Solution’s Manual

Arnold, Economics, 14e; Chapter 1: What Economics Is About

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# Chapter 1: What Economics is About

## Answers to Chapter Questions and Problems

**1. The United States is considered a rich country because Americans can choose from an abundance of goods and services. How can there be scarcity in a land of abundance?**

Abundance does not imply unlimited resources. No one has unlimited money and time, so everyone must constantly make choices. This is the fundamental basis of scarcity. Even in a land of abundance, wants exceed the resources available to meet those wants.

**2. Give two examples for each of the following: (a) an intangible good, (b) a tangible good, (c) a bad.**

Answers will vary.

1. Intangible goods are those that have no concrete existence, such as friendship or an economics lecture.
2. Tangible goods are concrete goods that can be exchanged and reproduced more easily than intangible goods, such as a videotape of an economics lecture or a cell phone.
3. Bads are goods that provide disutility. Examples are pollution, the noise produced by planes taking off at an airport, or the smell a skunk produces, etc.

**3. Give an example of something that is a good for one person and a bad for someone else.**

Answers will vary.

**4. What is the difference between labor as a resource and entrepreneurship as a resource?**

Labor consists of the physical and mental talents people contribute to the existing production process, while entrepreneurship refers to creatively seeking new business opportunities and new ways to organize production and developing new ways of doing things.

**5. Can either scarcity or one of the effects of scarcity be found in a car dealership? Explain your answer.**

Answers will vary. One example is that the resources used to produce a car sold in the dealership could have been used to produce a different good.

**6. Explain the link between scarcity and each of the following: (a) choice, (b) opportunity cost, (c) the need for a rationing device, (d) competition.**

1. Because there is scarcity, individuals have to choose between the different goods that they have the opportunity to consume.
2. In choosing between different goods, individuals face an opportunity cost. When they decide to choose one good (go to a baseball game), they give up the opportunity to consume another good (see a movie).
3. Because wants exceed resources, some method for allocating scarce resources is necessary. Although there are many rationing devices, the most common one used in economic transactions is the price mechanism, which defines how much of one resource (money) an individual must give up in order to obtain another resource.
4. Because resources are limited, people compete with one another both to obtain the resources they need to purchase the limited resources, and to get the resources that are available. This process is called competition.

**7. Is it possible for a person to incur an opportunity cost without spending any money? Explain.**

Yes. An opportunity cost occurs when an individual gives up any resource when making a choice. An example would be leisure time. When students study for an exam, the opportunity cost is the time they could have spent watching a movie or listening to music. Of course, not studying for the exam could also have an opportunity cost—flunking the course.

**8. Discuss the opportunity costs of attending college for four years. Is college more or less costly than you thought it was? Explain.**

Answers will vary. Students should include the cost of tuition, fees, and supplies that they purchase only because they are enrolled in college. They should also include that portion of room and board that they would not have spent had they not matriculated, remembering that, had they not enrolled in college, they would still have to eat and sleep somewhere. Finally, they should consider the opportunity cost of the time they spend in college. For example, suppose that Suzie has the following choices: she can go to college for the year, she can spend the entire year relaxing in leisure, she can take a job paying $25,000 a year as a legal secretary for a hometown law firm, or she can take a job with the Peace Corps in Africa, earning $17,000. If she decides that the best alternative use of her time would be to take a job paying $25,000 a year as a legal secretary, the opportunity cost of going to college will include the $25,000 that Susie foregoes. Once students include their opportunity costs, they find that college is considerably more expensive than they thought it was when they only considered out-of-pocket expenses.

**9. Explain the relationship between changes in opportunity cost and changes in behavior.**

To the extent that opportunity costs determine behavior by identifying those activities and goods that are “worth” making “sacrifices” for and those that aren’t, as opportunity costs change so will a rational consumer’s assessment of various options. For example, suppose that Becky, a high school graduate, is currently working as a model and is earning $25,000 per year. In order to go to college, she would have to cut back on her modeling, reducing her annual income to $10,000. Further, suppose that tuition, books, and fees at the college of Becky’s choice total $15,000 per year. In deciding whether to quit modeling full-time and go to college, Becky is faced with balancing a present opportunity cost of $30,000, *ceteris paribus*, against the future benefits of a college education. Now, suppose that Becky earns a scholarship that will reduce her tuition, books, and fees bill to $5,000 per year, thus reducing her present opportunity cost to $20,000. While this may not change Becky’s mind (she may have already decided to accept the present burden for the future benefit), such a change in opportunity cost would certainly weigh in favor of going to college.

