

Study Guide  
to Accompany  
**MICROECONOMICS**

DAVID N. HYMAN



**Donald P. Maxwell**

**STUDY GUIDE**  
**to accompany**  
**MICROECONOMICS**  
**DAVID N. HYMAN**

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1989  
**IRWIN**

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## TO THE STUDENT

This Study Guide to accompany Hyman, Economics is designed as a set of interactive modules covering the key concepts developed in the textbook chapters and appendices. These modules will help you understand and apply the concepts you need to know. The Study Guide is based on my experiences teaching university economics for over a decade.

Each chapter of the Study Guide begins with **Chapter Challenges**, which give you the important learning objectives of the corresponding textbook chapter. This is followed by **In Brief: Chapter Summary**, which asks you to complete the summary, and in doing so review key concepts. The **Vocabulary Review** that follows is a fill-in exercise that will reinforce your understanding of the key terms in David Hyman's Economics glossary. Next comes a set of problems and exercises, **Skills Review**, selected to reinforce the main learning objectives of the chapter. These questions are presented in the same order as the concepts appear in the textbook. Each block of questions in the Skills Review section is subtitled according to the learning concept to which it applies, so that you can concentrate on areas that require extra study. These problems and exercises involve graphing, filling in tables, completing sentences, matching, listing, and discussion. For most chapters, advanced questions are included. These offer additional challenges and the opportunity to apply more advanced analysis, such as algebraic analysis, to certain problems.

After the Skills Review, a minitest of 15 to 20 multiple choice questions, like those you will encounter on exams, is included in the **Self-Test for Mastery**. These questions will give you feedback to determine how well you have mastered the important concepts of the chapter. The self-test is followed by 3 to 5 discussion questions that ask you to apply the concepts of the chapter to issues and problems. Following this **Discussion** section, 20 chapters of the Study Guide include a **Pop Quiz**. This exercise asks you to read a recent Wall Street Journal news article and answer one or two discussion questions. At the end of each chapter or appendix is an answer key. **Chapter Answers** include answers to all sections of the Study Guide, including discussion questions, so that you can check your progress.

In using this Study Guide, I suggest you first read the textbook chapter, paying particular attention to the introductory statement of learning objectives for the chapter and the concept checks that appear throughout the chapter. Next, complete the fill-in summary section of the Study Guide. Go back to the textbook and read and study the section for any parts of the summary that you answered incorrectly. Answer the vocabulary exercise next, after you review the glossary terms in the margins of the text chapter.

The problems and exercises in the Skills Review correspond closely to the examples used by David Hyman in the textbook. Try to answer the questions in the Skills Review and go back to the text for additional study if you have difficulty understanding how to answer a question. You can use the answer key for help, but you will get the most benefit by first studying the text and then working the problems in the Study Guide, rather than by going directly to the answer key.

After completing the Skills Review, take the self-test of multiple choice questions and compare your answers to those in the answer key to see where you need to spend additional study time. Review the concepts in the text and Study Guide that you have not yet mastered. Now try to answer the discussion questions from the Discussion and Pop Quiz sections. Read the answers to the discussion questions in the answer section. If there are discussion questions that you do not understand, go back to the corresponding sections of the text and Study Guide for additional study.



## ACKNOWLEDGMENTS

I would like to thank the editors and staff at Times Mirror/Mosby and Irwin for suggesting this project and providing advice and support throughout the preparation of the manuscript. In particular, I would like to thank Jean Babrick, Developmental editor for Supplements, and Denise Clinton, Sponsoring Editor, for their encouragement and assistance. I would like to thank David Hyman for making this possible. I also want to thank the copy editors, Elisabeth Heitzeberg and Sandy Gilfillan for their work on the manuscript. Finally, thanks to Kathy Lumpkin, Production Editor, and her staff for bringing the Study Guide to you.

