

Chapter 1

Check Your Understanding

1. What is wrong with the statement “Economics is everything to do with money”?
Answer: Economics involves making choices with limited resources. Money is just one type of resource. Time, intellect, and ability are other resources to be considered. Focusing only on money issues ignores the vast array of nonmoney issues in which economics plays an important role.
2. Does your going to college have anything to do with expanding choices or reducing scarcity? Explain.
Answer: Yes, clearly going to college instead of going immediately to work represents a choice to get additional skills now and enter the labor force later. Even if you are working and going to school, you are choosing between investing in your education versus another activity. You will see the benefits in the future, when your skills command greater resources.
3. What is the difference between a positive question and a normative question?
Answer: A positive question attempts to study the relationship between two variables in an economy, while a normative question is based on a value judgment. A positive question would ask what is likely to happen when an activity is undertaken, while a normative question would ask whether that activity should or should not be undertaken.
4. You normally stay at home on Wednesday nights and study. Next Wednesday night, your best friend is having his big 21st birthday party. What is the opportunity cost of going to the party?
Answer: Opportunity cost is the value of what you give up in order to attend the party. Because you would normally be at home studying, the opportunity cost of the party is the benefit (such as a higher homework or exam grade) that you would have gained from studying that night.
5. What is the incentive to spend four years of one’s life and tens of thousands of dollars to earn a college degree?
Answer: An incentive encourages individuals to take actions that are in their best self-interest. Although attending college is both costly and time-consuming, the potential rewards from significantly higher lifetime earnings more than offsets what one gives up to attend college.
6. Why do markets typically lead to an efficient outcome for buyers and sellers?
Answer: Markets allow buyers and sellers to interact in such a way that sellers who wish to sell items can find buyers wishing to buy them. Markets are flexible, meaning that prices adjust until every unit of a good that sellers wish to sell is eventually purchased by a consumer wishing to buy it.

Apply the Concepts

7. In contrasting equity and efficiency, why do high-tech firms seem to treat their employees better (better wages, benefits, working environments, vacations, etc.) compared to how landscaping or fast-food franchises treat their employees? Is this fair? Is it efficient?
Answer: Completing a survey regarding one’s experience takes time, sometimes as little as a few minutes, or in some cases significantly longer, which therefore creates an opportunity cost. By offering an incentive, stores are trying to compensate consumers for this opportunity cost. Consumers with lower opportunity cost will be more likely to complete the survey in order to obtain the incentive. Also, some customers genuinely enjoy leaving feedback, or had a terrible experience at the store and wish to vent their frustration by leaving negative feedback. In this case, the incentive wouldn’t matter, because the value of completing the survey may have already exceeded the opportunity cost of doing so.
8. Stores sometimes offer “mail-in rebates” to customers who purchase a certain good to get a portion of the purchase price refunded. Typically, a mail-in rebate requires proof of purchase (like a UPC from the actual product along with a store receipt) and a completed form to be mailed in for

processing, with the rebate being mailed in the form of a check or a prepaid debit card six to eight weeks later. Why would some customers, but not all, take advantage of mail-in rebates?

Answer: Mail-in rebates allow individuals to recoup a fixed amount of money if they complete and submit the required paperwork. Submitting documents for a rebate involves opportunity costs in terms of the time required to complete the paperwork as well as monetary costs such as a stamp, envelope, and auto expenses incurred to deposit the check. The value of time varies from person to person. Therefore, a person with a lower opportunity cost of time (such as a retiree) is more likely to submit rebate requests than someone with a higher opportunity cost of time (such as a bank executive).

9. The black rhinoceros is extremely endangered. Its horn is considered a powerful aphrodisiac in many Asian countries, and a single horn fetches many thousands of dollars on the black market, creating a great incentive for poachers. Unlike other stories of endangered species, this one might have a simple solution. Conservationists could simply capture as many rhinos as possible and remove their horns, reducing the incentive to poach. Do you think this will help reduce poaching? Why or why not?

Answer: It is probably bound to help somewhat. If only some have horns removed, however, poachers might still kill the rhino to keep from having to track this animal in the future. After all, poachers are concerned with efficiency as well. Thus, the more animals with horns removed, the better the result. Also, dehorning may make the animals more susceptible to predators. But incentives do matter, and removing the horn on balance may help the effort to save the black rhino. See Charles Wheelan, *Naked Economics: Undressing the Dismal Science* (New York: W. W. Norton), 2002, Chapter 2.

10. Most amusement parks in the United States charge a fixed price for admission, which includes unlimited roller coaster rides for the day. Some people attempt to ride the roller coasters as often as possible in order to maximize the value of their admission. Why is riding a roller coaster at an amusement park over and over to “get your money’s worth” not considered *thinking on the margin*?
Answer: Attempting to ride the roller coaster as many times as possible allows one to minimize the average cost per ride. However, this does not necessarily maximize one’s satisfaction. After riding a roller coaster several times, one may get bored or even physically sick from riding again. If riding the roller coaster one more time makes a person worse off, then total satisfaction would fall. Therefore, thinking on the margin says that one should continue riding the roller coaster as long as the marginal benefit is greater than the marginal cost.

