

## 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. Net benefits 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 A Society's Three Basic Economic Questions

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 his or her income.

**Use the Teaching Tips to plan what key concepts you wish to emphasize.**

### 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.
- The opportunity cost of going to college example is one which students can relate to. It is important to emphasize that getting a job is not the only possible alternative to going to college; but when calculating opportunity costs, we look at the value of the best alternative forgone.
- 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 the 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).
- Students love to hear that there is such a thing as too much studying, and using the rule of rational choice, they can identify expected marginal benefits and costs of one more hour of studying.
- 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 trade 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. Or you can ask your students how their life would be if they had to be self-sufficient, producing their own food and clothing. In what other activities would they be able to partake?
- 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 they did it were unimportant (as is typical in most market purchases of goods and services), then purchasing a paper would be fine.

- 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.
- 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.

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

## Chapter Outline

<b>PowerPoint Slides 3</b>	<b>2-1 Choices, Costs, and Trade-Offs</b>
<b>PowerPoint Slide 3</b> Choices	A. Scarcity Forces Us to Choose  We all face scarcity, and as a consequence, we must make choices.
<b>PowerPoint Slide 3</b> Choices	B. Trade-Off  In a world of scarcity, we all face trade-offs, and when we make a choice we choose from alternatives. This requires that we choose one thing that we value over another thing that we also value, and we face a trade-off.
<b>PowerPoint Slide 3</b> Opportunity Cost	C. To Choose Is to Lose  Every choice involves a cost. <b>Opportunity cost</b> is the value of the forgone alternative that was not chosen.
<b>PowerPoint Slide 3</b> Opportunity Cost: Money Price	To get more of any desirable thing, you must accept less of something else that you also value.  The money cost is what you pay for the items that you buy. It is an opportunity cost.
<b>PowerPoint Slide 4</b> Opportunity Cost: Example	Non-price costs are additional opportunity costs.  Going to college illustrates opportunity cost.
<b>PowerPoint Slide 5</b> Does a Free Lunch Exist?	D. Is That Really a Free Lunch, a Freeway, or a Free Beach?  "There is no such thing as a free lunch." 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.  Just because the monetary price is zero does not mean that the good or service is free.
<b>PowerPoint Slide 6</b>	<b>2-2 Marginal Thinking</b>
<b>PowerPoint Slide 6</b> Marginal Thinking	A. Do People Engage In Rational Decision Making?  <b>Rational decision making</b> is the assumption that people do the best they can, based on their values and information, under current and anticipated future circumstances.
<b>PowerPoint Slide 6</b> Marginal Thinking:	B. Many Choices We Face Involve Marginal Thinking

<p>Example</p> <p><b>PowerPoint Slide 7</b> Marginal Thinking: The Rule of Rational Choice</p> <p><b>PowerPoint Slide 7</b> Marginal Thinking: Net Benefits</p> <p><b>PowerPoint Slide 9</b> Marginal Thinking: Pollution Example</p> <p><b>PowerPoint Slide 10</b> Marginal Thinking: Safety Example</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>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 expected marginal costs to evaluate pollution levels. 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><b>PowerPoint Slide 11</b></p>	<p><b>2-3 Specialization and Trade</b></p>
<p><b>PowerPoint Slide 11</b> Specialization</p> <p><b>PowerPoint Slide 12</b> Comparative Advantage</p> <p><b>PowerPoint Slide 13</b> We All Specialize</p> <p><b>PowerPoint Slide 14</b> Advantages of Specialization</p> <p><b>PowerPoint Slides 15–16</b> Specialization and Trade</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 <b>specialize</b> 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 of specialization in the workplace: 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>Trade, or voluntary exchange, directly increases wealth by making both parties better off, otherwise they wouldn't trade. The prospect of wealth-increasing exchange leads to productive specialization. For example, if the United States is better at producing wheat, and Brazil is better at producing coffee, the two countries trade these goods with each other, and the standard of living of their citizens increases.</p>