**10. Owen says that we should eliminate all pollution in the world. William disagrees. Who is more likely to be an economist, Owen or William? Explain your answer.**

William is more likely to be the economist. Owen is advocating the elimination of pollution by only considering the obvious benefits and not considering the serious costs of eliminating all pollution (such as costs incurred from finding an alternative to fossil fuels). William probably determined that the costs of eliminating all pollution are higher than the benefits from eliminating it.

**11. A friend pays for your lunch. Is this an example of a “free lunch”? Why or why not?**

This is not an example of a free lunch, since your friend could have bought something else with the money she used to buy your lunch.

**12. A noneconomist says that a proposed government project simply costs too much and therefore shouldn’t be undertaken. How might an economist’s evaluation be different?**

The noneconomicist may only be looking at the cost of the project and not considering the benefits. An economist would consider both the marginal costs and the marginal benefits of the project. For example, the interstate highway system in the United States has cost a lot of money, but it has also provided a lot of benefits. Consequently, the United States has introduced an interstate highway system because the benefits of the system exceed the costs. On the other hand, the Apollo project that sent men to the Moon was suspended after a handful of flights because many people perceived that the marginal costs of sending men to the Moon was exceeding the marginal benefits. The individual may also be making a proper economic evaluation. The project might create large benefits to society, but none to that person. So while most people might see benefits exceeding costs, to some there are only costs and no benefits.

**13. Economists say that individuals make decisions at the margin. What does this mean?**

When economists say that individuals make decisions at the margin, they are referring to the fact that individuals consider the additional (marginal) benefits of their actions and the additional (marginal) costs of their actions. If the marginal benefits exceed the marginal costs, they proceed with the action. If the marginal costs are greater than the marginal benefits, then they do not carry out the action. For example, we decide whether or not to eat another piece of pizza by comparing the benefits and costs of that piece, not the benefits and costs of all the pieces we have already eaten.

**14. How would an economist define the efficient amount of time spent playing tennis?**

Economists state that efficiency occurs when the marginal benefits (MB) of an activity equal the marginal costs (MC) of that activity. The efficient level of time spent playing tennis would exist where the MB of playing tennis equals the MC of playing tennis.

**15. Ivan stops studying before the point at which his marginal benefits of studying equal his marginal costs. Is Ivan forfeiting any net benefits? Explain your answer.**

Ivan is forfeiting net benefits because net benefits are maximized when marginal benefits equal marginal costs.

**16. What does an economist mean if they say that there are no $10 bills on the sidewalk?**

They mean that people try to maximize their net benefits.

**17. A change in X will lead to a change in Y. The predicted change is desirable, so we should change X. Do you agree or disagree? Explain.**

Assuming that the relationship between X and Y had been accurately measured, and that the relationship did not change, then the change in X would be desirable; however, several caveats should be recognized. First, the relationship could have been misspecified. Important factors that also influence Y, perhaps more strongly than X, could have been ignored in the analysis. It might be more efficient to change these other factors rather than X. Some logical explanation of why the relationship between X and Y occurs should be developed before proceeding. Second, the relationship between X and Y can change over time. You don’t want to commit the fallacy of confusing correlation with causation. You can reduce the probability of this error by developing a logical explanation of why X will lead to a change in Y.

**18. Why do people enter into exchanges?**

People enter into exchanges in order to make themselves better off.

**19. When two individuals enter into an exchange, you can be sure that one person benefits and the other person loses. Do you agree or disagree with this statement? Explain your answer.**

Disagree. The two individuals would not have voluntarily entered into the exchange if they did not both expect to benefit from it.

**20. What is the difference between positive economics and normative economics? Between microeconomics and macroeconomics?**

Positive economics addresses what is, while normative economics attempts to determine what should be. Microeconomics is the study of human behavior and choices as they relate to relatively small units, such as an individual or a firm, while macroeconomics is the study of human behavior and choices as they relate to an entire economy.

**21. Would there be a need for a rationing device if scarcity did not exist? Explain your answer.**

A rationing device is a means for deciding who gets what; therefore, if there were enough resources and goods for everyone, there would not be a need for a rationing device.

