WHAT IS ECONOMICS?

Key Concepts

- **Definition of Economics**
  The fundamental economic problem is **scarcity**, which is the inability to satisfy all our wants. Because the available resources are never enough to satisfy everyone’s wants, choices are necessary.

  **Economics** is the social science that studies the choices people, businesses, governments, and societies make as they cope with scarcity.

- **Microeconomics** is the study of choices that individuals and businesses make, the way these choices interact, and the influences that governments exert on these choices.

- **Macroeconomics** is the study of the effects on the national economy and the global economy of the choices that individuals, businesses, and governments make.

- **Three Big Microeconomic Questions**
  Microeconomics explores three big questions. The first question is “What goods and services are produced and in what quantities?” **Goods and services** are the objects that people value and produce to satisfy wants. The United States produces more services than goods.

  The second question is “How are goods and services produced?” The resources that businesses use to produce goods and services are called **factors of production**. There are four categories:
  - **Land**: the “gifts of nature” such as land, minerals, and water.
  - **Labor**: the work time and work effort people devote to producing goods and services.
  - **Capital**: the tools, instruments, machines, buildings, and other constructions that businesses now use to produce goods and services.
  - **Entrepreneurship**: the human resource that organizes land, labor, and capital.

  The third question is “For whom are goods and services produced?” To earn an income, people sell the services of the factors of production they own. Land earns **rent**; labor earns **wages**; capital earns **interest**; and entrepreneurship earns **profit**.

- **Three Big Macroeconomic Questions**
  Macroeconomics explores three big questions.

  The first question is “What determines the standard of living?”
  - The **standard of living** is the level of consumption that people enjoy, on the average, and is measured by average income per person.

  The second question is “What determines the cost of living?”
  - The **cost of living** is the amount of money it takes to buy the goods and services that a typical family consumes. A rising cost of living is called **inflation** and a falling cost of living is called **deflation**.

  The third question is “Why does our economy fluctuate?”
  - The **business cycle** is the periodic but irregular up-and-down movement in production and jobs.

- **The Economic Way of Thinking**
  A choice involves a **tradeoff**, that is, something is given up to get something else. Microeconomic tradeoffs include the “what” tradeoffs, the “how” tradeoffs, and the “who” tradeoffs.

  - The **big tradeoff** is the tradeoff between equality and efficiency that occurs as a result of government programs redistributing income.
Macroeconomic tradeoffs include the standard of living tradeoff.

- The **output-inflation tradeoff** occurs because government policy actions to lower inflation also lower output and policy actions that boost output increase inflation.

The opportunity cost of a choice is the highest-valued alternative foregone. Opportunity cost is not all the alternatives foregone, only the highest-valued alternative foregone. All tradeoffs involve an opportunity cost. Choices are made in small steps, which means choices are made at the margin.

- The benefit that arises from an increase in an activity is called **marginal benefit**.

- The cost of an increase in an activity is called **marginal cost**.

When making choices, people compare the marginal cost of an action to the marginal benefit of the action. Changes in marginal cost and/or marginal benefit affect the decisions made. So choices respond to incentives, which are inducements to take a particular action.

### Economics: A Social Science

Economists distinguish between:

- Positive statements — statements about what is. These can be shown to be true or false through observation and measurement.

- Normative statements — statements about what ought to be. These are matters of opinion.

Economic science is a collection of positive statements that are consistent with the real world. Economic science uses three steps to progress:

- Observation and measurement — economists observe and record economic data.

- Model building — an economic model is a description of some aspect of the economic world that includes only those features of the world that are needed for the purpose at hand.

- Testing — a model is tested to determine how well its predictions correspond with the real world. An economic theory is a generalization that summarizes what we think we understand about economic choices that people make and the performance of industries and entire economies.

When developing models and theories, economists use the idea of *ceteris paribus*, which is Latin for “other things being equal”, to focus on the effect of one particular factor.

