STUDY GUIDE to Accompany McCONNELL and BRUE

ECONOMICS

THIRTEENTH EDITION

WILLIAM B. WALSTAD

ROBERT C. BINGHAM

STUDY GUIDE
TO ACCOMPANY
McCONNELL AND BRUE

Economics

THIRTEENTH EDITION

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McGraw-Hill, Inc.
New York • St. Louis • San Francisco • Auckland • Bogotá • Caracas
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Study Guide to Accompany McConnell and Brue: Economics

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1 2 3 4 5 6 7 8 9 0 MAL MAL 9 0 9 8 7 6 5

ISBN 0-07-046821-4

This book was set in Helvetica by York Graphic Services, Inc.
The editors were Lucille H. Sutton and Joseph F. Murphy;
the designer was Joseph A. Piliero;
the production supervisor was Annette Mayeski.
Malloy Lithographing, Inc., was printer and binder.

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Robert C. Bingham was an undergraduate student at DePauw University and obtained M.A. and Ph.D. degrees from Northwestern University. He taught at the University of Nebraska—Lincoln where he was a colleague of Professor McConnell before coming to Kent State University from which he retired in 1985. He was the author of several other study guides and supplements for the principles of economics courses.

How to Use the Study Guide to Learn Economics

This ***Study Guide*** is designed to help you read and understand Campbell R. McConnell and Stanley L. Brue's textbook, ***Economics,*** Thirteenth Edition. If used properly, a guide can be a great aid to you in what is probably your first course in economics.

No one pretends that the study of economics is easy, but it can be made easier. Of course a study guide will not do your work for you, and its use is no substitute for reading the text. You must be willing to read the text, spend time on the subject, and work at learning if you wish to understand economics.

Many students do read their text and work hard on their economics course and still fail to learn the subject. This is because principles of economics is a new subject for them, and they have had no previous experience in learning economics. They want to learn but do not know just how to go about it. Here is where the ***Study Guide*** can help. Let us first see what the ***Study Guide*** contains and then how to use it.

■ WHAT THE STUDY GUIDE IS

The ***Study Guide*** contains forty chapters—one for each chapter in the text and a ***glossary.*** Each ***Study Guide*** chapter has eleven sections. The first five sections identify and explain the basic content and concepts in each chapter.

1. An ***introduction*** explains what is in the chapter of the text and how it is related to material in earlier and later chapters. It points out topics to which you should give special attention, and reemphasizes difficult or important principles and facts.
2. A ***checklist*** tells you the things you should be able to do when you have finished the chapter.
3. A ***chapter outline*** shows how the chapter is organized and summarizes briefly the essential points made in the chapter.
4. A list of the ***important terms*** found in the chapter points out what you must be able to define in order to understand the material in the chapter. A definition of each of these terms will be found in the glossary at the end of the ***Study Guide.***
5. Selected ***hints and tips*** are given for each chapter to help you master the material and to make connections with any previous discussion of a topic.

The next six sections of the ***Study Guide*** allow you to ***self-test*** your understanding of the chapter material.
6. ***Fill-in questions*** (short-answer and list questions) help you to learn and remember the important generalizations and facts in the chapter.
7. ***True-false questions*** can be used to test your understanding of the material in the chapter.
8. ***Multiple-choice questions*** also give you a chance to check your knowledge of the chapter content and to prepare for this type of course examination.
9. ***Problems*** assist you in learning and understanding economic concepts by requiring different skills—drawing a graph, completing a table, or finding relationships—to solve the problems.
10. ***Short answer and essay questions*** can be used to test yourself, to identify important questions in the chapter, and to prepare for examinations.
11. ***Answers*** to fill-in questions, to the problems and projects, to true-false questions, and to the multiple-choice questions are found at the end of each chapter. You are also given the references to the specific pages in the textbook for each true-false, multiple-choice, and short answer or essay question.

■ HOW TO STUDY AND LEARN WITH THE HELP OF THE STUDY GUIDE

1. ***Read and outline.*** For best results, quickly read the introduction, outline, list of terms, and checklist in the ***Study Guide*** before you read the chapter in the text. Then read the chapter in the text slowly and keep one eye on the ***Study Guide*** outline and the list of terms. The outline contains only the major points in the chapter. Highlight the chapter as you read it by identifying the major ***and the minor*** points and by placing outline numbers or letters (such as I or A or 1 or a) in the margins. Circle the important terms. When you have completed the chapter, you will have the chapter outlined and it will give you a set of notes on the chapter. Be careful to highlight or underline only the really important or summary statements.

2. ***Review and reread.*** After you have read the chapter in the text once, return to the introduction, outline, and list of terms in the ***Study Guide.*** Reread the introduction and outline. Does everything there make sense? If not, go to the text and reread the topics that you do not remember well or that still confuse you. Look at the outline. Try to recall each of the minor topics or points that were contained in the text under each of the major points in the outline. When you come to the list of terms go over them one by one. Define or explain each to yourself and then look for the definition of the term either in the text chapter or in the glossary. Compare your own definition or explanation with that in the text or glossary. The quick way to find the definition of a term in the text is to look in the index of the text for the page or pages on which that term or concept is mentioned. Make any correction or change in your own definition or explanation that is necessary.