**22. Jackie’s alarm clock buzzes. She reaches over to the small table next to her bed and turns it off. As she pulls the covers back up, Jackie thinks about her 8:30 American history class. Should she go to the class today or sleep a little longer? She worked late last night and really hasn’t had enough sleep. Besides, she’s fairly sure her professor will be discussing a subject she already knows well. Maybe it would be okay to miss class today. Is Jackie more likely to miss some classes than she is to miss other classes? What determines which classes Jackie will attend and which classes she won’t?**

Jackie should sleep a little longer. Jackie is more likely to miss some classes than she is to miss other classes since the cost of missing class is higher on some days. Jackie will decide which classes to attend by comparing the benefit from attending with the cost of attending.

**23. If you found $10 bills on the sidewalk regularly, we might conclude that individuals don’t try to maximize net benefits. Do you agree or disagree with this statement? Explain your answer.**

Disagree. We would conclude that the cost of picking up a $10 bill exceeds the benefit from picking up a $10 bill.

**24. The person who smokes cigarettes cannot possibly be thinking in terms of costs and benefits because it has been proven that cigarette smoking increases one’s chances of getting lung cancer. Do you agree or disagree with the part of the statement that reads “the person who smokes cigarettes cannot possibly be thinking in terms of costs and benefits”? Explain your answer.**

Disagree. The person who smokes has decided that the benefits outweigh the costs of smoking (including the chances of getting lung cancer).

**25. Tamara decides to go out on a date with Liam instead of Terrance. Do you think Tamara is using some kind of rationing device to decide whom she dates? If so, what might that rationing device be?**

Assuming that Tamara does not have time to date them both, she must decide which man gets the pleasure of her company. In this case she would use a rationing device to decide who gets the date. Depending on her preferences, this rationing device may be their intelligence, their looks, their earning potential, or their ability to make her laugh.

**26. A theory is an abstraction from reality. What does this statement mean?**

This means that certain things are left out in order to focus on the main variables that will explain an activity or event.

## Answers to Problems in the Working With Numbers and Graphs Section

**1. Suppose the marginal costs of reading are constant and the marginal benefits of reading decline (over time). Initially, the marginal benefits of reading are greater than the marginal costs. Draw the marginal-benefit (MB) curve and marginal-cost (MC) curve of reading, and identify the efficient amount of reading. Next, explain why the efficient point is the point at which the net benefits of reading are maximized.**



In the graph shown above, the vertical axis measures the marginal costs and benefits of reading, while the horizontal axis measures quantity (i.e., the time spent on reading). The horizontal MC curve shows the constant marginal cost of reading. The downward sloping marginal benefit (MB) curve shows that the marginal benefit of reading declines over time. Initially, at point A, the marginal benefits of reading are greater than the marginal costs; MB > MC. So, there are net benefits from reading further. In the figure, the marginal benefits of studying equal the marginal costs at q2, which is the efficient length of time to read in this situation. If the time spent on reading is more than q2, the marginal costs of reading are greater than the marginal benefits, and therefore reading beyond q2 is not worthwhile. At q2, net benefits are maximized. In short, efficiency, which is consistent with MB = MC, is also consistent with maximizing net benefits.

**2. Using the diagram you drew in question 1, lower the marginal costs of reading and identify the new efficient amount of reading. Also, identify the additional net benefits derived as a result of the lower marginal cost of reading.**



With a lower cost of reading, the marginal cost curve shifts downward from MC1 to MC2. The new marginal cost curve intersects the marginal benefit (MB) curve at B. At point B, net benefit is maximized. The total net benefit derived at point A (at the higher cost of reading) is represented by the area of ∆Aa4a1, and the total net benefit derived at point B (at the lower cost of reading) is represented by ∆Ba4a2. So, the additional benefits derived as a result of the lower marginal cost of reading = the area given by (∆Ba4a2 – ∆Aa4a1) = area of the trapezium BAa1a2.

**3. Jim could undertake activity X, but chooses not to. Draw how the marginal-benefit (MB) and marginal-cost (MC) curves look for activity X from Jim’s perspective.**



If Jim could undertake activity X but chose not to, this means that the marginal cost of undertaking a unit of activity X is higher than the marginal benefit. From Jim’s perspective, the marginal cost curve will always lie above the marginal benefit curve for all units of activity X.