In the development of theories and models, two fallacies are possible:

- Fallacy of composition — the assertion that what is true for a part must be true for the whole, or what is true for the whole must be true for each of the parts.

- Post hoc fallacy — the assertion that one event caused another because the first occurred before the second.

## Helpful Hints

### 1. Choices and Incentives

The basic assumption made by economists about human behavior is that people try to make themselves as well off as possible. As a result, people respond to changed incentives by changing their decisions. The key idea is that an individual compares the additional (or “marginal”) benefit from taking an action to the additional (or “marginal”) cost of the action. If the marginal benefit from the action exceeds the marginal cost, taking the action makes the person better off, so the person takes the action. Conversely, if the marginal benefit falls short of the marginal cost, the action is not taken. Only the additional benefit and additional cost are relevant because they are the benefits and costs that the person will enjoy and incur if the action is undertaken. Keeping straight the distinction between additional benefits and costs versus total benefits and costs is a vital part of economics, particularly of microeconomics.

### 2. Models and Simplification

In attempting to understand how and why something works (for example, an airplane or an economy), we can use description or we can use theory. A description is a list of facts about something. But it does not tell us which facts are essential for understanding how an airplane works (the shape of the wings) and which facts are less important (the color of the paint). Scientists use theory to abstract from the complex descriptive facts of the real world and focus only on those elements essential for understanding. These essential elements are fashioned into models — highly simplified representations of the real world. In a real sense, models are like maps, which are useful precisely because they abstract from real
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world detail. A map that reproduced all the details of the real world (street lights, traffic signs, electric wires) would be useless. A useful map offers a simplified view, which is carefully selected according to the purpose of the map. A useful theory is similar: It gives guidance and insight into how the immensely complicated real world functions and reacts to changes.

Questions

True/False and Explain

Definition of Economics

1. Scarcity is a problem only for the poor.
2. Macroeconomics studies the factors that change national employment and income.

Three Big Microeconomic Questions

3. Answering the question “What goods and services are produced?” automatically answers the question, “How are goods and services produced?”
4. An example of the “how” question is: “How does the nation decide who gets the goods and services that are produced?”

Three Big Macroeconomic Questions

5. “For whom are goods and services produced?” is one of the big macroeconomic questions.
6. A rising cost of living is called inflation.
7. In a business cycle, an expansion follows the peak.

The Economic Way of Thinking

8. Tradeoffs mean that you give up one thing to get something else.
9. There is no such thing as a “how” tradeoff because a business uses only way to produce its products.
10. The output-inflation tradeoff refers to the point that lowering inflation increases output.
11. The opportunity cost of buying a slice of pizza for $3 rather than a burrito for $3 is the burrito.
12. By comparing the cost and benefit of a small change you are making your choice at the margin.

Economics: A Social Science

13. A positive statement is about what is; a normative statement is about what will be.
14. The idea of ceteris paribus is used whenever a post hoc fallacy is being examined.

Multiple Choice

Definition of Economics

1. The fact that wants cannot be fully satisfied with available resources reflects the definition of
   a. the standard of living.
   b. scarcity.
   c. the output-inflation tradeoff.
   d. for whom to produce.
2. Studying the effects choices have on the national economy is part of
   a. scarcity.
   b. microeconomics.
   c. macroeconomics.
   d. global science.

Three Big Microeconomic Questions

3. Which of the following is NOT one of the three big microeconomic questions?
   a. What goods and services are produced?
   b. How are goods and services produced?
   c. For whom are goods and services produced?
   d. Why are goods and services produced?
4. The question, “Should personal computers or mainframe computers be produced?” is an example of the
   b. “how” question.
   c. “where” question.
   d. “who” question.
5. People have different amounts of income. This observation is most directly related to which of the big microeconomic questions?
   a. The “what” question.
   b. The “how” question.
   c. The “why” question.
   d. The “who” question.
Three Big Macroeconomic Questions

