**Chapter 1: An Introduction to the Economic Way of Thinking**

**Chapter Outline**

1. An Introduction to the Economic Way of Thinking
   1. Microeconomics and Macroeconomics
   2. Why Study Economics?
2. Scarcity and Basic Economic Resources
3. How Do Decision Makers Make Choices?
   1. Decision Makers Compare Benefits and Costs
   2. Decision Makers Maximize
   3. Ceteris Paribus
   4. Decisions Are Made Incrementally or “At the Margin”
   5. Law of Diminishing Marginal Benefits
   6. Law of Increasing Marginal Costs
   7. The Marginal Decision Rule
4. Appendix: Working with Graphs
   1. Constructing Graphs
      1. Obtain Data
      2. Draw and Label Axes
      3. Plot Points
      4. Draw the Curve
   2. Interpreting and Modifying Graphs
      1. Intercepts
      2. Slope
      3. Moving Along a Curve versus Shifting a Curve

**Learning Objectives**

After studying this chapter, students should be able to:

• Define economics

• Explain how scarce resources influence choices

• Describe the influence of benefits and costs on deciding among alternatives

• Identify the decision rules individuals and firms use to make choices

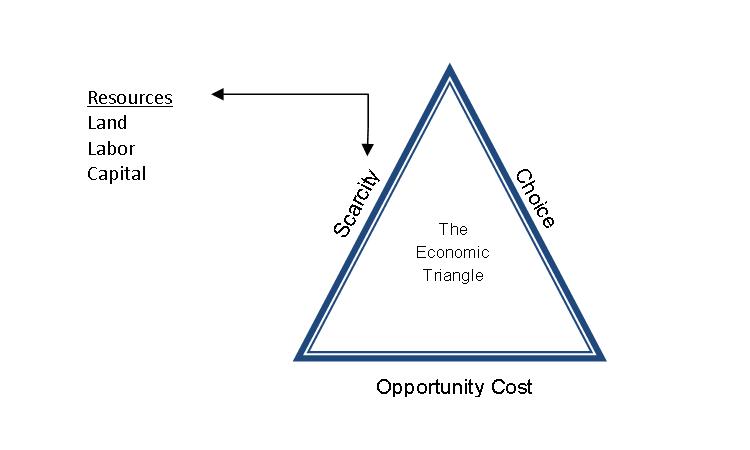
• Explain why decisions are made “at the margin”

• Assess the general conditions that generate maximum utility or profits

**Teaching Notes**

Students in your class are typically taking this class for one reason only, to fulfill a graduation requirement. This first chapter begins an opportunity to provide chapter after chapter of examples and illustrations in their real world of the relevancy of economics. Economics is not a “dismal” science. It is alive and in need of our attention.

Economics exists because of the condition of scarcity. If societies did not have to contend with scarcity there would not be a need to observe behavior. What is scarce? In economics, the fundamental economic problem is that there are scarce resources to fulfill unlimited wants. Choices need to be made as to how to use them and because there are choices, there are costs, or opportunity costs. A triangle can be used to illustrate this concept. Also referred to as the *Fundamental Economic Triangle*, this visual demonstrates the relationship of scarcity of resources, choices made, and the costs of these decisions.



Because our economic resources are *scarce*, limited in quantity ***and*** have alternative uses, choices need to be made to determine the most *efficient* use of the resources. Does society want to use the available resources to build parks or tractors? Parks will provide immediate benefits to individual consumers. However, tractors will allow society to grow more food. Regardless of how society decides to use the scarce resources (more on this Chapter 2) a choice needs to be made. When a choice is made something will be given up, the cost of the decision. In economics, this cost is called an opportunity cost. Have students consider what their opportunity cost for coming to class was. For some it may be lost income, for others it may be foregone sleep. An opportunity cost is the cost of the next best alternative choice.

The *Economic Triangle* also illustrates the concepts of costs and benefits in the decision making process. When a choice is made it is inferred that the option chosen was because some sort of benefit was received relative to the cost. Review activities suggested in *Teaching Tips* for ideas on how to present this concept in class. We make decisions that provide us some benefit considering the cost.