3. ***Test and check answers.*** When you have done all this, you will have a general idea of what is in the text chapter. Now take a look at the fill-in questions, true-false questions, multiple-choice questions, and problems. Tackle each of these four sections one at a time, using the following procedure. (**1**) Answer as many questions as you can without looking in the text or in the answer section. (**2**) Check the text for whatever help you need. It is a good idea to do more than merely look for answers in the text. Reread any section for which you were not able to answer questions. (**3**) Then consult the answer section at the end of the chapter for the correct answers and reread any section of the text for which you missed questions. (See the text page references that are given with the answer to each true-false or multiple-choice question.)

The questions in these four sections are not all of equal difficulty. Do not expect to get them all right the first time. Some are designed to pinpoint things of importance which you will probably miss the first time you read the text and to get you to read about them again. None of the questions is unimportant. Even those that have no definite answers will bring you to grips with many important economic questions and increase your understanding of economic principles and problems.

The short answer and essay questions cover the major points in the chapter. For some of the easier questions all you may do is mentally outline your answer. For the more difficult questions you may want to write out a brief outline of the answer or a full answer. Do not avoid the difficult questions just because they are more work. Answering these questions is often the most valuable work a student can do toward acquiring an understanding of economic relationships and principles.

Although no answers are given in the ***Study Guide*** to the short answer and essay questions, the answer section does list page references in the text for each question. You are ***strongly*** encouraged to read those text pages for an explanation to the question or for better insight into the question content.

4. ***Double check.*** Before you turn to the next chapter in the text and ***Study Guide,*** return to the checklist. If you cannot honestly check off each of the items in the list, you have not learned what the author of the text and of this ***Study Guide*** hoped you would learn.

■ SOME FINAL WORDS

Perhaps the method of using the ***Study Guide*** outlined above seems like a lot of work. It is! Study and learning necessarily entail work on your part. This is a fact you must accept if you are to learn economics.

After you have used the ***Study Guide*** to study three or four chapters, you will find that some sections are of more value to you than others. Let your own experience determine how you will use it. But do not discontinue use of the ***Study Guide*** after three or four chapters merely because you are not sure whether it is helping you. ***Stick with it.***

In addition to the material in the ***Study Guide,*** there are questions at the end of each chapter in the text. Some of these questions are similar to questions in the ***Study Guide,*** but none is identical. It will be worthwhile for you to examine all the questions at the end of each chapter and to work out or outline answers for them. Students who have trouble with the problems in the ***Study Guide*** will find the end-of-chapter problems useful in determining whether they have actually mastered their difficulties.

■ ACKNOWLEDGMENTS

The late Professor Robert Bingham prepared the first ten editions of the ***Study Guide.*** He worked with great care and wanted the ***Study Guide*** to be a valuable aid for students. Many past users of the ***Study Guide*** will attest to his success. Although Professor Bingham did not participate directly in this revision, his work remains a major contribution to this edition.

I also wish to acknowledge other help I received. Campbell McConnell and Stanley Brue offered many helpful comments for the revision. Professor Thomas Phelps of Pierce College and Professor Janet West of the University of Nebraska–Omaha provided many good suggestions in their reviews of the previous edition of the ***Study Guide.*** George Langelett, a graduate student at Nebraska, helped me check the self-test questions. Another graduate student, Wayne Edwards, identified the textbook pages in the answers. Students in my principles of economics classes offered many good comments and suggestions. Sharon Nemeth was of invaluable assistance in proofing the manuscript. Finally, the team at McGraw-Hill, especially Lucille Sutton, Victoria Richardson, Michael Elia, and Edwin Hanson, gave me great assistance with the editorial and production work. Despite the many contributions from others, all responsibility for errors and omissions is mine.

William B. Walstad

Contents

CHAPTER 1

The Nature and Method of Economics

Chapter 1 introduces you to economics—the study of how people decide how to use scarce productive resources to satisfy material wants. Knowledge of economics is important because it is essential for well-informed citizenship and it has many practical applications to personal decisions. The purpose of this chapter is to explain the nature of the subject and to describe the methods that economists use to study economic questions.

Economists use three different approaches to examine economic topics. ***Descriptive economics*** is the gathering of relevant facts about an economic problem. ***Economic theory*** or economic analysis involves the derivation of principles using inductive or deductive methods. ***Policy economics*** entails the formulation of policies or recommended solutions to economic problems.

The heart of the chapter is the discussion of economic principles in the economic theory section. Economic principles are generalizations. Because the economist cannot employ laboratory experiments to test the generalizations, these principles are always imprecise and subject to exceptions. Economics is a science but it is not an exact science. Economic principles are also simplifications—approximations of a complex world—and both the formulation and application of these principles present many opportunities for making serious mistakes. Economic principles are not the answers to economic questions but are tools—intellectual tools—for analyzing ***microeconomic*** and ***macroeconomic*** problems and for finding solutions to these problems.

The choice of an economic policy depends on economic principles ***and*** on the value judgments and weights given to economic goals. Here we move from economic theory and positive economics, which investigates ***what is,*** to normative economics, which incorporates subjective or value-laden views of ***what ought to be.*** Many of the apparent disagreements among economists are over normative policy issues and involve deciding which economic goals for our economy are most important in making the case for a policy solution.

Clear thinking about economic questions requires that the beginning student avoid many pitfalls. Errors of commission and omission can occur from bias, loaded terminology, imprecise definitions, fallacies of composition, and causation fallacies. Awareness of these pitfalls will help you think more objectively about economic issues.

