End of Chapter Questions

**Quiz Yourself**

1. Scarcity implies that the allocation decision chosen by society can

a) not make more of any one good.

b) always make more of any good.

**c) typically make more of one good but at the expense of making less of another.**

d) always make more of all goods simultaneously.

Explanation: Scarcity implies that choices involve trade-offs.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Understand  
Difficulty: 02 Medium  
Gradeable: automatic  
Learning Objective: 01-01  
Topic: Economics and Opportunity Cost

2. A production possibilities frontier is a simple model of

1. **allocating scarce inputs to the production of alternative outputs.**
2. price and production/consumption in a market.
3. the cost of producing goods.
4. the number of inputs required to produce varying levels of output.

Explanation: The production possibilities frontier shows the quantity of two goods that can be produced. It implies that scarcity requires that choices be made as to how to use resources.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Understand  
Difficulty: 02 Medium  
Gradeable: automatic  
Learning Objective: 01-01  
Topic: Modeling Opportunity Cost Using the Production Possibilities Frontier

3. The underlying reason that there are unattainable points on a production possibilities frontier is that there

a) is government.

b) are always choices that must be made.

**c) are scarce resources within a fixed level of technology.**

d) is unemployment of resources.

Explanation: The points outside the production possibilities frontier are unattainable. This means that currently available resources and technology are insufficient to produce amounts greater than those illustrated on the frontier. On a graph, everything beyond the frontier is unattainable.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Remember  
Difficulty: 01 Easy  
Gradeable: automatic  
Learning Objective: 01-01  
Topic: Modeling Opportunity Cost Using the Production Possibilities Frontier

4. The underlying reason production possibilities frontiers are likely to be bowed out (rather than linear) is

a) choices have consequences.

b) there are always opportunity costs.

**c) some resources and people can be better used producing one good rather than another.**

d) there is always some level of unemployment.

Explanation: If the production possibilities frontier is not a line but is bowed out away from the origin, then opportunity cost is increasing. The reason for this is that as we add more resources to the production of, for example, pizza, we are using fewer resources to produce soda. Compounding that problem, at each stage as we take the resources away from soda and put them into pizza, we are moving workers who are worse at pizza production and better at soda production than those moved in the previous stage. This means that the increase in pizza production is diminishing and the loss in soda production is increasing. An economist would call this an example of increasing opportunity cost. If the production possibilities frontier is a straight line that is not bowed out away from the origin, then opportunity cost is constant.

AACSB: Knowledge Application  
Accessibility: Keyboard Navigation  
Blooms: Remember  
Difficulty: 01 Easy  
Gradeable: automatic  
Learning Objective: 01-02  
Topic: Attributes of the Production Possibilities Frontier

5. If you were modeling the impact of the introduction of computer automation into manufacturing on a production possibilities frontier (PPF) with two manufactured goods on their respective axes, it would be more likely that the result would be \_\_\_\_\_\_.

1. generalized growth with the PPF moving both up and right.
2. specialized growth with the PPF moving both up and right.
3. generalized growth with the PPF just moving up and not to the right.
4. specialized growth with the PPF just moving up and not to the right.

Explanation: Computer automation is a general improvement in technology so it would improve all manufacturing. As a result, it would result in generalized growth and move the PPF both up and to the right.

AACSB: Knowledge Application  
Accessibility: Keyboard Navigation  
Blooms: Remember  
Difficulty: 01 Easy  
Gradeable: automatic  
Learning Objective: 01-03  
Topic: Economic Growth

6. The optimization assumption suggests that people make

a) irrational decisions.

b) unpredictable decisions.

**c) decisions to make themselves as well off as possible**.

d) decisions without thinking very hard.

Explanation: The optimization assumption suggests that the person in question is trying to maximize some objective. Consumers are assumed to be making decisions that maximize their happiness subject to a scarce amount of money.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Remember  
Difficulty: 01 Easy  
Gradeable: automatic  
Learning Objective: 01-01  
Topic: Thinking Economically

7. Imagine an economist ordering donuts one-by-one. When deciding how many donuts to order she would pick that number where the enjoyment of the \_\_\_\_\_ equals the enjoyment she could get from using the money on another good.

a) first donut

**b) last/marginal donut**

c) average/typical donut

d) total number of donuts

Explanation: The enjoyment of the last slice is the marginal benefit of that slice. If this enjoyment is more than the enjoyment from some alternative, more will be consumed.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Understand  
Difficulty: 02 Medium  
Gradeable: automatic  
Learning Objective: 01-04  
Topic: Thinking Economically

8. Of course, all individual students are better off if they get better grades. If you were to conclude that all students would be better off if everyone received an A, you would

a) have fallen victim to the fallacy of scarcity.

b) be right.

**c) have fallen victim to the fallacy of composition.**

d) be mistaking correlation with causation.

Explanation: The fallacy of composition is the mistake in logic that suggests that the total economic impact of something is always and simply equal to the sum of the individual parts.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Understand  
Difficulty: 02 Medium  
Gradeable: automatic  
Learning Objective: 01-04  
Topic: Thinking Economically

9. If you were to conclude, after carefully examining data and using proper evaluation techniques, that a tax credit for attending college benefits the poor more than a tax deduction (of equal total cost to the government) would, you would have engaged in \_\_\_\_\_\_\_\_\_ analysis to reach that conclusion.

a) negative

**b) positive**

c) normative

d) creative

Explanation: Economists, and social scientists in general, distinguish views of “the way things are” from “the way things should be,” calling the former positive analysis and the latter normative analysis. Positive analysis is a form of analysis that seeks to understand the way things are and why they are that way. Normative analysis is a form of analysis that seeks to understand the way things should be.

