

Solutions Manual for Foundations of Macroeconomics 9th Bade

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Getting Started

Chapter 1

ANSWERS TO CHAPTER CHECKPOINTS

■ Problems and Applications

1. Provide three examples of scarcity that illustrate why even the 1,826 billionaires in the formworld face scarcity.

The 1,826 billionaires might want to be able to eat unlimited meals without gaining weight; live to be at least 140 years old and enjoy perfect health everyday; be able to wake up in San Francisco and go to sleep in Paris after spending no more than 3 hours on a plane. None of these wants can be fulfilled given the present state of technology and resources available.

2. Label each entry in the list as dealing with a microeconomic topic or a macroeconomic topic. Explain your answer.

- **Motor vehicles production in China is growing by 10 percent a year.**
This entry is a microeconomic topic because individuals and businesses make decisions whether to buy or sell cars.
- **Coffee prices rocket.**
This entry is a microeconomic topic because individuals and businesses make decisions whether to buy or sell coffee.
- **Globalization has reduced African poverty.**
This entry is a macroeconomic topic because globalization is the result of choices made by billions of people rather than an individual or business.
- **The government must cut its budget deficit.**
This entry is a macroeconomic topic because neither an individual nor a business makes decision to cut expenditures.
- **Apple sells 20 million iPhone 6 smartphones a month.**
This entry is a microeconomic topic because individuals and Apple make decision whether to buy or sell iPhones.

Use the following information to work Problems 3 to 6.

Jurassic World had world-wide box office receipts of \$1.66 billion. The movie's production budget was \$150 million with additional marketing costs. A successful movie brings pleasure to millions, creates work for thousands, and makes a few people rich.

3. **What contribution does a movie like *Jurassic World* make to coping with scarcity? When you buy a movie ticket, are you buying a good or a service?**

Scarcity still exists but the amount of entertainment available in the economy increases. Buying a ticket to watch a movie is buying a service.

4. **Who decides whether a movie is going to be a blockbuster? How do you think the creation of a blockbuster movie influences *what, how, and for whom* goods and services are produced?**

The audience decides whether a movie will be a blockbuster because the audience decides whether to attend the movie.

The "what" question is affected in three ways: First, one good or service that is produced is the blockbuster movie. Second, the people whose incomes are higher as a result of the blockbuster then buy an assortment of goods and services and so this assortment of goods and services is produced. Finally, the "what" question is influenced if the movie leads to spinoff goods (such as toys) or creates a series of sequels or similar films. The "how" question is affected to the extent that movies use different production methods. Some movies, for instance, have a lot of special effects while other movies have few or none. The "for whom" question is influenced because those people who receive the profits of a blockbuster movie have higher incomes and so more goods and services are produced for them.

5. **What are some of the components of marginal cost and marginal benefit that the producer of a movie faces?**

Some of the marginal costs the producer faces are the cost of an actor or actress, the costs of the crew for a day, the costs of a location, and the costs of advertising in a newspaper. The marginal benefits the producer enjoys are his or her salary and/or profit participation from the movie, royalties from the movie, the prestige resulting from a successful movie, and any awards given to the producer of the movie.

6. **Suppose that Chris Pratt had been offered a part in another movie and that to hire him for *Jurassic World*, the producer had to double Chris Pratt's pay. What incentives would have changed? How might the changed incentives have changed the choices that people made?**

The higher pay would have increased Mr. Pratt's incentive to make *Jurassic World* rather than the other movie and perhaps affected his choice to

make *Jurassic World* rather than the other movie. The higher pay would have increased the incentive of the producer to decrease the expense of other aspects of the movie so the producer might have chosen to reduce the pay of the other stars in the movie.

7. **What is the social interest? Distinguish it from self-interest. In your answer give an example of self-interest and an example of social interest.**

The social interest looks at what is best for society as a whole; choices that are best for society as a whole are said to be in the social interest. The self-interest looks at what is best for the individual; choices that are best for the individual making the choice are said to be in the self-interest. An example of a choice made in the self-interest is a student's decision to take an economics class. An example of a choice made in the social interest is a firm's decision to reduce its air pollution.