The Study Guide was reviewed by an expert in the design of educational supplements and by several experienced university economics instructors for general content, appropriateness, and accuracy. Special thanks go to the technical reviewers of the manuscript, Kathy Gillespie of St. Louis University and Ben Childers of the University of Missouri, Columbia. Additional and very sincere thanks go to **Irwin Feller**, Penn State University, **James Kahn**, State University of New York, Binghamton, **William Witter**, University of North Texas, and **Richard Spivack** of Bryant College for reviewing the entire manuscript and providing valuable feedback and suggestions.

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# 1

## Economics: What It's All About

### CHAPTER CHALLENGES

After studying your text, attending class, and completing this chapter, you should be able to:

1. Describe the mechanism of the economy and the discipline of economics.
2. Understand the concepts of scarcity and opportunity costs.
3. Discuss major branches of economic inquiry: microeconomics, macroeconomics, positive analysis, and normative analysis.

### IN BRIEF: CHAPTER SUMMARY

Fill in the blanks to summarize chapter content.

Economics is a study concerned with the use society makes of its

- (1)\_\_\_\_\_ (scarce, abundant) resources in attempting to satisfy the  
(2)\_\_\_\_\_ (normal, unlimited) desires of its members. The economy represents the mechanism or structure that organizes scarce resources for the purpose of producing the goods and services desired by society.  
(3)\_\_\_\_\_ (Inflation, Scarcity) is the fundamental problem facing all economies. It is also the reason decisions or choices involve  
(4)\_\_\_\_\_ (opportunity costs, production costs).

The real cost or opportunity cost of any choice is the value of the sacrifice required in making that decision. That sacrifice represents the foregone opportunity to pursue the (5)\_\_\_\_\_ (next best, any) decision. A fundamental problem confronting an economy is how to best meet the desires of individuals in a world of scarcity. Economies do this by addressing several basic questions: (a) What will be produced? (b) How will goods and services be produced? (c) To whom will goods and services be distributed? An economy's answers to the first two questions reveal the (6)\_\_\_\_\_ (fairness, efficiency) with which resources are used to satisfy the desires of society. The third question requires that society make value judgments regarding the distribution of income.

The two major branches of economic analysis are macroeconomics and microeconomics. (7)\_\_\_\_\_ (Macroeconomics, Microeconomics) is concerned with the economic behavior of individual decision-making units in the economy.  
(8)\_\_\_\_\_ (Macroeconomics, Microeconomics) is concerned with the effects of the aggregate economic behavior of all individuals, firms, and institutions. Inflation and unemployment are two topics that are studied in (9)\_\_\_\_\_ (macroeconomics, microeconomics), whereas the determination of prices and an analysis of markets are subjects dealt with in (10)\_\_\_\_\_ (macroeconomics, microeconomics).



Positive economic analysis seeks to determine (11) \_\_\_\_\_ ("what ought to be", "what is"). (12) \_\_\_\_\_ (Positive, Normative) economic analysis emphasizes the "should" or "ought to" approach. Positive analysis tries to uncover cause-and-effect relationships that are subject to empirical observation and verification. In contrast, normative analysis depends upon the analyst's (13) \_\_\_\_\_ (value judgment, mathematical skills). Disagreements arise among practitioners in any discipline. With positive analysis, it is possible to resolve disagreements empirically. With normative analysis, disagreements stem from different value systems and must be resolved in ways other than looking at the "facts."

## VOCABULARY REVIEW

Write the key term from the list below next to its definition.

### Key Terms

Economy	Macroeconomics
Economics	Unemployment rate
Scarcity	Inflation
Opportunity cost	Positive analysis
Microeconomics	Normative analysis