<b>PowerPoint Slides 17</b>	<b>2-4 The Production Possibilities of an Economy</b>
<b>PowerPoint Slide 17</b> The Production Possibilities Curve	A. The Production Possibilities Curve  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.
<b>PowerPoint Slide 18</b> The Production Possibilities Curve: Food and Shelter	An example involving food and housing. Show the concave production possibilities curve.
<b>PowerPoint Slide 18</b> Exhibit 2.1	<i>Ex. 2.1 – Production Possibilities Curve: The Trade-Off between Food and Housing</i>
<b>PowerPoint Slide 19</b> Off the Production Possibilities Curve	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.
<b>PowerPoint Slide 20</b> Using Resources Efficiently	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.
<b>PowerPoint Slides 20</b> Efficiency	B. Inefficiency and Efficiency  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> .
<b>PowerPoint Slide 21</b> The Law of Increasing Opportunity Cost	C. The Law of Increasing Opportunity Cost  The production possibilities curve 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.
<b>PowerPoint Slide 22</b> Exhibit 2.2	<i>Ex. 2.2 – Increasing Opportunity Cost and the Production Possibilities Curve</i>
<b>PowerPoint Slide 22</b> The Law of Increasing Opportunity Cost	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.
<b>PowerPoint Slide 23</b> Generating Economic Growth	D. Generating Economic Growth  An economy can grow only with qualitative or quantitative changes in the factors of production: land, labor, capital, and entrepreneurship.
<b>PowerPoint Slide 23</b>	Economic growth is represented by an outward shift of the production

<p>Generating Economic Growth <b>PowerPoint Slide 24</b> Exhibit 2.3</p> <p><b>PowerPoint Slide 25</b> Growth Does Not Eliminate Scarcity</p> <p><b>PowerPoint Slides 25-26</b> Capital Goods and Consumer Goods</p> <p><b>PowerPoint Slide 27</b> Exhibit 2.4</p> <p><b>PowerPoint Slide 28</b> The Production Possibilities Curve: Technological Change</p> <p><b>PowerPoint Slide 29</b> Exhibit 2.5</p>	<p>possibilities curve. More of both goods are now possible. <i>Ex. 2.3 – Economic Growth and Production Possibilities</i></p> <p>E. 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>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><i>Ex. 2.4 – Economic Growth and Catching Up</i></p> <p>F. 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 curve 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><b>PowerPoint Slide 30</b></p>	<p><b>2-5 A Society's Three Basic Economic Questions</b></p>
<p><b>PowerPoint Slide 30</b> The Three Fundamental Economic Questions</p> <p><b>PowerPoint Slide 31</b> Consumer Sovereignty</p> <p><b>PowerPoint Slides 32–33</b> Types of Economic Systems</p> <p><b>PowerPoint Slide 34</b> How Will the Goods and Services Be Produced?</p> <p><b>PowerPoint Slide 35</b> What Is the Best Form of Production?</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>A. 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>B. 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>



<p><b>PowerPoint Slide 35</b> Methods of Production</p>	<p><b>Labor intensive</b> production uses a large amount of labor. <b>Capital intensive</b> production uses a large amount of capital.</p>
<p><b>PowerPoint Slides 36–37</b> Who Will Get the Goods and Services Produced?</p>	<p>C. Who Will Get the Goods and Services Produced?</p> <p>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.</p>

## 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 benefits</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.

## 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 foregone value of knowledge 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 movies 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.**

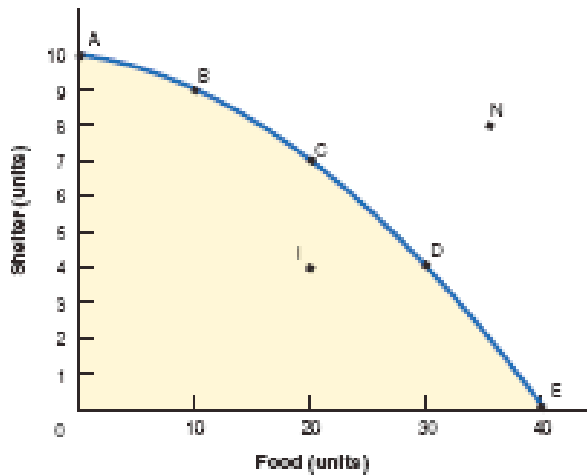
3. Which region has a comparative advantage in the following goods:
- a. wheat: Colombia or the United States?
  - b. coffee: Colombia or the United States?
  - c. timber: Iowa or Washington?
  - d. corn: Iowa or Washington?