8. **Pam, Pru, and Pat are deciding how they will celebrate the New Year. Pam prefers to take a cruise, is happy to go to Hawaii, but does not want to go skiing. Pru prefers to go skiing, is happy to go to Hawaii, but does not want to take a cruise. Pat prefers to go to Hawaii or to take a cruise but does not want to go skiing. Their decision is to go to Hawaii. Is this decision rational? What is the opportunity cost of the trip to Hawaii for each of them? What is the benefit that each gets?**

Pam, Pru and Pat's decision to go to Hawaii is rational. All three of them considered the cost and benefit of various New Year's plans. All three were at least willing to go to Hawaii while Pam and Pat were unwilling to go skiing and Pru was unwilling to go on a cruise. The opportunity cost of the trip for Pam is a cruise; for Pru, it is skiing; and for Pat, it is a cruise. The benefit each receives is the pleasure, the relaxation, excitement, and/or knowledge gained from the trip.

9. **Label each of the entries in the list as a positive or a normative statement.**
- **Low-income people pay too much for housing.**
The entry that low-income people pay too much for housing is a normative statement.
 - **The number of U.S. farms has decreased over the past 50 years.**
The entry about the number of farms is a positive statement.
 - **Toyota expands parts production in the United States.**
The entry about Toyota expanding parts production is a positive statement.
 - **Imports from China are swamping U.S. department stores.**
The entry about imports is a normative statement.
 - **The rural population in the United States is declining.**
The entry about the population in rural areas is a positive statement.

Use the following information to work Problems 10 to 12.

REI is paying its employees to take Black Friday, Thanksgiving off

REI, the outdoor gear and apparel retailer, is paying employees to celebrate Thanksgiving 2015 by spending Black Friday outdoors with their families.

Source: *Sustainable Brands*, October 28, 2015

10. With Black Friday off with full pay, explain what is free and what is scarce.

The workers' time remains scarce because Black Friday remains only one day. REI's gear and apparel remain scarce because there is still a limited amount of these products. The publicity that REI received is not free because the company paid for it with less production and, accordingly, less revenue and profit.

11. What is REI's incentive to give its workers Black Friday off? Was REI's decision made in self-interest or in the social interest? Explain your answer.

REI's managers have the incentive to give their employees the day off if they believe that the positive publicity that resulted could lead to increased future sales. The managers might also believe that the employees would feel grateful and would work harder in the future. Of course, the managers also had the incentive to give their workers the day off because many other employers do so.

REI's decision to give its workers a paid day off had elements of both self-interest and social interest. To the extent that his decision was motivated by the free publicity and a resulting rise in sales, or the expectation that its employees would work more diligently in the future, the decision was motivated by self-interest. However to the extent that a desire to allow the workers a chance to spend time with their families, the decision also had elements of social interest.

12. Do you think that REI workers will shop or spend the day with family? Explain your answer.

REI workers will make a rational choice. People make a rational choice when they undertake an activity in which the marginal benefit of the activity exceeds the marginal cost of the activity. Some REI workers will shop and others will spend the day with their family, depending on which alternative's marginal benefit exceeds its marginal cost.

13. Read *Eye on the Benefit and Cost of School* on p. 12 and explain why both you and Clayton Kershaw made the right decision.

Clayton Kershaw made the right decision to skip college because his opportunity cost of attending college (which includes his forgone salary playing baseball) exceeded his benefits from attending college. For most students, the opportunity cost of attending college is not so large, so for most students the benefits from attending college exceed the opportunity cost of attendance. For these students, attending college is the right decision.

■ Additional Problems and Applications

1. Read *Eye on the Benefit and Cost of School* on p. 12 and explain which of the following items are components of the opportunity cost of being a full-time college student who lives at home. The things that the student would have bought with
 - **A higher income**
The items the student would have purchased with the higher income he or she would have earned if he or she was not a full-time student are an opportunity cost of being a full-time student.
 - **Expenditure on tuition**
The cost of tuition is part of the opportunity cost of being a full-time student because this expense is paid *only* because the person is a student.
 - **A subscription to the *Rolling Stone* magazine**
If the subscription was required by a class and the individual subscribed *only* because of the class requirement, then the cost of the subscription is an opportunity cost of being a student. However if the person would have subscribed to *Rolling Stone* even if he or she was not a student, then the cost of the subscription is not an opportunity cost of being a student.
 - **The income a student will earn after graduating**
The income earned after graduation is not an opportunity cost of being a student.
2. Think about the following news items and label each as involving a *what*, *how*, or *for whom* question:
 - **Today, most stores use computers to keep their inventory records, whereas 20 years ago most stores used paper records.**
Stores using computers for inventory records today versus paper 20 years ago answers the *how* question.
 - **Healthcare professionals and drug companies recommend that Medicaid drug rebates be made available to everyone in need.**
Deciding whether to offer lower Medicaid drug rebates, which would lower the prices for drugs, is a *for whom* question.
 - **An increase in the gas tax pays for low-cost public transit.**
Building a low-cost public transit system answers a *what* question. Because not everyone will use the public transportation equally nor will everyone pay the same amount of taxes, there also is a *for whom* aspect of the headline.
3. The headlines in the list appeared in *The Wall Street Journal*. Classify each