### Definitions

- \_\_\_\_\_ : the cost of choosing to use resources for one purpose measured by the sacrifice of the next best alternative for using those resources.
- \_\_\_\_\_ : economic analysis concerned with the individual choices made by participants in the economy--also called price theory.
- \_\_\_\_\_ : the rate of upward movement in the price level for an aggregate of goods and services.
- \_\_\_\_\_ : seeks to forecast the impact of changes in economic policies or conditions on observable items, such as production, sales, prices, and personal incomes, and then tries to determine who gains and who loses as a result of the changes.
- \_\_\_\_\_ : the mechanism through which the use of labor, land, structures, vehicles, equipment, and natural resources is organized to satisfy the desires of those who live in a society.
- \_\_\_\_\_ : the imbalance between the desires of society and the means with which those desires are satisfied.
- \_\_\_\_\_ : evaluates the desirability of alternative outcomes according to underlying value judgments about what is good or bad.
- \_\_\_\_\_ : a study of society's use of scarce resources in the satisfaction of the unlimited desires of its members.
- \_\_\_\_\_ : economic analysis that considers the overall

performance of the economy with respect to total national production, consumption, average prices, and employment levels.

10. \_\_\_\_\_: measures the ratio of the number of people classified as unemployed to the total labor force.

## SKILLS REVIEW

**Concept:** Describe the mechanism of the economy

1. List the three basic questions that all economies must answer:

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

**Concept:** Opportunity cost

2. Identify the likely opportunity costs associated with the following decisions.

Hint: Think in terms of what would likely be sacrificed in pursuing a decision. In other words, what would have been the next best use of your time, money, or resources?

- a. You decide to attend a university full time.
  - b. Your decision to purchase a new home results in a larger portion of your income committed to mortgage payments.
  - c. You are having such a good time in the Caribbean, that you decide to extend your vacation by taking an additional week of vacation at no pay.
  - d. As a manager, you decide to commit some of the corporation's resources to a plant expansion project.
3. Advanced Problem. Suppose that you are a farmer capable of producing corn or soybeans. Over the years you have maintained records regarding your total production of both crops. Assume that you have made full and efficient use of your resources throughout this period. Furthermore, assume that the only reason corn relative to soy production has changed is because of your desire to grow the combination of crops that produce the highest net farm income. Referring to your production data below, determine the opportunity cost of producing an additional bushel of soybeans. If the current price of a bushel of corn is \$7, what is the dollar value of that opportunity cost?

Production Data  
(000s of bushels)

	Soy	Corn
1981	100	20
1982	50	40
1983	25	50
1984	0	60
1985	75	30
1986	150	0
1987	125	10

- a. Opportunity cost measured in bushels of corn: \_\_\_\_\_ bushels

b. Opportunity cost measured in dollars: \$ \_\_\_\_\_

**Concept: Positive and normative analysis**

4. In the blanks provided, indicate whether the following statements involve positive (P) or normative (N) analysis:
- a. \_\_\_\_\_ Fred ought to get his act together.
  - b. \_\_\_\_\_ My professor arrives for class late every morning.
  - c. \_\_\_\_\_ The drought in the Midwest is increasing corn prices.
  - d. \_\_\_\_\_ Government is too obtrusive and therefore its power should be reduced.
  - e. \_\_\_\_\_ Lower state income tax rates are always preferable to higher rates.
  - f. \_\_\_\_\_ Poverty is a serious problem in the United States.
5. Monitor your own statements as you interact with friends, family members, or fellow students and try to determine if your statements are based upon fact or observation or value judgments. For one day, carry a sheet of paper divided into two columns--label one column "fact" and the other "value judgment." Record your interactions with others and think about whether positive or normative statements are being made.

**SELF-TEST FOR MASTERY**

Select the best answer.

1. Which of the following best describes the study of economics?
- a. A study concerned with how to make money
  - b. A fuzzy combination of Wall Street and insurance
  - c. A study of how society uses its goods and services in determining the proper distribution of income
  - d. A study of how society uses its scarce economic resources in satisfying the unlimited desires of society
2. The mechanism through which resources are organized in order to satisfy the desires of society is known as:
- a. A corporation.
  - b. Government.
  - c. An economy.
  - d. A factory.
3. Scarcity means that:
- a. Resources are in finite supply.
  - b. Poverty takes its toll on those with limited means.
  - c. Choices are unnecessary.
  - d. An imbalance exists between desires and the means by which those desires are satisfied.
4. The real cost of a choice or decision is its opportunity cost. Which of the following best defines opportunity cost?
- a. The actual dollar outlay required to produce a good or service
  - b. The value of the forgone next best alternative
  - c. The value to the resources required to implement the decision