Why the emphasis on the margin? The most control of anything is on the next unit. We have the most control over the next dollar spent, the next hour of time, etc. Margin means *extra*, or *next*, in economics. Therefore economic choices are concerned with the benefits received versus the cost of the next unit consumed or produced. If I consume another cup of coffee what will be the benefits versus the costs for this decision? Decisions are made *at the margin*. Traditional theory on economics behavior tells us that with each additional unit consumed our benefits decrease, or diminishes. For additional units to be consumed the cost will need to decrease. On a hot summer day after mowing the back yard you will be willing and able to purchase and consume a cold beverage to quench your thirst. How able and willing would you be to purchase and consume a second, or a third? How would your decision be affected if the price would decrease for the second beverage and again for the third? This demonstrates the Law of Diminishing Marginal Returns.

An important concept in the decision making process that students tend to stumble over is a sunk cost. A sunk cost is a consequence of a decision that cannot be changed, or recovered. A sunk cost should not be considered as a cost of the decision. For example, you *decide* to spend your afternoon at a movie. You purchase a ticket and settle in with your additional purchases of popcorn and soda. Thirty minutes into the movie you find you find nothing about the movie interesting and decide to leave. You will not get a refund on the ticket, will you? No. This is a sunk cost for your time. If you consider doing something else that afternoon, the movie should not be part of the decision making process.

**Teaching Activities**

1. An exercise to introduce the concepts of scarcity, choice and cost is with a group activity that requires them to make decisions on how to use resources to build something. Adapted from an Army ROTC team building task, the *Tower Building Exercise* is a small group activity that allows student to develop an understanding of the fundamental economic challenge of limited resources and unlimited wants before a formal presentation in class. Approximately 50 minutes will be needed for this exercise. Time can be adjusted to accommodate different class structures.
   1. **Set Up: 6 – 8 minutes** 
      1. Break students into small groups directing them to move any personal items out of the way and clear space in their individual area
      2. Goal is to build the tallest, free-standing tower using given resources only
      3. Give each group a bag of “resources” to be used to build a tower
         1. Review the materials provided in the bag (these material are suggestions and can be adapted/changed as needed)
            1. 1 sheet of legal size paper
            2. 1 foam or paper cup
            3. 1 foam or paper plate
            4. 2 – 5”x7” index cards
            5. 4 – 3”x5” index cards
            6. 1 roll of masking tape
            7. 1 pair of scissors
            8. 1 pencil or marker
            9. 1 pencil
      4. Explain the rules
         1. Everyone must participate
         2. They may only use the items provided
         3. They may manipulate the items in any way desired with the exception of taking apart the scissor
         4. They do NOT have to use all the items
         5. They may NOT adhere the structure to the floor, ceiling, or any other surface
         6. The tower must withstand a slight breeze
      5. Ask questions for clarification
   2. **Execute: Total 20 minutes (5 minutes PLANNING, 15 minutes BUILDING)**
      1. Direct students to begin the PLANNING PHASE.
      2. After 5 minutes, direct students to begin the BUILDING PHASE.
      3. After 15 minutes, have students stop and bring their towers to the front of the room for evaluation.
         1. Bonus points can be provided for the team with the tallest tower.
   3. **Processing: 10 minutes**
      1. After class discussion about scarcity of resources, choices and the costs of decisions assign students with the following questions
         1. How did the *Tower Building Exercise* illustrate the fundamental economic problem of scarce resources and choices?
         2. Using the *Tower Building Exercise* provide specific illustrations of marginal costs and marginal benefits.
      2. Responses can be collected from individual students or from groups shared with the class.
2. Provide opportunities for the students to give examples of decisions made and the benefits received and the costs for the decision
   1. Why did they choose this economics class rather than another class
   2. Did they buy their text or rent it? E-text or physical?
   3. What is their cost of missing one class? (Prior to class calculate the cost of each class using tuition to illustrate the cost of each class missed.)

**Additional Questions and Discussion**

* + - 1. Using the “Think-Pair-Share” method of class discussion will assist students in taking their thought processes to a higher level. Ask student to consider the following.

*Adam Smith stated that behavior was based on incentives that provided benefits greater than the costs. “It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest.”*

**Think:** From this consider what economics assumes about consumer motivation and behavior. Give students five minutes to consider and five minutes to write down at least two observations of human behavior about this.

**Pair:** Have students pair with one other student to share their observations and formulate a hypothesis about consumer motivation and behavior.

**Share:** Allow students to share their thoughts and observations on motivation and behavior.

* + - 1. Give two examples of marginal analysis in your life.

*Answers will vary. Should the student take 12 credit hours or 15? Should the student work the extra shift on the weekend? Should the student stay on campus over the weekend?*

1. You and your friend decide to go to a professional sporting event. This decision requires the cost of the ticket for admission, $120 which requires you to stand in line for approximately 1.5 hours. Explain the opportunity cost of going to this sporting event.