**Answers:**

- a. The United States has a comparative advantage in wheat production. Colombia doesn't have the required climate for growing wheat, and artificially replicating it would be prohibitively expensive.**
- b. Colombia has a comparative advantage in coffee production. The U.S. doesn't have the required climate for growing coffee, and artificially replicating it would be prohibitively expensive.**
- 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 has 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. As more units of food are being produced, incrementally higher units of shelter have to be given up.**
  - 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. Point I represented an inefficient use of resources, whereas at point D, all resources are used fully and efficiently.**
  - 10 units of food. From C to B, we calculate the opportunity cost of increasing shelter production from 7 to 9.**
  - 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.**

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# 2

## The Economic Way of Thinking



NOW WITH ECON ONLINE

# LEARNING OUTCOMES

- 1 Define opportunity cost
- 2 Explain marginal thinking
- 3 Describe why specialization and trade are so important to economic growth
- 4 Explain the production possibilities curve
- 5 Recite society's three economic questions

# Choices, Costs, and Trade-Offs

- In a world of scarcity:
  - *Choices must be made*
  - *Trade-offs are faced*
- Trade-off
  - *Giving up one thing to get something else*
- **Opportunity cost**
  - *Value of the best forgone alternative that was not chosen*
  - *Highest-valued opportunity lost*
  - *Consists of money cost and non-money cost*

# Choices, Costs, and Trade-Offs (continued 1)

- Opportunity cost of going to college
  - *Money costs - Direct expenses of tuition and books*
  - *Non-money costs - The opportunity cost of your time*
  - *Room and board*
    - Required to pay room and board whether attending college or not



# Choices, Costs, and Trade-Offs (continued 2)

- “There’s no such thing as a free lunch”
  - *Might be free with a zero money price*
  - *Might not be free from society’s perspective*
    - Use of scarce resources that could have been used for something else
  - *Freeways, free beaches, and free libraries:*
    - Do not directly cost consumers money
    - Are scarce

# Marginal Thinking

- **Rational decision making**
  - *People do the best they can, based on their values and information, under current and anticipated future circumstances*
- **Marginal thinking**
  - *Focusing on the additional, or marginal, choices*
    - Marginal choices
      - ▶ Small or large incremental changes to a plan of action

# Marginal Thinking (continued 1)

- **Rule of rational choice**  $E(\text{MB}) > E(\text{MC})$ 
  - *Individuals will pursue an activity*
    - If the expected marginal benefits are greater than the expected marginal costs
  - *People are assumed to engage only in behavior that they think will make them better off*
- **Net benefits**
  - *Difference between expected marginal benefits and expected marginal costs*

# Marginal Thinking (continued 2)



How might the net benefits of waking up on time change between a normal day of class and the day of your final exam?

# Marginal Thinking (continued 3)

- Optimal levels of pollution
  - *Greater than zero*
  - *Expected marginal benefits of a cleaner environment is weighed against the expected marginal costs of a cleaner environment*
  - *Zero pollution levels would be too costly*

# Marginal Thinking (continued 4)

- Optimal levels of safety
  - *Greater than zero*
  - *Amount of safety required is weighed against the amount of risk people are willing to take*
  - *Additional safety would be too costly*

# Why Do People Specialize?

- Specializing
  - *Concentration on the production of one or a few goods*
  - *Allows people to make the best use of limited resources*
  - *Occurs if a country or a person has a comparative advantage in the production of a good or service*