6. Of the following, which country or region has the highest standard of living?
   a. Japan
   b. Central and Eastern Europe
   c. The United States
   d. Africa

7. During an inflation, the cost of living is ____ and the value of the dollar is ____.
   a. rising; rising
   b. rising; falling
   c. falling; rising
   d. falling; falling

8. Which of the following is the correct order for the parts of a business cycle?
   a. expansion, trough, recession, peak
   b. expansion, recession, trough, peak
   c. expansion, recession, peak, trough
   d. expansion, peak, recession, trough

The Economic Way of Thinking

9. The fact that Intel decides to produce CPU chips rather than memory chips best reflects a ____ trade-off.
   a. what
   b. how
   c. for whom
   d. standard of living

10. The standard of living tradeoff reflects trading off
     a. consumption in the United States for consumption in Africa.
     b. higher inflation for higher consumption.
     c. current consumption for economic growth.
     d. consumption and equality.

11. From 9 to 10 A.M., Fred can sleep in, go to his economics lecture, or play tennis. Suppose that Fred decides to go to the lecture but thinks that, if he hadn’t, he would otherwise have slept in. The opportunity cost of attending the lecture is
     a. sleeping in and playing tennis.
     b. playing tennis.
     c. sleeping in.
     d. one hour of time.

12. When the government chooses to use resources to build a dam, these resources are no longer available to build a highway. This choice illustrates the concept of
     a. a market.
     b. macroeconomics.
     c. opportunity cost.
     d. marginal benefit.

13. To make a choice on the margin, an individual
     a. ignores any opportunity cost if the marginal benefit from the action is high enough.
     b. will choose to use his or her scarce resources only if there is a very large total benefit from so doing.
     c. compares the marginal cost of the choice to the marginal benefit.
     d. makes the choice with the smallest opportunity cost.

Economics: A Social Science

14. A positive statement is
     a. about what ought to be.
     b. about what is.
     c. always true.
     d. one that does not use the *ceteris paribus* clause.

15. Which of the following is a positive statement?
     a. The government must lower the price of a pizza so that more students can afford to buy it.
     b. The best level of taxation is zero percent because then people get to keep everything they earn.
     c. My economics class should last for two terms because it is my favorite class.
     d. An increase in college tuition will lead fewer students to apply to college.

16. An economic model includes
     a. only normative statements.
     b. no use of *ceteris paribus*.
     c. all known facts about a situation.
     d. only details considered essential.

17. The Latin term *ceteris paribus* means
     a. “false unless proven true.”
     b. “other things the same.”
     c. “after this, then because of this.”
     d. “not correct, even though it is logical.”
18. One student from a class of 30 can walk easily through a door. Assuming that all 30 students simultaneously therefore can walk easily through the same door is an example of the
   a. opportunity cost fallacy.
   b. fallacy of composition
   c. fallacy of substitution.
   d. post hoc fallacy.

19. The post hoc fallacy is the
   a. assertion that what is true for a part of the whole must be true for the whole.
   b. claim that one event caused another because the one event came first.
   c. use of ceteris paribus in order to study the impact of one factor.
   d. claim that the timing of two events has nothing to do with which event caused the other.

- **Short Answer Problems**

1. “In the future, as our technology advances even further, eventually we will whip scarcity. In the high-tech future, scarcity will be gone.” Do you agree or disagree with this claim? Explain your answer and what scarcity is. Why does the existence of scarcity require choices?

2. What are the factors of production? Focusing on the factors of production, describe the relationship between the big microeconomic question “How are goods and services produced?” and the question “For whom are goods and services produced?”

3. How do you think the standard of living changes in the different parts of the business cycle?

4. Why does your decision to buy a taco from Taco Bell reflect a tradeoff? Be sure to discuss the role played by opportunity cost in your answer.