- d. The value of the loss that occurs when a speculative investment does not meet profit expectations
5. If a state government had a limited amount of tax and other revenue but decided to substantially increase the amount of appropriations to public education, appropriations to other functions such as corrections, health, and welfare would diminish. What concept is represented by this statement?
- a. Opportunity costs  
b. Normative analysis  
c. Efficiency  
d. None of the above
6. Microeconomics is a branch of economics that:
- a. Studies the impact of inflation on the unemployment rate.  
b. Studies the behavior of individual decision-making units in the economy.  
c. Studies the effects and consequences of the aggregate behavior of all decision-making units.  
d. Is only concerned with the determination of income.
7. Macroeconomics is a branch of economics that:
- a. Studies the effects and consequences of the aggregate behavior of all decision-making units in the economy.  
b. Is only concerned with the determination of individual market prices.  
c. Studies the behavior of individual decision-making units in the economy.  
d. Studies neither inflation nor unemployment.
8. Topics such as business cycles, unemployment, and inflation are studied in \_\_\_\_\_, whereas the determination of prices and the study of individual markets are studied in \_\_\_\_\_.
- a. Positive analysis/normative analysis  
b. Normative analysis/positive analysis  
c. Microeconomics/macroeconomics  
d. Macroeconomics/microeconomics
9. The rate of unemployment is defined as:
- a. The number of job seekers.  
b. The number of individuals who have been laid off or are unemployed but seeking work.  
c. The number of job seekers as a percentage of total employment.  
d. The number of individuals who have been laid off or are unemployed but seeking work expressed as a percentage of the labor force.
10. With respect to inflation, which of the following is true?
- a. A one-time price increase of bananas constitutes inflation.  
b. Inflation represents a widespread and continuing increase in prices.  
c. Inflation represents the main or fundamental problem faced by all economies.  
d. Inflation is studied in microeconomics.
11. Which of the following involves value judgments?
- a. Normative analysis  
b. Positive analysis

- c. The search for a superconducting material operable at room temperature
  - d. The decision to install lifeline (discount) electric utility rates for the elderly
  - e. A and d
12. \_\_\_\_\_ makes "ought to" or "should" statements, whereas \_\_\_\_\_ makes statements based upon observable events and therefore can be subjected to empirical verification.
- a. Positive analysis/normative analysis
  - b. Normative analysis/positive analysis
  - c. Macroeconomics/microeconomics
  - d. Microeconomics/macroeconomics

### THINK IT THROUGH

1. Define economics, including its branches, microeconomics and macroeconomics. What are some topics typically addressed by each of these branches?
2. Explain why scarcity and opportunity costs are related. Give an example from your personal or business experiences of the opportunity cost of a decision.
3. As you will discover later in the text, under certain assumptions it can be shown theoretically that a perfectly competitive economy will produce a distribution of income where labor receives an income based upon its productive contribution to the enterprise. This is consistent with the protestant ethic which states that hard work and reward should go hand in hand. This statement involves both positive and normative analysis. Discuss.

### CHAPTER ANSWERS

#### In Brief: Chapter Summary

1. Scarce    2. Unlimited    3. Scarcity    4. Opportunity cost    5. Next best
6. Efficiency    7. Microeconomics    8. Macroeconomics    9. Macroeconomics    10. Microeconomics
11. "What is"    12. Normative    13. Value judgments

#### Vocabulary Review

1. Opportunity costs    2. Microeconomics    3. Inflation    4. Positive analysis
5. Economy    6. Scarcity    7. Normative analysis    8. Economics    9. Macroeconomics    10. Unemployment rate

#### Skills Review

1.
  - a. What will be produced?
  - b. How will goods and services be produced?
  - c. To whom will goods and services be distributed?
2.
  - a. If you attend a university full time, there are a number of potential sacrifices all of which have value. The most obvious sacrifice is the potential income you could have earned had you been employed full

time. You may have less time to spend with your family and friends, as well as less leisure time. Direct outlays on tuition, room, and board could have been invested or saved.