# Why Do People Specialize? (continued)

- Comparative advantage
  - *Occurs when a person or a country can produce a good or service at a lower opportunity cost than others*



# We All Specialize

- Specialization is evident among:
  - *Individuals*
  - *Regions*
  - *Countries*
- Examples of regional specialization within the U.S.
  - *Midwest with its wheat*
  - *Coastal waters of the Northeast with its fishing fleets*
  - *Northwest with its timber*

# The Advantages of Specialization

- Employees
  - *Acquire greater skill from repetition*
  - *Avoid wasted time in shifting from one task to another*
  - *Do the types of work for which they are best suited*
- Specialization promotes the use of specialized equipment for specialized tasks

# Specialization and Trade Lead to Greater Wealth and Prosperity

- Specialization and trade
  - *Increases wealth by making both parties better off*
  - *Frees up time and resources to do other things that we do better*
  - *Increases standards of living*
  - *Gains greater variety of goods and services at a lower cost*
  - *Leads to greater prosperity*

# Specialization and Trade



Bangladesh exports low-cost garments to mass-market retailers like Walmart. U.S. workers are a lot more productive in building airplanes and a little more productive in producing clothes than Bangladeshi workers. That is, the United States has an absolute advantage; they can produce planes and clothes using fewer resources than Bangladesh. However, if the two countries divide the work according to comparative advantage, then the U.S. workers would specialize in the tasks at which they are most productive, airplanes. And the Bangladeshi workers would concentrate on the tasks where their productivity is only slightly less, clothing. That is, the United States would have a comparative disadvantage in producing clothes.

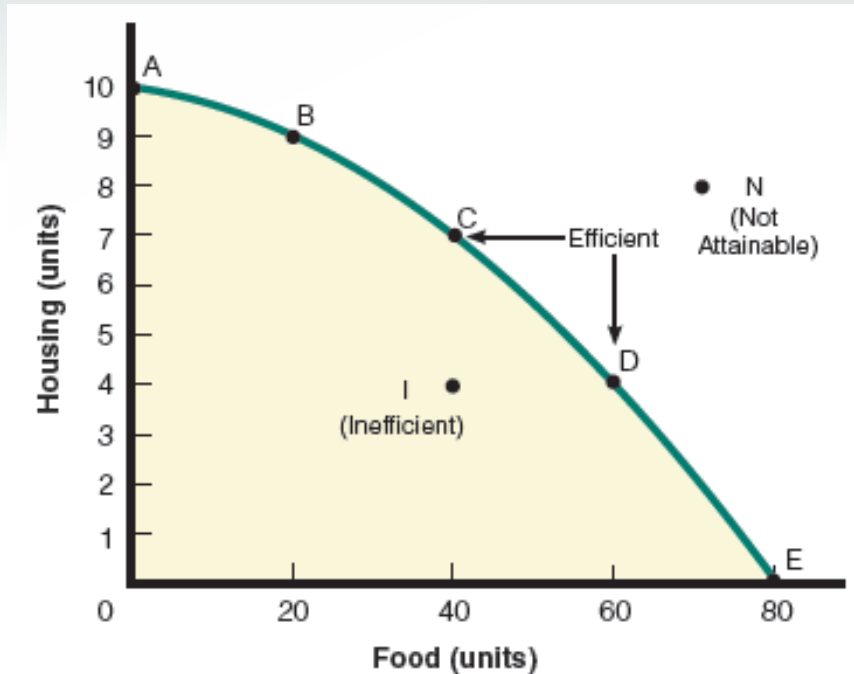
# The Production Possibilities of An Economy

- **Production possibilities curve:** Potential total output combinations of any two goods for an economy, given the inputs and technology available to the economy in a given time period

## Exhibit 2.1

# Production Possibilities Curve: The Trade-Off between Food and Housing

Combinations	Housing (units)	Food (units)
A	10	0
B	9	20
C	7	40
D	4	60
E	0	80



Each point on the production possibilities curve represents the potential amounts of food and housing that can be produced in a given period, with a given quantity and Quality of resources in the economy to use for production. All the points on the production possibilities curve are efficient. Any point in the shaded area, such as point I, is inefficient. Any point outside the production possibilities curve, such as point N, is not presently attainable.