5. “Education is a basic right. Just as kindergarten through 12th grade education is free, so, too, should a college education be free and guaranteed to every American.” This statement can be analyzed by using the economic concepts discussed in this chapter to answer the following questions.
   a. What would be the opportunity cost of providing a free college education for everyone?
   b. Is providing this education free from the perspective of society as a whole?

6. Indicate whether each of the following statements is positive or normative. If it is normative, rewrite it so that it becomes positive. If it is positive, rewrite it so that it becomes normative.
   a. Policymakers ought to lower the inflation rate even if it lowers output.
   b. An imposition of a tax on tobacco products will decrease their consumption.
   c. Health care costs should be lower so that poorer people can afford quality health care.

7. In sciences such as chemistry, controlled experiments play a key role. How does that relate to economists’ use of ceteris paribus?

- **You’re the Teacher**

1. Your friend asks, “Does everything have an opportunity cost?” Your friend has hit upon a very good question; provide an equally good answer!

2. “Economic theories are useless because the models on which they are based are totally unrealistic. They leave out so many descriptive details about the real world, they can’t possibly be useful for understanding how the economy works.” So says your skeptical friend. You’d like to keep your friend in your economics class so that you two can study together. Defend the fact that economic theories are much simpler than reality and help your friend realize that time spent studying economic theories is time well spent!
CHAPTER 1

Answers

True/False Answers

Definition of Economics
1. F Scarcity exists because people’s wants exceed their ability to meet those wants, and this fact of life is true for any person, rich or poor.
2. T Macroeconomics studies the entire economy; microeconomics studies separate parts of the economy.

Three Big Microeconomic Questions
3. F Almost always, goods and services can be produced many different ways, so the “how” question must be answered separately from the “what” question.
4. F The “how” question asks, “How are goods and services produced?”

Three Big Macroeconomic Questions
5. F The “for whom” question is one of the three microeconomic questions.
6. T A rising cost of living is the definition of inflation.
7. F A recession follows the peak. An expansion follows the trough.

The Economic Way of Thinking
8. T The question gives the definition of a tradeoff.
9. F Businesses almost always can produce their products many different ways, so they face a “how” tradeoff when they choose which method they will use.
10. F The output-inflation tradeoff refers to the point that lowering inflation decreases output.
11. T The opportunity cost is the burrito that was foregone in order to buy the pizza.
12. T The definition of making a choice at the margin means that choice revolves around a small change.

Economics: A Social Science
13. F Although a positive statement is, indeed, about what is, a normative statement tells what policies should be followed.

Multiple Choice Answers

Definition of Economics
1. b Scarcity refers to the observation that wants are unlimited but that the resources available to satisfy these wants are limited.
2. c Macroeconomics studies the national economy as well as the global economy.

Three Big Microeconomic Questions
3. d “Why” is not one of the three big microeconomic questions.
4. a The “what” question asks in part, “What goods and services are produced?”
5. d People with high incomes will get more goods and services than those with low incomes.

Three Big Macroeconomic Questions
6. c Of the areas listed, the United States has the highest standard of living.
7. b Inflation is defined as a rising cost of living and when the cost of living is rising, dollars are falling in value because each dollar buys fewer goods and services.
8. d Answer d is the correct ordering of the business cycle.

The Economic Way of Thinking
9. a The “what” tradeoff reflects Intel’s decisions about “what” to produce.
10. c Economic growth will increase if people save more, but saving more means cutting current consumption of goods and services.
11. c The opportunity cost of an action is the (single) highest-valued alternative foregone by taking the action.
12. c Because the resources are used to build a dam, the opportunity of using them to build a highway is given up.
13. c Comparing marginal cost and marginal benefit is an important technique, especially in microeconomics.

14. F Ceteris paribus, Latin for “other things being equal,” is used in order to focus on the effect from a change in one factor alone.
**Economics: A Social Science**

14. **b** Positive statements describe how the world operates.

15. **d** This statement is the only one that tries to describe how the world actually works; all the others are normative statements that describe a policy that should be pursued.