11. With higher gasoline prices, the U.S. government wants people to buy more hybrid cars that use much less gasoline. Unfortunately, hybrids are approximately \$4,000 to \$5,000 more expensive to purchase than comparable cars. Because people follow incentives, what can the government do to encourage the purchase of hybrids?

Answer: Because the cost of installing solar panels can outweigh the savings in monthly utility bills, even over a long period of time, most households and businesses would rationally choose not to install them. However, those who place a greater value on environmental protection may experience non-monetary benefits, thereby encouraging installations. If the government wishes to increase solar panel installations, it needs to incentivize households and businesses by increasing monetary benefits relative to costs. It can do so by offering tax credits and deductions for installation expenses. It could also subsidize the installation costs in exchange for a monthly fee equivalent to part of the electricity savings that result. In some states, the utility company will install solar panels for free, but charge a monthly fee similar to an electricity bill. In this latter case, there may be no monetary benefit or cost, but some non-monetary benefits that encourage greater installations.

12. Some colleges and universities charge tuition by the credit hour, while others charge tuition by the semester, allowing students to take as many classes as they desire. How do these tuition structures affect the incentives students face when deciding how many classes to take? Provide an example of a beneficial effect and an example of a potentially harmful effect resulting from the incentives created with each system. How does marginal analysis affect the incentives with each system?

Answer: If tuition is charged as a fixed rate per term regardless of the number of courses taken, students would have an incentive to take more classes per term. It might encourage students to forgo working and take additional classes to complete their degrees more quickly. A beneficial effect of the fixed rate is that it encourages students to focus on their studies and complete degrees more quickly. A beneficial effect of the per credit system is that it allows working students to complete their degrees part time while holding a job. A potentially harmful effect of the fixed rate system is that students may enroll in more classes than they can handle, resulting in lower grades. Marginal analysis guides students into determining whether it is in their best interest to take an additional class: Under the per credit system, the marginal cost of an additional class is the monetary cost of tuition and the time commitment, while under the fixed tuition system, the marginal cost of tuition is zero, but the time commitment still creates a marginal cost.

In the News

13. *The New York Times* reported on January 18, 2012, in an article titled “What the Top 1% of Earners Majored In” that 8.2% of Americans who majored in economics for their undergraduate degree are in the top 1% of salary earners. Only those who majored in pre-med had a higher percentage in the top 1%. What might be some reasons why economics majors have done well in the job market?

Answer: Economics is an analytical subject that prepares students for a very broad range of careers. Economics majors can find jobs in corporations, banks, and government institutions. Economics is also a popular major for those wishing to pursue a law degree. In sum, economics provides a well-rounded background for many well-paying careers.

14. According to the U.S. Department of Transportation, U.S. commercial airlines collected over \$3.8 billion in baggage fees in 2015. Some airlines even charge passengers to bring carry-on bags onto the plane. How do baggage fees affect travelers’ behavior? What is a potential cost to the airline from this policy that might offset the benefit from the bag revenues?

Answer: When passengers are charged for baggage, the general incentive is to pack less to avoid or minimize the fees. This might lead to fuel savings if fewer bags lead to a lighter plane. More commonly, however, passengers substitute carry-on bags for checked baggage, at least for airlines that do not charge for carry-on bags. This behavior by passengers leads to excessive bags being brought into the passenger cabin, increasing flight delays that which may be costly in terms of airline performance. As a result, some airlines now charge to bring carry-on bags into the plane to increase boarding speed and to generate more revenues.

Solving Problems

15. Suppose your favorite band is on tour and coming to your area. Tickets are \$100, and you take a day off of work where you could have earned \$60. What is your opportunity cost of going to the concert?

Answer: The opportunity cost is the \$100 that you could have spent on something else plus the \$60 you would have earned by working, for a total of \$160.

16. At your local family fun center, miniature golf is \$12 per person for unlimited rounds in a day, while each go-kart session is \$8. If you played 3 rounds of miniature golf and rode the go-karts 3 times, what was the marginal cost of the third round of miniature golf? What was the marginal cost of the third go-kart session?

Answer: Miniature golf costs \$12 regardless of how many rounds you play; therefore, the 3rd round has a marginal cost of \$0 because you already paid the \$12 to play the 1st round. However, the marginal cost of the 3rd round of go-karts is \$8, because each session requires an additional payment.

Using the Numbers

17. According to *By the Numbers*, what is the average salary for a recent graduate who majored in economics? About how much does this average salary increase by one’s mid-career?

Answer: A recent graduate who majored in economics earns around \$50,000 on average. By one’s mid-career, this average salary about doubles to \$100,000.

- 18.** According to By the Numbers, about how many economics degrees were awarded to college graduates in 2014? How does this number compare to the number of nursing degrees? Communications degrees?

Answer: About 80,000 economics degrees were awarded in 2014. This is fewer than the approximately 150,000 nursing degrees awarded, but more than the approximately 70,000 communications degrees awarded.