# The Production Possibilities of An Economy

(continued 1)

- *Point on the production possibilities curve implies efficient production*
- *Point inside the production possibilities curve implies inefficient production*
- *Point outside the production possibilities curve is not attainable during a given period*

# The Production Possibilities of An Economy

(continued 2)

- Efficiency
  - *Requires society to use resources to the fullest extent*
    - Getting the most from our scarce resources and wasting none
  - *Does not tell us which point along the production possibilities curve is best*
  - *If resources are used efficiently, more of one good or service requires the sacrifice of another good or service*



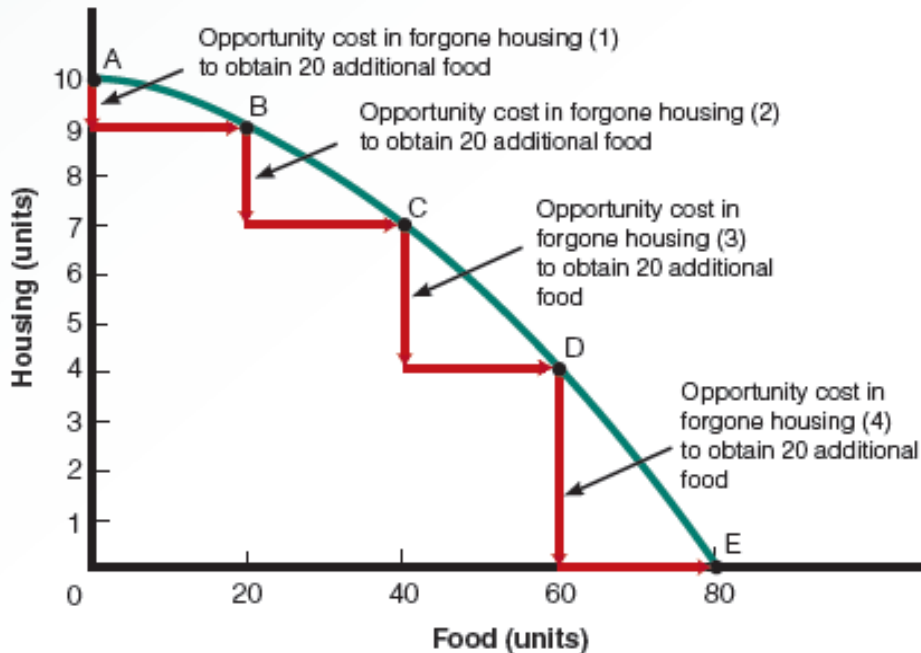
# The Production Possibilities of An Economy

(continued 3)

- *Production possibilities curve bowed outward from the origin*
- *Bowed production possibilities curve implies*
  - **Increasing opportunity cost**
    - ▶ Opportunity cost of producing additional units of a good rises as society produces more of that good
    - ▶ Reason for increasing opportunity cost - Some resources and skills cannot be easily adapted from their current uses to alternative uses

## Exhibit 2.2

# Increasing Opportunity Cost and the Production Possibilities Curve



The production possibilities curve also illustrates the opportunity cost of producing more of a given product. For example, if we are to increase food output from 40 units to 60 units (moving from point C to point D), we must produce 3 fewer units of housing. The opportunity cost of those 20 additional units of food is the 3 units of housing we must forgo. We can see that, moving down the curve from A to E, each additional 20 units of food costs society more and more housing—the law of increasing opportunity cost