16. **d** By including only essential details, economic models are vastly simpler than reality.

17. **b** *Ceteris paribus* is the economic equivalent of a controlled experiment: Its use allows us to determine the effect from each factor alone even though many factors might play a role in affecting a variable.

18. **b** In this case, the fallacy of composition is arguing that what is true for a part must necessarily be true for the whole.

19. **b** The usual *post hoc* fallacy is to claim that one event caused another because the first event occurred before the second.

**Answers to Short Answer Problems**

1. This claim is incorrect. Scarcity will always exist. Scarcity occurs because people’s wants are basically unlimited, but the resources available to satisfy these wants are finite. As a result, not all of everyone’s wants can be satisfied. For instance, think about the number of people who want to spend all winter skiing on uncrowded slopes. Regardless of the level of technology, there simply are not enough ski slopes available to allow everyone who wants to spend all winter skiing in near isolation to do so. Uncrowded ski slopes are scarce and will remain so. Because not all the goods and services wanted can be produced, choices must be made about which wants will be satisfied and which wants will be disappointed.

2. The four factors of production are land, labor, capital, and entrepreneurship. These are the resources used to produce goods and services, so the question asking how goods and services are produced asks which factors will be used. People earn their incomes by offering factors of production for use. Land earns rent, labor earns wages, capital earns interest, and entrepreneurship earns profit. The answer to the question asking for whom the goods and services are produced depends on people’s incomes. So, for example, if more land is used to produce goods and services, then landowners’ incomes will be higher so they will be able to acquire more of the goods and services that have been produced.

3. The standard of living is the level of consumption that people enjoy, on the average. The level of consumption depends on the amount of goods and services produced. During a business cycle, the standard of living will be lowest at the trough, because production is lowest. It will rise during an expansion and reach its maximum at the peak. During a recession the standard of living will fall.

4. The decision to buy a taco reflects a tradeoff because you have given up your funds in exchange for the taco. The opportunity cost of buying the taco is the highest-valued alternative given up. For instance, suppose that if you had not decided to buy the taco, you would then have used the funds to buy a burger from Burger King. In this case, the opportunity cost of buying the taco is the forgone burger because that is the highest-valued alternative given up.

5. a. Even though a college education may be offered without charge (“free”), opportunity costs still exist. The opportunity cost of providing such education is the highest valued alternative use of the resources used to construct the necessary universities and the highest valued alternative use of the resources (including human resources) used in the operation of the schools.

b. Providing a “free” college education is hardly free from the perspective of society. The resources used in this endeavor would no longer be available for other activities. For instance, the resources used to construct a new college cannot be used to construct a hospital to provide better health care. Additionally, the time and effort spent by the faculty, staff, and students operating and attending colleges has a substantial opportunity cost, namely, that these individuals cannot participate fully in other sectors of the economy. Providing a “free” college education to everyone is not free to society!

6. a. This statement is normative. A positive statement is: “If policymakers lowered the inflation rate by 1 percentage point, then output would fall by 1 percent.”

b. This statement is positive. A normative statement is: “We should impose a tax on tobacco
products in order to decrease their consumption.”

c. This statement is normative. A positive statement is: “If health care costs were lower, more poor people would receive health care.”

7. Chemists can check the predictions of a model by conducting controlled experiments and observing the outcomes. For instance, when determining the effect of temperature on a particular reaction, chemists can ensure that, between different experiments, only the temperature changes. Everything else is held constant. Economists usually cannot perform such controlled experiments and instead must change one variable at a time in a model and compare the results. This approach involves the use of ceteris paribus, wherein only one factor is allowed to change. So, economists face more difficult and less precise model building and testing than is possible for the controlled experiments of chemists and other scientists.