headline as a signal that the news article is about a microeconomic topic or a macroeconomic topic. Explain your answers.

- **U.S. hiring bounces back**
This entry is a macroeconomic topic because the hiring bounce concerns the hiring in the overall economy and neither an individual nor a business makes the decision to increase aggregate hiring.
 - **Sears to open three small-format stores**
This entry is a microeconomic topic because it concerns the decision made by one business, Sears.
 - **Samsung expects 60% profit drop**
This entry is a microeconomic topic. It describes the change in profit of one business.
 - **U.S. sees trade deal with China**
This entry is a macroeconomic topic because the trade deal affects a large number of imported and exported goods and services and thereby affects the national and global economies.
4. **Your school decides to increase the intake of new students next year. To make its decision, what economic concepts would it have considered? Would the school have used the “economic way of thinking” in reaching its decision? Would the school have made its decision on the margin?**
The school would consider the extra revenue that each additional student would bring and compare that to the extra cost of providing each student with instruction and service. By comparing the extra revenue and the extra cost, the school is making its decision on the margin and is using the economic way of thinking. If the school compares the additional revenue to the additional cost, it makes its decision on the margin.
5. **Provide examples of (a) a monetary incentive and (b) a non-monetary incentive, a carrot and a stick of each, that government policies use to influence behavior.**
- (a) A monetary carrot that the students might answer because it is close to their lives is student aid, such as Pell grants. A monetary stick might be taxes on liquor.
 - (b) A non-monetary carrot is government support for youth sports, such as allowing little league teams to use a county park, and a non-monetary stick is jail terms for illegal drug or alcohol use.
6. **Think about each of the items in the list and explain how they affect incentives and might change the choices that people make:**
- **A hurricane hits Central Florida.**
The hurricane affects the people in Central Florida and the consumers who purchase the products produced in Central Florida, such as orang-

es or vacation services. Residents' incentives change if they suffered damage from the hurricane because they have the incentive to repair the damage. If the price of home repair rises, residents who specialize in home repair have an incentive to work longer hours to earn the higher price. If the hurricane raises the price of the goods and services produced in Central Florida, consumers have the incentive to buy less of these particular goods and services because they are more expensive.

- **The World Series begins tonight but a storm warning is in effect for the area around the stadium.**

The report of the possible storm decreases fans' incentive to attend the game. Some fans decide to stay at home and watch the game on television.

- **The price of gasoline falls as the supply of oil increases.**

The fall in the price of gasoline affects drivers' incentives to buy gasoline and large gas-guzzling cars. Drivers decide to buy more gasoline and more large gas-guzzling cars. They also might decide to ride public transportation less often.

- **Economists expect hiring to increase.**

The report that economists expect that hiring will increase raises unemployed people's incentives to look for a job. It also might lead some employed workers to look for a new, better job.

7. **Does the decision to make a blockbuster movie mean that some other more desirable activities get fewer resources than they deserve? Is your answer positive or normative? Explain your answer.**

Making a blockbuster movie means that some other activities get fewer resources. But whether "more desirable" activities get fewer resources than they "deserve" is a normative answer for two reasons. First the question of whether an activity is more desirable or less desirable depends on the person's judgment and values. Second the determination of whether an activity gets fewer resources than it deserves also involves the normative decision about the quantity of resources an activity deserves. So the answer to the question of whether making a blockbuster movie means that other more desirable activities get fewer resources than they deserve is a normative answer that depends on the student's values.

8. **Provide two examples of economics being used as a tool by (a) a student, (b) a business, and (c) a government. Classify your examples as dealing with microeconomic topics and macroeconomic topics.**

- (a) Students might answer that they use economics as a tool when they budget their student aid and when they decided which college to attend based on the costs of their options. Both instances deal with microeconomics.
- (b) A business uses economics as a tool when it decides the price it

charges for its product and the salaries it pays its managers. Both instances are microeconomic examples.