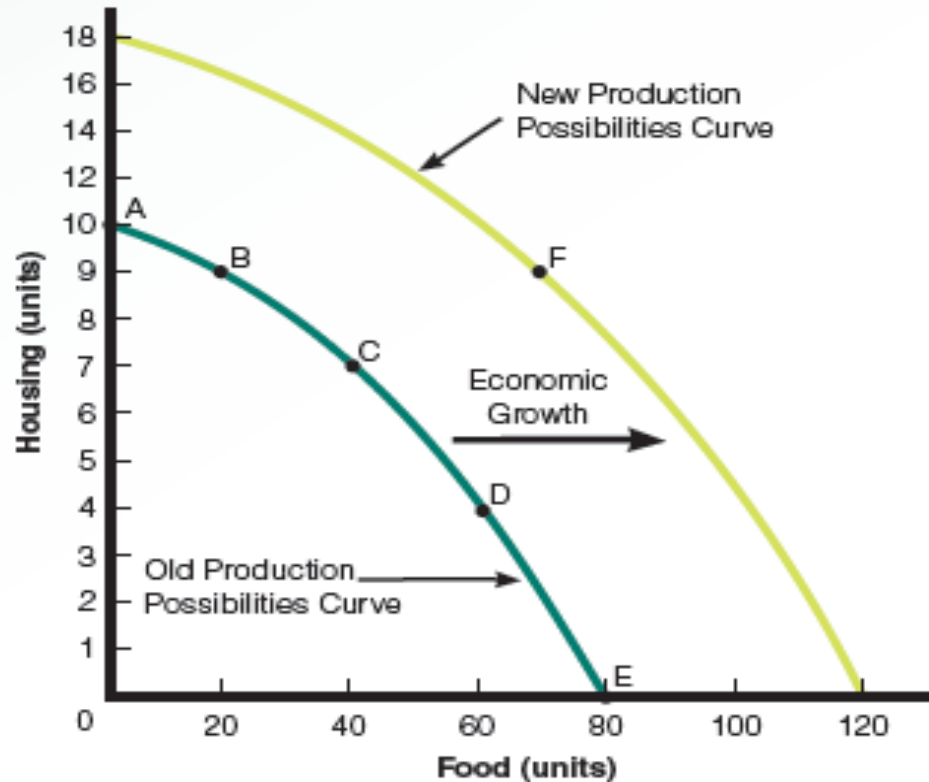
# The Production Possibilities of An Economy

(continued 4)

- Economic growth
  - *Represented by an outward shift of the production possibilities curve*
  - *Occurs only with increased qualitative or quantitative changes in the factors of production*
    - Advancement in technology
    - Improvements in labor productivity
    - New sources of natural resources

## Exhibit 2.3

# Economic Growth and Production Possibilities



Economic growth shifts the production possibilities curve outward, allowing increased output of both food and housing (compare point F with point C).

# The Production Possibilities of An Economy

(continued 5)

- When output grows more rapidly than population, people are better off
  - *But they still face trade-offs*
- Greater economic growth
  - *Increases the future production capacity of the economy*
    - Economy that invests more and consumes less now will be able to produce and consume more in the future