- b. As recently as the early 1970s it was not uncommon for homeowners to allocate only 15% of their incomes to mortgage payments. Today it is more common for families to spend as much as 25% to 35% of their incomes for housing. If you commit a much larger share of your income to housing, given scarcity (or a limited income), you must cut your spending elsewhere. The reduction in the value of goods and services consumed as a result of purchasing a more expensive home represents the opportunity cost of your decision.
  - c. If you choose to take a week of vacation without pay, you obviously sacrifice the income you would have earned otherwise. That extra week, as a result, is much more costly to you than the previous week of vacation.
  - d. If corporate funds are to be used for a specific project, they cannot be used for alternative investment projects. Depending on the needs of the firm, the funds could be invested in financial assets generating an interest income. The funds could be used for other investment projects yielding income. Businesses interested in achieving the highest level of profit will usually allocate funds to the projects yielding the highest return because to do otherwise would mean that the firm would be sacrificing opportunities to earn profit.
3. a. Two fifths of a bushel of corn. Historical production data reveal that for every 10,000-bushel increase in corn production, there is a 25,000-bushel decrease in soy output. Because the farmer is fully using his or her resources and employing these resources efficiently, the only way soy production can be increased is by withdrawing resources from corn production and employing those resources in soy production. Consequently, for every bushel increase in corn production, there is a 2.5-bushel decrease in soy production. In other words, for every additional bushel of soy produced, corn production must be reduced by two fifths of a bushel.
- b. Two fifths of a bushel times \$7 per bushel = \$2.80. The opportunity cost of producing a bushel of soy measured in dollars represents the dollar value of that sacrificed output of corn.

4. a. N    b. P    c. P    d. N    e. N    f. N

#### Self-Test for Mastery

1. d    2. c    3. d    4. b    5. a    6. b    7. a    8. d    9. d    10. b    11. e  
12. b

#### Think it Through

1. Economics is a study of how society uses its scarce resources to satisfy the unlimited wants of its members. Macroeconomics is a study of the effects of the aggregate economic behavior of all decision-making units in the economy, whereas microeconomics is concerned with an analysis of the decision making of individual firms, households, or other decision-making units. Business cycles, inflation, and unemployment are topics covered in macroeconomics. Microeconomics, also known as price theory, analyzes among other things individual markets and the determination of prices.



2. If there were no scarcity, the opportunity costs of decisions requiring the use of resources would be zero. There would be such a thing as a "free lunch." If resources were available everywhere and in unlimited supply, the farmer in the above example could at any time produce more soy or corn without having to sacrifice the output of the other.

3. The first statement regarding a competitive economy's ability to reward labor on the basis of labor's productive contribution is deduced from economic theory, which itself is a collection of postulates based upon empirically verifiable observations. In this sense, this statement involves positive analysis. The second statement declares that this method of income distribution is "good." But this is based upon a value system consistent with the protestant ethic, which is only one of many possible value systems. It is therefore a normative statement.

## Basic Tools for Analyzing Economic Relationships

### IN BRIEF: APPENDIX SUMMARY

Fill in the blanks to summarize appendix content.

Describing data graphically requires a number of considerations. Does the variable take on positive values only or does it also take on negative values? What is the unit of measurement? For what purpose are the data to be plotted? If you want to present a cause-and-effect relationship between two variables, a plot of the variables on a (1) \_\_\_\_\_ (set of axes, bar graph) would be appropriate. If you are interested in the cause-and-effect relationship of a third variable, a (2) \_\_\_\_\_ (bar graph, set of axes) cannot be used. If you are only interested in presenting the fluctuation in a variable over time, a plot on a set of axes is usually all that is required, although a bar graph can be employed.