The last section of the chapter describes the three key features of the economic perspective. First, the economic perspective recognizes that all choices involve costs. Second, it incorporates the view that people make decisions that reflect their rational self-interest when achieving a goal. Third, it shows how people weigh the marginal benefits against marginal costs when making decisions. You will develop a better understanding of these features and the meaning of the economic perspective as you read about the microeconomic and macroeconomic decisions in this book.

■ CHECKLIST

When you have studied this chapter you should be able to:

- ☐ Write a formal definition of economics.
- ☐ Give two good reasons for studying economics.
- ☐ Define descriptive economics, economic theory, and policy economics.
- ☐ Distinguish between induction and deduction in economic reasoning.
- ☐ Explain what an economic principle is and how economic principles are obtained.
- ☐ Discuss how economic principles are generalizations and abstractions.
- ☐ Explain what the "other things equal" (***ceteris paribus***) assumption is and why this assumption is employed in economics.
- ☐ Distinguish between macroeconomics and microeconomics.
- ☐ List the three steps in formulating economic policy.
- ☐ Identify eight economic goals that are widely accepted for our own and many other societies.
- ☐ State four significant points about economic goals.
- ☐ Give examples of positive and normative economics.
- ☐ Recognize the "pitfalls to objective thinking" when confronted with examples of them.
- ☐ Describe the three key features of an economic perspective.

☐ Give examples of the application of an economic perspective.

■ CHAPTER OUTLINE

1. Economics is concerned with the efficient use of limited productive resources to achieve the maximum satisfaction of human material wants.

2. Citizens in a democracy must understand elementary economics to comprehend the present-day problems of their society and to make intelligent decisions when they vote. Economics is an academic rather than a vocational subject, but a knowledge of it is valuable to business executives, consumers, and workers.

3. Economists gather relevant facts to develop economic principles that may be used to formulate policies which will solve economic problems.

a. ***Descriptive economics*** is the gathering of relevant facts about the production, exchange, and consumption of goods and services.

b. ***Economic theory*** is the analysis of the facts and the derivation of economic principles.

(1) To obtain and test their principles economists use both the ***inductive*** and the ***deductive*** methods.

(2) Economic principles are also called laws, theories, and models.

(3) Each of these principles is a generalization.

(4) Economists employ the ***ceteris paribus*** (or "other things equal") assumption to obtain these generalizations.

(5) These principles are also abstractions from reality.

(6) Economists can derive principles about economic behavior at the ***macroeconomic*** or ***microeconomic*** level of analysis.

c. ***Policy economics*** is the combination of economic principles and economic values (or goals) to influence economic events.

(1) The three steps in creating an economic policy designed to achieve an economic goal involve defining the goal, identifying the effects of alternative policies, and evaluating the results.

(2) There are eight major economic goals that are often important to consider—economic growth, full employment, economic efficiency, price level stability, economic freedom, equitable distribution of income, economic security, and a balance of trade.

(3) Economic goals can be complementary or conflicting and involve tradeoffs; issues related to goal interpretation or setting priorities can cause problems.

(4) Values are the judgments people make about what is desirable (good, just) and what is undesirable (bad, unjust).

(5) Positive economics concerns ***what is,*** or the scientific analysis of economic behavior; normative economics suggests ***what ought to be*** in offering answers to policy questions.

4. Objective thinking in the study and use of economic principles requires strict application of the rules of logic in which personal emotions are irrelevant, if not detrimental. The pitfalls encountered by beginning students in studying and applying economic principles include:

a. bias of preconceived beliefs not warranted by facts;

b. loaded terminology or the use of terms in a way which appeals to emotion and leads to a nonobjective analysis of the issues;

c. the definition of terms by economists in ways which may not be the same as the ways in which these terms are more commonly used;

d. the fallacy of composition or the assumption that what is true of the part is necessarily true of the whole.

5. There are two causation fallacies to remember:

a. The ***post hoc*** fallacy is the mistaken belief that when one event precedes another, the first event is the cause of the second; and,

b. confusing correlation with causation.

6. The economic perspective has three interrelated features.

a. It recognizes scarcity requires choice, and that all choices entail a cost.

b. It views people as rational decision-makers who make choices based on their self-interest.

c. It uses marginal analysis to assess how the marginal costs of a decision compare with the marginal benefits.

■ IMPORTANT TERMS

Economics
Descriptive economics
Economic theory (analysis)
Induction
Deduction
Economic principles (law) or generalizations
Economic model
Abstraction
"Other things equal" (*ceteris paribus*) assumption
Macroeconomics
Microeconomics
Policy economics
Economic goals
Tradeoffs
Positive and normative statements
Fallacy of composition
***Post hoc, ergo propter hoc* fallacy**
Correlation and causation
Economic perspective

■ HINTS AND TIPS

1. The chapter introduces important pairs of terms: inductive and deductive reasoning; microeconomics and macroeconomics; and positive economics and normative

economics. Make sure you understand what each pair means.

2. Objective thinking about economic problems is difficult and requires that you be able to recognize the major pitfalls—loaded terminology, inaccurate definitions, fallacy of composition, ***post hoc*** fallacy, and confusing correlation with causation. One way for you to remember these pitfalls is to associate each one with a practical example.

3. The economic perspective presented in the last section of the chapter has three features related to decision-making—scarcity and the necessity of choice, rational self-interest in decision-making, and the marginal analysis of the costs and benefits of decisions. Although these features may seem strange to you at first, they are central to the economic thinking used to examine decisions and problems throughout the book.