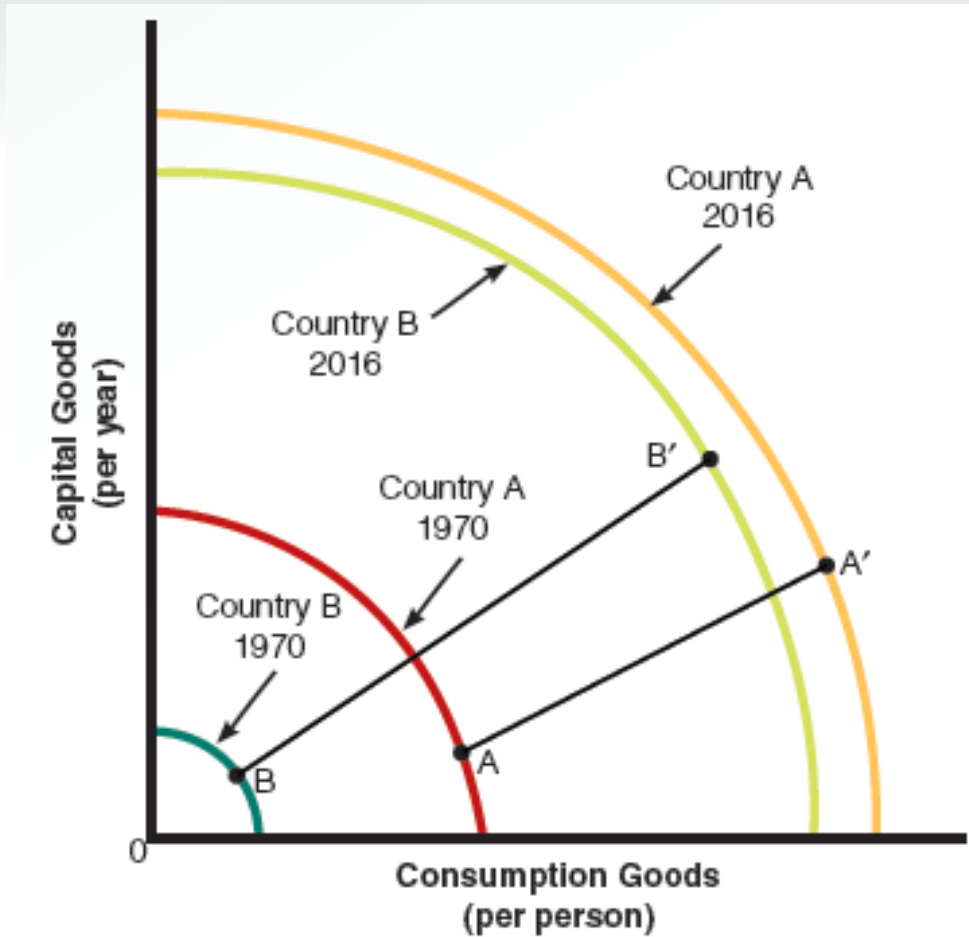
# The Production Possibilities of An Economy

(continued 6)

- Developing countries
  - *Can catch up to developed countries*
  - *By using more of their resources to accumulate capital*

# Exhibit 2.4

## Economic Growth and Catching Up



Because Economy B invests relatively more in capital goods than does Economy A, Economy B will experience greater economic growth.

# The Production Possibilities of An Economy

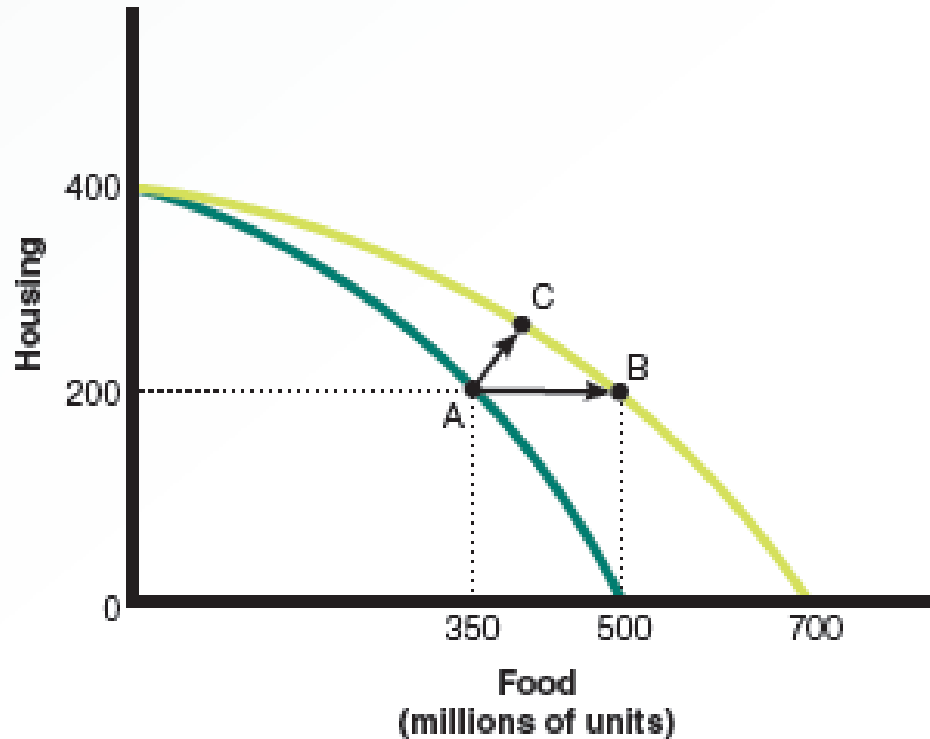
(continued 7)