Because most economic variables take on positive values, a set of axes having an origin in the extreme (3) \_\_\_\_\_ (northeast, southwest) corner is required. As you read vertically upward or horizontally rightward from the origin, units of measurement become increasingly positive. Each axis is defined in terms of a unit of measurement. Units of measurement can be discrete or continuous. A (4) \_\_\_\_\_ (discrete, continuous) variable is expressed in units that are indivisible. A (5) \_\_\_\_\_ (discrete, continuous) variable is divisible into fractions of a whole.

A plot of a specific set of values or (6) \_\_\_\_\_ (coordinates, intersections) of two variables on a set of axes produces a curve when the points are connected by a line. The curve can reveal important information regarding the association among the two variables plotted. If the variable on the vertical axis increases when the variable plotted on the horizontal axis increases, there is a (7) \_\_\_\_\_ (positive, negative) relationship between the two variables. If the variable on the vertical axis decreases when the variable plotted on the horizontal axis increases, the relationship is a (8) \_\_\_\_\_ (positive, negative) one. If there is no change in the variable plotted on the vertical axis when the variable on the horizontal axis changes, there is no relationship between the variables.

The (9) \_\_\_\_\_ (intersection, slope) of a curve describes the rate of change in the variable on the vertical axis given a change in the variable on the horizontal axis. A curve describing a positive relationship between variables has a (10) \_\_\_\_\_ (positive, negative) slope. A curve describing a negative relationship has a (11) \_\_\_\_\_ (positive, negative) slope, and a curve indicating no relationship between the two variables has a slope of zero. On a bowl-shaped or inverted bowl-shaped curve, a slope of zero represents the point at which the curve (or the value of the variable plotted on the vertical axis) reaches a maximum or minimum value. Two curves that just touch each other but do not intersect have (12) \_\_\_\_\_ (unequal, equal) slopes at that point of tangency. If two curves (13) \_\_\_\_\_ (intersect, are tangent), the two slopes at that point can both be positive or negative or one can be positive and the other negative, but they cannot be equal to each other as is the case with (14) \_\_\_\_\_ (an intersection, a tangency).

## VOCABULARY REVIEW

Write the key term from the list below next to its definition.

### Key Terms

Origin  
Curve  
Slope  
Bar graph  
Intersection  
Tangency

Coordinate  
Positive relationship  
Negative relationship  
Discrete variable  
Continuous variable  
Time series data

### Definitions

1. \_\_\_\_\_: Measures the rate at which the variable on the vertical axis rises or falls as the variable on the horizontal axis increases.
2. \_\_\_\_\_: Data that show fluctuations in a variable over time.
3. \_\_\_\_\_: The point on a set of axes at which both variables,  $\underline{X}$  and  $\underline{Y}$ , take on a value of zero.
4. \_\_\_\_\_: A graph that shows that value of  $\underline{Y}$  as the height of a bar for each corresponding value of  $\underline{X}$ .
5. \_\_\_\_\_: The point at which two curves cross on a set of axes.
6. \_\_\_\_\_: Variable  $\underline{Y}$  increases whenever variable  $\underline{X}$  decreases and vice versa.
7. \_\_\_\_\_: Variable  $\underline{Y}$  increases whenever variable  $\underline{X}$  increases and vice versa.
8. \_\_\_\_\_: A variable that can realistically and meaningfully take on minute fractions of a variable.
9. \_\_\_\_\_: A point at which two curves just touch but do not intersect.
10. \_\_\_\_\_: A pair of numbers that corresponds to a pair of values for variables  $\underline{X}$  and  $\underline{Y}$  when plotted on a set of axes.
11. \_\_\_\_\_: A variable that cannot vary by fractions of units.
12. \_\_\_\_\_: A straight or curved line drawn to connect points plotted on a set of axes.



## SKILLS REVIEW

1. a. Using the production data from question 3 in the Skills Review section in Chapter 1, construct the following bar charts:

Production Data			
	Soybeans (000s of bushels)		Corn (000s of bushels)
1981	100		20
1982	50		40
1983	25		50
1984	0		60
1985	75		30
1986	150		0
1987	125		10