SELF-TEST

■ FILL-IN QUESTIONS

1. Economics as a subject:
   a. Is, first of all, the study of the production, distributing, and consumption, and [redacted] of the material goods and services that satisfy human wants.
   b. But, more formally, it is concerned with the efficient use of limited productive resources to achieve the most satisfaction of these wants.

2. An understanding of economics is essential if we are to be well-informed citizens and it has many personal applications even though it is an academic and not a vocational subject.

3. The gathering of relevant facts is the part of the economics called descriptive economics.

4. Economic theory involves deriving general principles about the economic behavior of people and institutions.

Pg. 3 5. When economists develop economic principles from studying facts, they are using the inductive method; whereas the deductive method uses facts to test the validity of hypotheses or economic theories.

6. Economic principles are also called models. These principles are generalizations about people's economic behavior and as such necessarily involve abstractions from reality.

7. Economists know that the amount consumers spend for goods and services in any year depends upon their after-tax income in that year and several factors other than their income. To look at the relationship between the spending and income of consumers, economists often assume that these other factors are constant and do not change; and when economists do this they make the Other things equal assumption.

8. Macroeconomics is concerned with the total output of the economy and the general level of prices, while microeconomics is concerned with output in a(n) individual and the price of a(n) certain product

9. The formulation of recommended solutions or remedies for economic problems is referred to as policy economics.

10. The three steps in the formulation of economic policy are: (1) stating of economic goal; (2) assessing the policy options; and (3) conducting an evaluation of policy effectiveness.

11. Eight widely accepted economic goals in the United States are the following:
   a. economic growth
   b. full employment
   c. economic effiency
   d. price level stability
   e. economic freedom
   f. equitable distribution of income
   g. economic security
   h. balance of trade

12. Increases in economic growth that promote full employment would be an example of a set of (conflicting, complementary) complementary economic goals. Efforts to achieve an equitable distribution of income that reduce economic efficiency and growth would be an example of a set of conflicting economic goals.

13. There are two different types of statements that can be made about economic topics. A (positive, normative)

positive statement explains ***what is*** by offering a scientific proposition about economic behavior that is based on economic theory and facts. A normative statement includes a value judgment about an economic policy or the economy that suggests ***what ought to be.*** Many of the reported disagreements among economists usually involve normative statements.

14. There are many pitfalls to straight thinking in economics. For example, the statement that "what is good for the individual is also good for the group" may not be correct because of the fallacy of composition. The person who believes that "washing a car will cause it to rain tomorrow" is expressing a post hoc fallacy.

15. The economic perspective has three interrelated features: (1) It recognizes that ________ requires choice, and that all choices entail a cost; (2) people are ________ decision-makers who make choices based on their self-interest; and (3) weighing the costs and benefits of an economic decision is based on ________ analysis.

■ TRUE-FALSE QUESTIONS

Circle the T if the statement is true; the F if it is false.

1. Economics deals with the activities by which humans can earn a living and improve their standard of living. **T F**

2. Economics is academic and of little value because it does not teach the student how to earn a living. **T F**

3. Gathering the relevant economic facts from which economic principles are derived is called economic analysis. **T F**

4. The deductive method is the scientific method and the method used to derive economic principles from economic facts. **T F**

5. Economic principles enable us to predict the economic consequences of many human actions. **T F**

6. In economics the terms "law," "principle," "theory," and "model" mean essentially the same thing. **T F**

7. The "other things equal" or ***ceteris paribus*** assumption is made in order to simplify the reasoning process. **T F**

8. Microeconomic analysis is concerned with the performance of the economy as a whole or its major aggregates. **T F**

9. The first step in the formulation of an economic policy, the statement of goals, may be an occasion for disagreement because different people may have different and conflicting goals to be achieved. **T F**

10. Once a single goal or end has been determined as the sole objective of economic policy, there is seldom any question of which policy to adopt to achieve that goal. **T F**

11. One of the widely (though not universally) accepted economic goals of Americans is an equal distribution of income. **T F**

12. A tradeoff is a situation where some of one economic goal is sacrificed to obtain some of another economic goal. **T F**

13. When value judgments are made about the economy or economic policy, this is referred to as positive economics. **T F**

14. The statement that "the legal minimum wage should be raised to give working people a decent income" is an example of a normative statement. **T F**

15. If you speak of "capital" to most people, they understand you to be referring to money. The economist, therefore, is obligated to use the term "capital" to mean money. **T F**

16. The ***post hoc, ergo propter hoc*** fallacy is the belief that "what is true for the individual or part of a group is necessarily true for the group or whole." **T F**

17. A person who concludes that more education increases incomes may be confusing correlation with causation. **T F**

18. From an economic perspective, "there is no such thing as a free lunch." **T F**

19. Rational self-interest is the same thing as being selfish. **T F**

20. The economic perspective views individuals or institutions as making rational choices based on the marginal analysis of the costs and benefits of decisions. **T F**

■ MULTIPLE-CHOICE QUESTIONS

Circle the letter that corresponds to the best answer.

1. What statement would be the best one to use to complete a short definition of economics? "Economics is the study of:
- **(a)** how business produces goods and services."
- **(b)** the efficient use of scarce productive resources."
- **(c)** the equitable distribution of society's income and wealth."
- **(d)** the printing and circulation of money in the economy."

2. Economics is a practical field of study in several ways. Which one of the following is ***not*** an element of its practicality?