*The opportunity cost would be your next best alternative use of the cost of the ticket and the time spent standing in line for the ticket.*

**Answers to "Think for Yourself" Questions**

1. (1) The opportunity cost of taking a class involves the tuition, fees, and books associated with the class. It also involves giving up time that could be spent in other classes, at work, or enjoying leisure activities. (2) The opportunity cost of putting money in a savings account is the value of the items you could have purchased if you had spent the money instead of saving it. (3) The opportunity cost having a mutually exclusive relationship is the opportunity to have a relationship with someone else.

2. The law of diminishing marginal utility implies that the utility we would get from watching each additional hour of TV would decline as more and more TV is watched, so TV watching would be less and less enjoyable as time passed. For most people, the marginal utility would eventually be low enough to entice them to do something else besides watch TV nonstop.

3. $18.00; 2

**Answers to Discussion Questions and Problems**

1. a. Even though your price is lower, you may not book more clients because the rivers are closed to fishing. b. You will likely get an increase in clients, but it would not be clear whether the increase is due to your lower price or due to the movie release.

2. a. The cost of studying for an exam includes the time that could have instead been spent working or in leisure. The cost also involves mental effort and fatigue. b. The cost of going skiing includes the cost of transportation, the ski pass, and the equipment. The cost also includes the decrease in learning that you would experience by missing class. c. The cost of taking a job includes the value of the next best job that is foregone. d. The cost of watching television includes the cost of electricity to power the television, as well as the value of the time spent watching, which could have instead been spent working, studying, or engaging in other activities.

3. You would need to know the opportunity cost of her time as well as the utility she gains from opening her own business. For example, if she could have earned $50,000 in a different job last year, she would need to have gained at least $25,000 in utility by owning her own business instead of working in a different job in order for her investment to be worthwhile.

4. Even if someone gives you the lunch for free, there is still an opportunity cost of the lunch. The time that you spend at the lunch could have instead been spent working, for example.

5. Because we have access to a large quantity of water, the law of diminishing marginal utility implies that the value of water at the margin is relatively low. The price of water reflects this marginal value of water. The supply of diamonds is much smaller than the supply of water, so the value of one more diamond is higher than the value of one more glass of water.

6. For someone who is overweight and does not exercise or restrict their calories, a change in exercise and diet can usually generate weight loss. As a person gets closer to his or her ideal weight, however, losing an additional ten pounds would involve more time and effort.

7. The marginal cost of each additional hour spent studying economics is the decrease in the score you earn on the accounting exam by not spending the hour studying accounting. The marginal cost of each additional hour spend studying accounting is the decrease in the score you earn on the economics exam by not using the hour to study economics. The table below illustrates these marginal costs.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Hours Studying Economics per week | Expected Score on Economics Exam | Marginal Benefit of Studying Economics  (increase in economics score) | Marginal Cost of Studying Economics (decrease in accounting score) | Hours Studying Accounting per week | Expected Score on Accounting Exam | Marginal Benefit of Studying Accounting  (increase in accounting score) | Marginal cost of Studying Accounting  (decrease in economics score) |
| 1 | 62 | 18 | 0 | 1 | 80 | 10 | 2 |
| 2 | 76 | 14 | 0 | 2 | 88 | 8 | 6 |
| 3 | 86 | 10 | 2 | 3 | 94 | 6 | 8 |
| 4 | 94 | 8 | 6 | 4 | 96 | 2 | 10 |
| 5 | 100 | 6 | 8 | 5 | 96 | 0 | 14 |
| 6 | 100 | 0 | 10 | 6 | 96 | 0 | 18 |

The fourth hour spent studying economics has marginal benefit of 8 points in economics and marginal cost of 6 points in accounting. The fifth hour spent studying economics has marginal benefit of 6 points in economics, but marginal cost of 8 points in accounting. Thus, the optimal time to spend studying economics is four hours per day. The second hour spent studying accounting has marginal benefit of 8 points in accounting, and has marginal cost of 6 points in economics. The third hour spent studying accounting yields 6 more points in accounting, but costs 8 points in economics. Thus, the optimal time to spend studying accounting is two hours per day.

**Answers to Multiple Choice Questions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. b | 2. c | 3. c | 4. c | 5. b |
| 6. b | 7. d | 8. c | 9. e | 10. d |