You’re the Teacher

1. “Virtually everything has an opportunity cost. People sometimes say that viewing a beautiful sunset or using sand from the middle of the Sahara Desert have no opportunity costs. But that isn’t strictly true. Viewing the sunset has an opportunity cost in terms of the time spent watching it. The time could have been utilized in some other activity and, whatever the next highest-valued opportunity might have been, that is the opportunity cost of watching the sunset. Similarly, making use of sand from the Sahara also must have some opportunity cost, be it the time spent in gathering the sand or the resources spent in gathering it. So from the widest of perspectives, the answer is: Yes, everything does have an opportunity cost.”

2. “Economic theories are like maps, which are useful precisely because they abstract from real world detail. A useful map offers a simplified view, which is carefully selected according to the purpose of the map. No map maker would claim that the world is as simple (or as flat) as the map, and economists do not claim that the real economy is as simple as their theories. What economists do claim is that their theories isolate the effects of real forces operating in the economy, yield predictions that can be tested against real-world data, and result in predictions that often are correct.

“I’ve got a book here that my parents gave to me by Milton Friedman, a Nobel Prize winner in Economics. Here’s what he says on this topic: ‘A theory or its ‘assumptions’ cannot possibly be thoroughly ‘realistic’ in the immediate descriptive sense…. A completely ‘realistic’ theory of the wheat market would have to include not only the conditions directly underlying the supply and demand for wheat but also the kind of coins or credit instruments used to make exchanges; the personal characteristics of wheat-traders such as the color of each trader’s hair and eyes, … the number of members of his family, their characteristics, … the kind of soil on which the wheat was grown, … the weather prevailing during the growing season; … and so on indefinitely. Any attempt to move very far in achieving this kind of ‘realism’ is certain to render a theory utterly useless.’

“I think Friedman makes a lot of sense in what he says. It seems to me that theories have to be simple in order to be powerful and so I don’t see anything wrong with the fact that economic theories leave out a bunch of trivial details.”

1. The most fundamental economic problem is
   a. reducing unemployment.
   b. health and health care.
   c. scarcity.
   d. decreasing the inflation rate.

2. Studying how an individual firm decides to set its price is primarily a concern of
   a. normative economics.
   b. macroeconomics.
   c. microeconomics.
   d. all economists.

3. Which of the following is a macroeconomic topic?
   a. Why has the price of a personal computer fallen over time?
   b. How does a rise in the price of cheese affect the pizza market?
   c. What factors determine the nation’s inflation rate?
   d. How does a consumer decide how many tacos to consume?

4. When the economy produces fireworks for sale at the Fourth of July, it most directly is answering the ____ question.
   a. what goods and services are produced
   b. opportunity cost
   c. for whom are goods and services produced
   d. how are goods and services produced

5. When doctors have an average income that exceeds $250,000, the economy most directly is answering the ____ question.
   a. what goods and services are produced
   b. opportunity cost
   c. how are goods and services produced
   d. for whom are goods and services produced

6. Which of the following is NOT a big macroeconomic question?
   a. How are goods and services produced?
   b. What determines the cost of living?
   c. Why does our economy fluctuate?
   d. What determines the standard of living?

7. The big tradeoff between equality and efficiency reflects the point that
   a. policy actions to lower inflation also lower output.
   b. if more of one good is produced, less of another can be produced.
   c. taxing productive activities means producing fewer goods and services.
   d. None of the above answers is correct.

8. Opportunity cost is
   a. zero for services, because services do not last for very long, and positive for goods, because goods are long lasting.
   b. paid by society not by an individual.
   c. the highest-valued alternative given up by making a choice.
   d. all the alternatives given up by making a choice.

9. In economics, positive statements
   a. are only about facts that economists are certain (are “positive”) are true.
   b. tell what policy the government ought to follow.
   c. depend on value judgments.
   d. in principle, can be tested to determine if they are true or false.

10. The fallacy of composition is the (false) statement
    a. that theory is necessary to better understand the real world.
    b. that models can be normative in nature without any positive conclusions.
    c. that people’s free will makes predicting their behavior futile.
    d. that what is true for the whole must necessarily be true for the part.