(a) every person affects and is affected by the operation of the economy
(b) every person has to earn a living in some manner, and economics develops skills and trains the student in the art of making a living
(c) every person in a democracy is confronted with its political problems, many of which are economic in nature
(d) every person who understands the overall operation of the economy is in a better position to solve personal economic problems

3. When economic principles or theories are developed from factual evidence, this method of economic reasoning is called:

(a) descriptive economics
(b) hypothesis testing
(c) deduction
(d) induction

4. The development of an economic theory and the testing of this theory by an appeal to facts is:

(a) induction
(b) deduction
(c) policy economics
(d) normative economics

5. Knowing that as the price of a commodity rises the quantity of the commodity sold decreases and that the imposition of a higher tax on a commodity increases its price, the economist concludes that if a government increases the tax on gasoline, less gasoline will be sold. This is an example of:

(a) prediction
(b) control
(c) policy
(d) the fallacy of composition

6. One economic principle states that the lower the price of a commodity, the greater will be the quantity of the commodity which consumers will wish to purchase. On the basis of this principle ***alone,*** it can be concluded that:

(a) if the price of raincoats falls, more raincoats will be purchased by consumers
(b) if the price of raincoats falls, a consumer will purchase two instead of one
(c) if the price of raincoats falls and there are no important changes in the other factors affecting their demand, the public will probably purchase a greater quantity of raincoats than it did at the higher price
(d) if more raincoats are purchased this month than last month, it is because the price of raincoats has fallen

7. An economic model is ***not***:

(a) an ideal type of economy or an economic policy for which we ought to strive to achieve
(b) a tool which the economist employs in order to predict
(c) one or a collection of economic principles
(d) an explanation of how the economy or a part of the economy functions in its essential details

8. The economist sometimes assumes that "other things are held constant" when studying an economic problem. This statement would best be an example of:

(a) the ***post hoc, ergo propter hoc*** fallacy
(b) the fallacy of composition
(c) deductive reasoning
(d) ***ceteris paribus***

9. When we look at the whole economy or its major aggregates, our analysis would be at the level of:

(a) microeconomics
(b) macroeconomics
(c) positive economics
(d) normative economics

10. Which of the following would be studied in ***microeconomics***?

(a) the output of the entire economy
(b) the total number of workers employed in the United States
(c) the general level of prices in the American economy
(d) the output and price of wheat in the United States

11. Which of the following economic goals is subject to reasonably accurate measurement?

(a) economic security
(b) full employment
(c) economic freedom
(d) an equitable distribution of income

12. To say that two economic goals are conflicting means that:

(a) there is a tradeoff in the achievement of the goals
(b) these goals are not accepted as goals
(c) the achievement of one of the goals results in the achievement of the other
(d) it is possible to quantify both goals

13. Which economic goal is associated with the idea that we want to get the maximum benefits at the minimum cost from the limited productive resources which are available?

(a) full employment
(b) economic growth
(c) economic security
(d) economic efficiency

14. If economic growth tends to produce a more equitable distribution of income among people in a nation, then this relationship between the two economic goals appears to be:

(a) deductive
(b) conflicting
(c) complementary
(d) mutually exclusive

15. Which one of the following is a normative economic statement?
(a) the consumer price index rose 5.6% last month
(b) the unemployment rate of 6.8% is too high
(c) the average rate of interest on loan is 8.6%
(d) the economy grew at an annual rate of 2.6%

16. Sandra states that "there is a high correlation between consumption and income." Arthur replies that it occurs because "people consume too much of their income and don't save enough."
(a) both Sandra's and Arthur's statements are positive
(b) both Sandra's and Arthur's statements are normative
(c) Sandra's statement is positive and Arthur's statement is normative
(d) Sandra's statement is normative and Arthur's statement is positive

17. During World War II the United States employed price control to prevent inflation; this was referred to as "a fascist and arbitrary restriction of economic freedom" by some and as "a necessary and democratic means of preventing ruinous inflation" by others. Both labels are examples of:
(a) economic bias
(b) the fallacy of composition
(c) the misuse of commonsense definitions
(d) loaded terminology

18. If an individual determines to save a larger percentage of his/her income he/she will no doubt be able to save more. To reason, therefore, that if all individuals determine to save a larger percentage of their incomes they will be able to save more is an example of:
(a) the ***post hoc, ergo propter hoc*** fallacy
(b) the fallacy of composition
(c) economic bias
(d) using loaded terminology

19. The government increases its expenditures for road-construction equipment and later the average price of this equipment falls. The reason that the lower price was due to the increase in government expenditures may be an example of:
(a) the ***post hoc, ergo propter hoc*** fallacy
(b) the fallacy of composition
(c) imprecise definition
(d) using loaded terminology

20. One of the major features of the economic perspective that is described in the text is:
(a) equating rational self-interest with selfishness
(b) comparing of marginal benefits with marginal costs
(c) the validity of normative economics for decision-making
(d) the recognition of the abundance of economic resources

PROBLEMS

1. ***News report:*** "The Russian demand for wheat in the United States increased and caused the price of wheat in the United States to rise." This is a ***specific*** instance of a more ***general*** economic principle. Of which economic ***generalization*** is this a particular example? __________

____

____

2. Below are four statements. Each of them is an example of one of the pitfalls frequently encountered in the study of economics. Indicate in the space following each statement the type of pitfall involved.
a. "Investment in stocks and bonds is the only way to build real capital assets." __________
b. "An unemployed worker can find a job if he looks diligently and conscientiously for employment; therefore, all unemployed workers can find employment if they are diligent and conscientious in looking for a job."