- Technological advance
  - *Does not have to impact all sectors of the economy equally*
    - In agriculture, causes the production possibilities curve to extend out further on the horizontal axis measuring food production



## Exhibit 2.5

# The Effects of a Technological Change on the Production Possibilities Curve



A move from point A to point C will lead to more housing and food. A move from point A to point B will lead to more food and the same level of housing.

# A Society's Three Basic Economic Questions

- What goods and services will be produced?
- How will the goods and services be produced?
- Who will get the goods and services produced?

# A Society's Three Basic Economic Questions

(continued 1)

- What goods and services will be produced?
- Consumers, firms, and governments make choices
  - *Each one of those decisions has an opportunity cost*
  - *In a market economy, consumers vote in economic affairs with their dollars*
  - **Consumer sovereignty:** *Explains how individual consumers in market economies determine what is to be produced*

# A Society's Three Basic Economic Questions

(continued 2)

- How different types of economic systems answer “What goods and services will be produced?”
  - ***Command economy***
    - Government uses central planning to coordinate most economic activities

# A Society's Three Basic Economic Questions

(continued 3)

- ***Market economy***
  - Allocates goods and services through the private decisions of consumers, input suppliers, and firms
- ***Mixed economy***
  - Government and the private sector determine the allocation of resources

# A Society's Three Basic Economic Questions

(continued 4)

- How will the goods and services be produced?
  - *Trade-off between labor and capital*
  - *Best method - Least cost method*

# A Society's Three Basic Economic Questions

(continued 5)

- *What is the best form of production?*
  - One that conserves the relatively scarce or more costly resources and uses more of the abundant or less costly resources
    - ▶ When capital is relatively scarce and labor plentiful, production tends to be labor intensive
      - » Production that uses a large amount of labor
    - ▶ When capital is abundant and labor scarce, production tends to be capital intensive
      - » Production that uses a large amount of capital

# A Society's Three Basic Economic Questions

(continued 6)

- Who will get the goods and services produced?
- Distribution mechanism exists to determine how goods and services are to be distributed among the population
- Who gets what?
- Why do some people get to consume or use far more goods and services than others?



# A Society's Three Basic Economic Questions

(continued 7)

- *In a market economy*
  - Distribution of goods and services depends on income
    - ▶ Income depends on:
      - » Quantity and quality of the scarce resources the individual controls
      - » Price others are willing and able to pay for what individuals have to sell
- *Markets reward:*
  - Education, hard work, and training
    - ▶ Education and earnings are positively correlated
  - Unique and marketable skills

# KEY TERMS

- Opportunity cost
- Rational decision making
- Marginal thinking
- Rule of rational choice
- Net benefits
- Specializing
- Comparative advantage
- Production possibilities curve
- Increasing opportunity cost
- Consumer sovereignty
- Command economy
- Market economy
- Mixed economy
- Labor intensive
- Capital intensive

# SUMMARY

- Best foregone opportunity resulting from a decision is called the opportunity cost
- Economists are interested in the effects of additional, or marginal, changes brought about by different choices
- Trade is the prospect of wealth-increasing exchange that leads to productive specialization

# SUMMARY

- Production possibilities curve represents the potential total output combinations of two goods available to a society given its resources and existing technology
- Three fundamental questions are what to produce, how to produce and who will get the goods and services produced

