the movies this Friday? List the factors that affect the possible benefits and costs of this decision. Explain where uncertainty affects the benefits and costs.

**Answer: The benefits of going to the movie include the happiness you receive from being entertained and the social interaction with friends. These are uncertain because they depend on the quality of the movie and your companionship. Costs include the price of the movie ticket and the value to you of the time you give up to go to the movie. Uncertainty also affects your costs since you do not know for certain what you would get out of your alternative use of your time.**

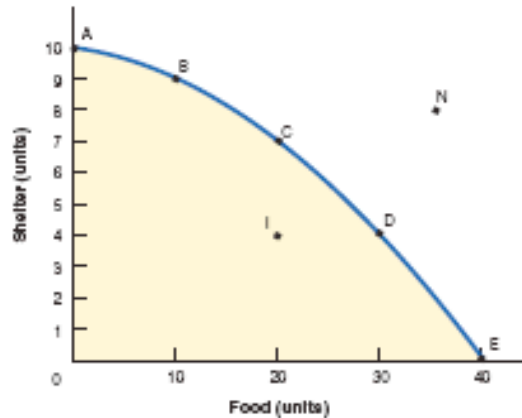
3. Which region has a comparative advantage in the following goods:
- a. wheat: Colombia or the United States?
  - b. coffee: Colombia or the United States?
  - c. timber: Iowa or Washington?
  - d. corn: Iowa or Washington?

**Answers:**

- a. The United States has a comparative advantage in wheat production.**
- b. Columbia has a comparative advantage in coffee production.**
- c. Washington, with its many acres of forests, has a comparative advantage in timber.**
- d. Iowa, with its many acres of fertile soil, has a comparative advantage in corn production.**

**In each case, the area with the lowest opportunity cost of producing a particular good had the comparative advantage in producing it.**

4. Given the following production possibilities curve:



- Does this production possibilities curve show increasing opportunity costs? Explain.
- What is the opportunity cost of moving from point I to point D? Explain.
- What is the opportunity cost of moving from point C to point B?
- Which of points A–E is the most efficient? Explain.

**Answers:**

- Yes; the bowed-outward shape of the production possibilities curve indicates increasing opportunity costs.**
  - Zero; because point I is inside the production possibilities curve, moving from point I to point D means that the output of food can increase with no decrease in the output of shelter.**
  - 10 units of food.**
  - All of the points on the production possibilities curve are efficient, because at any of those points more of one good could be produced only by sacrificing some output of the other good. However, the curve does not tell us which of those points is best from the perspective of society.**
5. Recently the American Film Institute selected *Citizen Kane* as the best movie of all time. *Citizen Kane* is a fictional psychological biography of one of the most powerful newspaper publishers in history, William Randolph Hearst. *Titanic*, an epic romance about the sinking of the Titanic, has made the most money of any film in history. Unlike *Titanic*, *Citizen Kane* was not a box office success. Do you think Hollywood will make more movies like *Titanic* or like *Citizen Kane*? Why?

**Answer: Hollywood will probably make more movies like *Titanic* because of consumer sovereignty. Consumers, “voting” with their dollars have shown they want movies like *Titanic*. Because movie studios are in business to make money, not simply movies, they will produce what consumers want, not what the critics like.**