____

c. ***McConnell:*** "Regulation of public utilities in the United States is an immoral and unconscionable interference with the God-given right of private property and, as you know, old chum, there is no private property in the communist nations." ***Brue:*** "It is far from that, my boy. You know perfectly well that it is an attempt to limit the unmitigated avarice of mammoth corporations in order, as the Constitution commands, to promote the general welfare of a democratic America." __________

____

d. "The stock market crash of 1929 was followed by and resulted in 10 years of Depression." __________

____

3. Below is a list of economic statements. Indicate in the space to the right of each whether they are positive (P) or normative (N). Then in the last four lines below, write two of your own examples of positive statements and two examples of normative economic statements.
a. New York City should control the rental price of apartments. _____
b. Consumer prices rose at an annual rate of 5% last year. _____
c. Most people who are unemployed are just too lazy to work. _____
d. Generally speaking, if you lower the price of a product, people will buy more of that product. _____

e. The profits of drug companies are too large and ought to be used to conduct research on new medicines. _____

f. Government should do more to help the poor. _____

g. ______________________ P

h. ______________________ P

i. ______________________ N

j. ______________________ N

■ SHORT ANSWER AND ESSAY QUESTIONS

1. Define economics in both a less and a more sophisticated way. In your latter definition, explain the meaning of "resources" and "wants."

2. What are the principal reasons for studying economics?

3. Define the terms induction and deduction and give an example of each.

4. Define and explain the relationships between descriptive economics, economic theory, and applied economics.

5. What is the relationship between facts and theory?

6. What is a "laboratory experiment under controlled conditions"? Does the science of economics have any kind of laboratory? Why do economists employ the "other things equal" assumption?

7. Why are economic principles and models necessarily generalizations and abstract?

8. What does it mean to say that economic principles can be used for prediction?

9. Explain the difference between macroeconomics and microeconomics.

10. What procedure should be followed in formulating sound economic policies?

11. Of the eight economic goals listed in the text, which one would you ***rank*** first, second, third, etc.? Would you add any other goals to this list? If economic goals 2 and 4 were conflicting, which goal would you prefer? Why? If goals 1 and 5 were conflicting, which would you prefer? Why?

12. How can the concept "tradeoffs" be applied to the discussion of economic goals? Give an example.

13. Why do economists disagree?

14. What are some current examples of positive economic statements and normative economic statements?

15. Explain each of the following:

(a) fallacy of composition;

(b) loaded terminology;

(c) the ***post hoc, ergo propter hoc*** fallacy.

16. Use an example to describe how correlation differs from causation.

17. What are the three interrelated features of the economic perspective?

18. What is the economic meaning of the statement "there is no such thing as a free lunch"?

19. What is the difference between rational self-interest and selfishness?

20. How do economists use marginal analysis?

ANSWERS

Chapter 1 The Nature and Method of Economics

FILL-IN QUESTIONS

1. a. production, distribution, consumption;
b. limited (scarce), maximum
2. citizens, vocational
3. descriptive
4. theory
5. inductive, deductive
6. laws (or theories or models), generalizations, abstractions
7. "other things equal" (***ceteris paribus***)
8. total, general, individual industry, particular product
9. policy
10. goals, options, evaluation
11. *a.* economic growth; *b.* full employment; *c.* economic efficiency; *d.* price stability; *e.* economic freedom; *f.* equitable distribution of income; *g.* economic security; *h.* balance of trade
12. complementary, conflicting
13. positive, normative, normative
14. composition; ***post hoc, ergo propter hoc***
15. scarcity, rational, marginal

TRUE-FALSE QUESTIONS*

1. T, p. 1	**6.** T, p. 4	**11.** F, p. 6	**16.** F, p. 9
2. F, pp. 2-3	**7.** T, p. 4-5	**12.** T, p. 7	**17.** T, p. 9
3. F, p. 3	**8.** F, p. 5	**13.** F, pp. 7-8	**18.** T, p. 9
4. F, p. 4	**9.** T, p. 7	**14.** T, pp. 7-8	**19.** F, p.10
5. T, pp. 4-5	**10.** F, pp. 6-7	**15.** F, p. 8	**20.** T, pp. 10-11

MULTIPLE-CHOICE QUESTIONS

1. b, pp. 1-2	**6.** c, pp. 4-5	**11.** b, p. 6	**16.** c, pp. 7-8
2. b, pp. 2-3	**7.** a, p. 4	**12.** a, p. 7	**17.** d, p. 8
3. d, p. 3	**8.** d, pp. 4-5	**13.** d, p. 6	**18.** b, pp. 8-9
4. b, p. 3	**9.** b, p. 5	**14.** c, p. 7	**19.** a, pp. 8-9
5. a, pp. 4-5	**10.** d, p. 5	**15.** b, pp. 7-8	**20.** b, p. 11

PROBLEMS

1. An increase in the demand for an economic good will cause the price of that good to rise.
2. *a.* definitions; *b.* the fallacy of composition; *c.* loaded terminology; *d.* the **post hoc, ergo propter hoc** fallacy.
3. *a.* N; *b.* P; *c.* N; *d.* P; *e.* N; *f.* N

*Page references are for the textbook.