- (c) The government use economics as a tool when it decides whether to increase taxes on cigarettes or lower the interest rate. The first example is microeconomic in nature and the second involves macroeconomics.

Use the following news clip to work Problems 9 to 11.

Are carbon prices working?

Economists say that raising the cost of burning coal, oil, and gas is a cost-effective way to lower carbon emissions, but most countries that have tried this solution have not set prices high enough to bring large enough cuts.

Source: *New York Times*, April 2, 2019

9. **What are the benefits of burning less coal, oil, and gas to produce electricity? Who receives these benefits: the users of electricity or the owners of power plants, or both the users and the owners?**

Benefits include: (1) a reduction in carbon emissions, which brings a decrease in the contribution of human activity to global warming and climate change, and (2) cleaner air, which contributes to improved health. Both the users of electricity and the owners of power plants receive the benefits.

10. **What are the costs of using less coal, oil, and gas to produce electricity? Who bears these costs: the users of electricity or the owners of power plants, or both the users and the owners?**

The cost of higher prices for using less coal, oil, and gas will be the directly higher price for these resources as well as the costs of any equipment that enables the power plant to use less coal, oil, or gas. Another cost could be the lost jobs in the coal, oil, and gas sectors. Users of electricity, who pay higher prices for electricity, will pay some of these costs and owners of power plants, who receive lower profits from producing electricity, also will pay some of the costs.

11. **Explain whether lowering carbon emissions has an opportunity cost.**

Lowering carbon emissions has an opportunity cost because the resources devoted to this reduction could be used instead to producing other goods and services.

■ Multiple Choice Quiz

1. Which of the following describes the reason why scarcity exists?

- A. Governments make bad economic decisions.
- B. The gap between the rich and the poor is too wide.
- C. Wants exceed the resources available to satisfy them.
- D. There is too much unemployment.

Answer: C Answer C uses the definition of scarcity on page 2.

2. Which of the following defines economics?

Economics is the social science that studies _____.

- A. the best way of eliminating scarcity
- B. the choices made to cope with scarcity, how incentives influence those choices, and how the choices are coordinated
- C. how money is created and used
- D. the inevitable conflict between self-interest and the social interest

Answer: B Answer B uses the definition of economics on page 2.

3. Of the three big questions, *what*, *how*, and *for whom*, which of the following is an example of a *how* question?

- A. Why do doctors and lawyers earn high incomes?
- B. Why don't we produce more small cars and fewer gas guzzlers?
- C. Why do we use machines rather than migrant workers to pick grapes?
- D. Why do college football coaches earn more than professors?

Answer: C Answer C describes *how* grapes are picked.

4. Which of the following is not a key idea in the economic way of thinking?

- A. People make rational choices by comparing costs and benefits.
- B. Poor people are discriminated against and should be treated more fairly.
- C. A rational choice is made at the margin.
- D. Choices respond to incentives.

Answer: B Answer B is *not* part of description of the economic way of thinking on page 8.

5. A rational choice is _____.
- A. the best thing you must forgo to get something
 - B. what you are willing to forgo to get something
 - C. made by comparing marginal benefit and marginal cost
 - D. the best for society

Answer: C Answer C is part of description of a rational choice on pages 8 and 9.

6. Which of the following best illustrates your marginal benefit of studying?
- A. The knowledge you gain from studying 2 hours a night for a month
 - B. The best things forgone by studying 2 hours a night for a month
 - C. What you are willing to give up to study for one additional hour
 - D. What you must give up to be able to study for one additional hour

Answer: C Page 10 shows that answer C is the marginal benefit of studying.

7. The scientific method uses models to _____.
- A. clarify normative disagreements
 - B. avoid the need to study real questions
 - C. replicate all the features of the real world
 - D. focus on those features of reality assumed relevant for understanding a cause and effect relationship

Answer: D Answer D uses the definition of an economic model from Checkpoint 1.3.

8. Which of the following is a positive statement?
- A. We should stop using corn to make ethanol because it is raising the cost of food.
 - B. You will get the most out of college life if you play a sport once a week.
 - C. Competition among wireless service providers across the borders of Canada, Mexico, and the United States has driven roaming rates down.
 - D. Bill Gates ought to spend more helping to eradicate malaria in Africa.

Answer: C Answer C is a positive statement because it can, in theory, be tested.