AACSB: Reflective Thinking  
Accessibility: Keyboard Navigation  
Blooms: Understand  
Difficulty: 02 Medium  
Gradeable: automatic  
Learning Objective: 01-04  
Topic: Thinking Economically

**Short Answer Questions**

1. Suppose you buy a new car. What is the opportunity cost of doing so?

The opportunity cost of purchasing the new car is what you would have done with the money (and perhaps shopping time) instead. Perhaps it would be repairing your existing car. Maybe you would use a bike, public transportation, or Uber and use the savings to pay your tuition. Whatever the net savings associated with your chosen alternative to a new car is, and whatever you did with those savings, is the opportunity cost.

1. Suppose you decided to study all last week for this exam instead of doing anything fun. What was the opportunity cost of doing so? Why might the opportunity cost (defined in terms of fun lost) be expected to increase?

The opportunity cost of studying all week would be the lost fun things you could have done with that time. If instead of studying all week, you studied during the times when you had the least opportunities for fun (perhaps weekend mornings and weekday mornings between classes), you would have preserved the weekend afternoons and weekday evenings for fun opportunities. The lost fun associated with the first few hours of morning studying would be low, but the lost fun on the weekend evenings would be much greater.

1. Suppose you hear a political candidate claim credit or lay blame for an economic outcome. How can you tell whether the candidate is correct? What would you need to know?

You need the correct counterfactual (what the result would have been with better actions). For instance, if you blame President Trump for the COVID-19 recession, you would have to argue that someone else would have managed the crisis differently and that the economic consequence would have been less. The key to any such claim is the legitimacy of the counterfactual.

1. If you get a 25 percent pay increase, you are better off. Explain why some people would not be better off if their employer gave them a 25 percent pay increase.

This is an illustration of the fallacy of composition. If everyone received a 25 percent pay increase, that situation would likely create an increase in prices associated with the production of the goods those workers made or the services they performed. That would, in turn, reduce the buying power of the pay increase. It is possible (and perhaps even likely) that there would be no net gain.

1. Suppose you were to analyze the state and the economy at the moment. You say to your friends, “The economy has been growing more slowly in the last 10 years than it did in the previous 20 years. The government should cut taxes to stimulate the economy.” What portion of that statement is “positive” and what portion of that statement is “normative?”

The positive portion of the statement is the first sentence. It analyzes what happened. The second sentence is normative. It suggests a course of action.

**Think about This**

What was your opportunity cost of attending college?

The opportunity cost associated with attending college would include what you would have done had you not attended college: military service, working, traveling, caring for a loved one, “finding yourself,” or anything else you might have done. However, it doesn’t include the money you spend on eating (because you have to eat in either circumstance.)

Think about the most expensive thing you have ever purchased. What could you have done with the money? Which outcome would have made you better off—what you did or what you could have done?

Student responses may vary. They may mention purchases such as cars, apartments, homes, nice furniture, or expensive tech products. Students should note what they could have done with the money associated with the purchase and compare which outcome would have made them better off. For example, instead of buying a car, the student may have been able to pay their tuition, but without the car, they may not have been able to work. Therefore, the purchase made them better off.

Think about the last time you took a series of tests during a short period of time (high school or college finals work here). How did you decide how much time to spend on each subject? How might the study of economics help you make that allocation decision in the future?

The answer to this question depends on whether your goal is to maximize your GPA or to maximize your GPA subject to the condition that you also earn the required minimum grades in each of your classes. For instance, you may want to earn the best GPA possible but you must also earn a B in every class in order to progress. That goal would mean that you should devote more of your time to a class you are behind in or struggling to understand. Whatever your goal, you should allocate each hour (or block or time) to maximize the effect on your goal. That is using marginal thinking to your advantage. For example, assuming you are on track for the minimum grade in each class and you have an extra hour (perhaps because a meeting was cancelled) you should study the subject that will boost your GPA the most.

**Talk about This**

Discuss whether you believe people make rational decisions based on the optimization assumption.

Recall that the optimization assumption is that people act seek to maximize some objective and that the rationality assumption is that they act in a fashion consistent with their goal. Some people act on whims that they later regret, while others consider alternatives thoughtfully and make decisions based on the information they have. There is a difference between saying “I made the best decision given the information I had at the time,” and saying “what was I thinking?” The former may reflect a decision that didn’t turn out well, (perhaps they bought a car and then lost their job unexpectedly), but the latter may be the result of someone acting impulsively.

Discuss what kinds of noneconomic (something you would normally not think of as an economic decision) trade-offs could be modeled with a production possibilities frontier?

The trade-off between studying and partying in school is a classic example. GPA would be on one axis of the production possibilities frontier while fun would be on the other. With a limited amount of time, there is a limited ability to get the benefits of either good. A brilliant person may be able to earn a 4.0 GPA with limited studying, while someone else might not ever be able to earn a 4.0 even if they studied constantly.

Other examples: exercise of the body vs. exercise of the mind; the allocation of time with friends vs. time with family