SHORT ANSWER AND ESSAY QUESTIONS

1. p. 1	**6.** pp. 4-5	**11.** pp. 6-7	**16.** p. 9
2. pp. 2-3	**7.** pp. 4-5	**12.** p. 7	**17.** pp. 9-11
3. p. 3	**8.** p. 6	**13.** pp. 7-8	**18.** p. 9
4. pp. 3-4	**9.** p. 5	**14.** pp. 7-8	**19.** p. 10
5. pp. 3-4	**10.** p. 6	**15.** pp. 8-9	**20.** pp. 10-11

Appendix to Chapter 1 Graphs and Their Meaning

This appendix provides an introduction to graphing in economics. Graphs help illustrate and simplify the economic theories and models that will be presented throughout this book. The old saying that "a picture is worth a thousand words" applies to economics; graphs are the way that economists "picture" relationships between economic variables.

You will need to master the basics of graphing if these "pictures" are to be of any help to you. The appendix explains how to achieve that mastery. It begins by showing you how to construct a graph from a table of data on two variables, such as income and consumption. Economists usually, but not always, place the ***independent*** variable (income) on the horizontal axis and the ***dependent*** variable (consumption) on the vertical axis of the graph. Once the data points are plotted and a line drawn to connect the plotted points, you can determine whether there is a ***direct*** or an ***inverse*** relationship between the variables. Identifying a direct and an inverse relationship between variables is an essential skill that will be used repeatedly in this book.

Information from data in graphs and tables can be written in an equation. This work involves determining the ***slope*** and ***intercept*** from a straight line in a graph or data in a table. Using values for the slope and intercept, you can write a ***linear*** equation that will enable you to calculate what the dependent variable would be for a given level of the independent variable.

Some graphs used in the book are ***nonlinear.*** With nonlinear curves, the slope of the line is no longer constant throughout but varies as one moves along the curve. This slope can be estimated at a point by determining the slope of a straight line that is drawn tangent to the curve at that point. Similar calculations can be made for other points to see how the slope changes along the curve.

■ APPENDIX CHECKLIST

When you have studied this appendix you should be able to:

□ Explain why economists use graphs.
□ Construct a graph of two variables using the numerical data from a table.
□ Make a table with two variables from data on a graph.
□ Distinguish between a direct and an inverse relationship when given data on two variables.
□ Identify dependent and independent variables in economic examples and graphs.
□ Describe how economists use the ***ceteris paribus*** assumption in two-variable graphing.
□ Calculate the slope of a straight line between two points.
□ List three comments that can be made about the slopes of lines.
□ Determine the vertical intercept for a straight line in a two-variable graph.
□ Write a linear equation using the slope of a line and the vertical intercept; when given values for the independent variable, determine values for the independent variable.
□ Estimate the slope of a nonlinear curve at a point using a line that is tangent to the curve at that point.

■ APPENDIX OUTLINE

1. Graphs illustrate the relationship between variables to give economists and students another means, in addition to verbal explanation, of understanding economic phenomena. Graphs serve as an aid in describing economic theories and models.

2. The construction of a simple graph involves the plotting of numerical data about two variables from a table.

- **a.** Each graph has a horizontal and a vertical axis that can be labeled for each variable and then scaled for the range of the data point that will be measured on the axis.
- **b.** Data points are plotted on the graph by drawing perpendiculars from the scaled points on the two axes to the place on the graph where the perpendiculars intersect.
- **c.** A line or curve can then be drawn to connect the points plotted on the graph.

3. A graph provides information about relationships between variables.

- **a.** A line that is upward sloping to the right on a graph indicates that there is a positive or ***direct*** relationship between two variables: an increase in one is associated with an increase in the other; a decrease in one is associated with a decrease in the other.
- **b.** A line that is downward sloping to the right means that there is a negative or ***inverse*** relationship between the two variables because the variables are changing in opposite directions: an increase in one is associated with a decrease in the other; a decrease in one is associated with an increase in the other.

4. Economists are often concerned with determining cause and effect in economic events.

- **a.** A dependent variable changes (increases or decreases) because of a change in another variable.
- **b.** An independent variable produces or "causes" the change in the dependent variable.

c. In a graph, mathematicians place an independent variable on the horizontal axis and a dependent variable on the vertical axis; economists are more arbitrary about which variable is placed on an axis.

5. Economic graphs are simplifications of economic relationships. When graphs are plotted, there is usually an implicit assumption made that all other factors are being held constant. This "other things equal" or ***ceteris paribus*** assumption is used to simplify the analysis so the study can focus on the two variables of interest.

6. The ***slope*** of a straight line in a two-variable graph is the ratio of the vertical change to the horizontal change between two points.

a. A ***positive*** slope indicates that the relationship between the two variables is ***direct.***

b. A ***negative*** slope indicates that there is an ***inverse*** relationship between the two variables.

c. Three other comments can be made about line slopes. They:

(1) are affected by the ***measurement units*** for either variable;

(2) measure ***marginal*** changes; and

(3) can be ***infinite*** (line parallel to vertical axis) or ***zero*** (line parallel to horizontal axis).

7. The vertical ***intercept*** of a straight line in a two-variable graph is where the line intersects the vertical axis of the graph.

8. The slope and intercept of a straight line can be expressed in the form of a ***linear equation.*** This equation is written as $y = a + bx$. Once the values for the intercept (a) and the slope (b) are calculated, then given any value of the independent variable (x), the value of the dependent variable (y) can be determined.

9. The slope of a straight line is constant, but the slope of a nonlinear curve changes throughout. To estimate the slope of a nonlinear curve at a point, the slope of a line tangent to the curve at that point is calculated.

■ IMPORTANT TERMS

Vertical and horizontal axes
Direct (positive) and inverse (negative) relationships
Dependent and independent variables
Slope of a line
Vertical intercept
Linear equation
Nonlinear curve
Tangent

■ HINTS AND TIPS

1. This appendix will help you understand the graphs and problems presented throughout the book. Don't skip reading the appendix or working on the self-test questions and problems in this study guide. The time you invest now will pay off in improved understanding in later chapters. Graphing is a basic skill for economic analysis.

2. Positive and negative relationships in graphs often confuse students. To overcome this confusion, draw a two-variable graph with a positive slope and another two-variable graph with a negative slope. In each graph, show what happens to the value of one variable when there is a change in the value of the other variable.

3. A straight line in a two-variable graph can be expressed in an equation. Make sure you know how to interpret each part of the linear equation.

SELF-TEST

■ FILL-IN QUESTIONS

1. The relationship between two economic variables can be visualized with the aid of a two-dimensional graph.

a. Customarily, the (dependent, independent) ________________ variable is placed on the horizontal axis and the ________________ variable is placed on the vertical axis. The ________________ variable is said to change because of a change in the ________________ variable.

b. The vertical and horizontal (scales, ranges) ________________ on the graph are calibrated to reflect the ________________ of values in a table of data points on which the graph is based.

c. Other variables, beyond the two in the graph, that might affect the economic relationship are assumed to be (changing, held constant) ________________. ***Ceteris paribus*** also means that other variables are ________________

2. The graph of a straight line that slopes downward to the right indicates that there is (a direct, an inverse) ________________ relationship between the two variables. A graph of a straight line that slopes upward to the right tells us that the relationship is (direct, inverse) ________________. When the value of one variable increases and the value of the other variable increases, then the relationship is ________________; when the value of one increases, while the other decreases, the relationship is ________________

3. The slope of a straight line between two points is defined as the ratio of the (vertical, horizontal) ______________ change to the ______________ change. When two variables move in the same direction, the slope will be (negative, positive) ______________; when the variables move in opposite directions the slope will be ______________. The point at which the line meets the vertical axis is called the ______________

4. We can express the graph of a straight line with a linear equation that can be written as $y = a + bx$.

a. a is the (slope, intercept) ______________ and b is the ______________.

b. y is the (dependent, independent) ______________ variable and x is the ______________ variable.

c. If a was 2, b was 4, and x was 5, then y would be ______________. If the value of x changed to 7, then y would be ______________. If the value of x changed to 3, then y would be ______________

5. The slope of a (straight line, nonlinear curve) ______________ is constant throughout; the slope of a ______________ varies from point to point. An estimate of the slope of a nonlinear curve at a point can be made by calculating the slope of a straight line that is ______________ to the point on the curve.

■ TRUE-FALSE QUESTIONS

Circle the T if the statement is true; the F if it is false.

1. Graphs are designed by economists to confuse students and the public. **T F**

2. If the straight line on a two-variable graph is downward sloping to the right, then there is a positive relationship between the two variables. **T F**

3. A variable that changes as a consequence of a change in another variable is considered to be a dependent variable. **T F**

4. Economists always put the independent variable on the horizontal axis and the dependent variable on the vertical axis of a two-variable graph. **T F**

5. ***Ceteris paribus*** means that other variables are changing at the same time. **T F**

6. In the ratio for the calculation of the slope of a straight line, the vertical change is in the numerator and the horizontal change is in the denominator. **T F**

7. If the slope of the linear relationship between consumption and income was .90, then it tells us that for every $1 increase in income there will be a $.90 increase in consumption. **T F**

8. The slope of a straight line in a two-variable graph will ***not*** be affected by the choice of the units for either variable. **T F**

9. The slopes of lines measure marginal changes. **T F**

10. The absence of a relationship between a change in the price of variable ***A*** and the quantity of variable ***B*** would be described by a line parallel to the horizontal axis. **T F**

11. A line with an infinite slope in a two-variable graph is parallel to the horizontal axis. **T F**

12. In a two-variable graph, income is graphed on the vertical axis and the quantity of snow is graphed on the horizontal axis. If income was completely unrelated to the quantity of snow, then this unrelatedness would be represented by a line parallel to the vertical axis. **T F**

13. If a linear equation was $y = 10 + 5x$, the vertical intercept is 5. **T F**

14. When a line is tangent to a nonlinear curve, then it intersects the curve at a particular point. **T F**

15. If the slope of a straight line on a two-variable (x,y) graph was .5 and the vertical intercept was 5, then a value of 10 for x means y is also 10. **T F**

16. A slope of -4 for a straight line in a two-variable graph indicates that there is an inverse relationship between the two variables. **T F**

17. If x is an independent variable and y is a dependent variable, then a change in y results in a change in x. **T F**

18. An upward slope for a straight line that is tangent to a nonlinear curve would indicate that the slope of the line is positive. **T F**

19. If one pair of x, y points was (13, 10) and the other was (8, 20), then the slope of the straight line between the two sets of points in the two-variable graph, with x on the horizontal axis and y on the vertical axis, would be 2. **T F**

20. When the value of x is 2, a value of 10 for y would be calculated from a linear equation of $y = -2 + 6x$. **T F**

■ MULTIPLE-CHOICE QUESTIONS

Circle the letter that corresponds to the best answer.

1. If an increase in one variable is associated with a decrease in another variable, then we can conclude that the variables are: