STUDY GUIDE and WORKBOOK

to accompany

BROWNING & BROWNING

MICROECONOMIC THEORY AND APPLICATIONS

FOURTH EDITION

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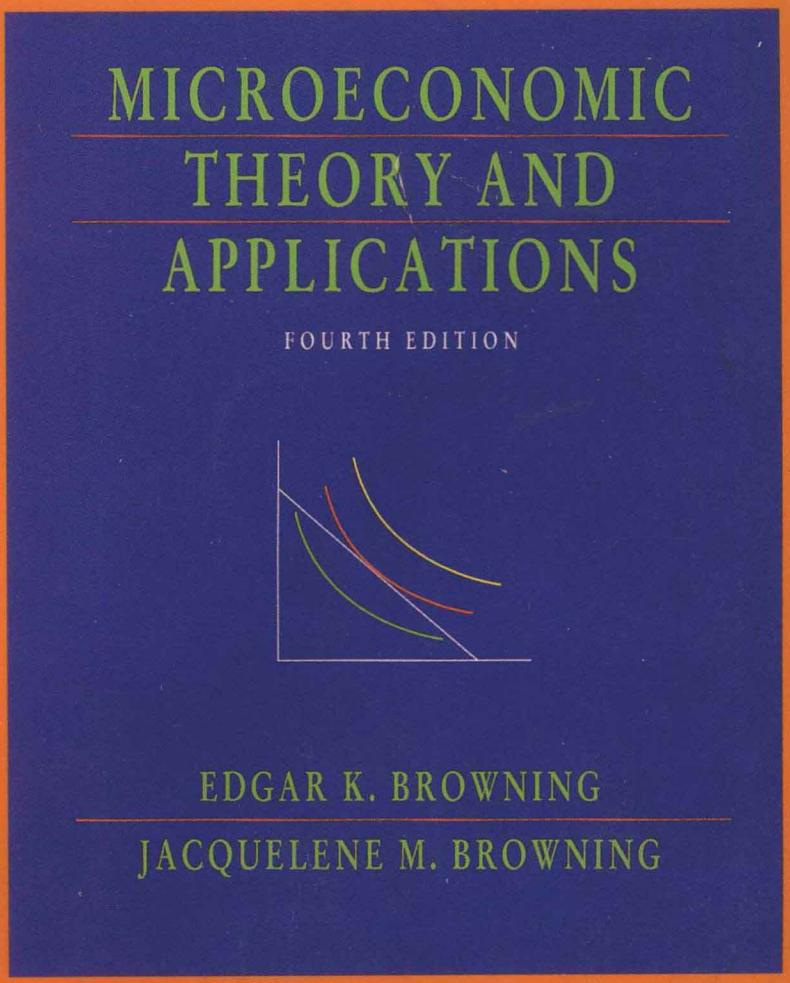

Study Guide

and

Workbook

to Accompany

MICROECONOMIC THEORY AND APPLICATIONS

Fourth Edition

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CHAPTER 1 Microeconomics and Market Analysis

Chapter Analysis

1.1 Individuals make choices based on their own desires and the opportunities they face. Microeconomics is a body of theory that attempts to explain the choices individuals make given the opportunities and constraints in their environments.

1.2-1.3 Here the subject of microeconomics is discussed by focusing on the purpose of theory. On any given day, countless millions of economic decisions are made by millions of individuals, and it would be an impossible task to determine and understand every factor that influences each decision. A theory, then, enables an economist to distinguish facts that are important in explaining economic behavior from those that are trivial or irrelevant. The authors emphasize that a theory must simplify and abstract from reality, so the assumptions of a theory do not exactly describe reality because reality is so complex.

Economics is often used to evaluate public policy. Three steps are involved—(1) determine the effects of the policy, (2) determine the size of the effects, and (3) evaluate whether the effects are desirable or not. The first two steps are examples of positive analysis since they involve objective analysis. The third step involves a value judgment and is an example of normative analysis. (See illustration "Policy Evaluation" below.)

1.4-1.6 Demand and supply analysis is the workhorse of economics, and the ability to correctly use the demand-supply model is essential to success in this course. The demand curve is derived and developed in Chapters 2-4 and the supply curve is derived and developed in Chapters 6-9.

It is imperative that you understand the difference between a shift in demand and a change in the quantity demanded. Although the terms are similar, the concepts are different. A shift in demand refers to movement of the entire demand curve. A change in the quantity demanded refers to a movement along a specific demand curve. Figure 1-1 illustrates the difference. There are four demand curves drawn (D_1-D_4). A shift in demand occurs when we move from one demand curve to another, for example, from D_2 to D_3 or D_4 to D_1. In each of these examples, the location and/or shape of the demand curve has changed. A change in the quantity demanded is a movement along a demand curve. For example, moving from point A to point B on demand curve D_2 involves a change in quantity demanded.

Three factors determine the shape and location of a demand curve: income of consumers, prices of closely related goods, and tastes of consumers. Whenever one of these three factors changes, there is a shift in demand. If we are on demand curve D_1 and consumers' income increases, we will move to D_2. *There is an increase in demand.*

Only one factor determines our location along a given demand curve—the price of the good itself. At point A on demand curve D_2, the price is P_A and the quantity demanded is Q_A. If price falls to P_B, the quantity demanded increases to Q_B as we move along the demand curve.

It is also important to distinguish between a shift in supply and a change in the quantity supplied. The shape and location of a supply curve are determined by the state of technological knowledge and the conditions of the supply of inputs such as the prices of inputs. A change in either of these conditions will cause the supply curve to shift. The sole determinant of our location along a particular supply curve is the price of the good itself.

The equilibrium price and quantity are found by combining the demand curve and the supply curve. Refer to Figure 1-2. Quantity demanded equals quantity supplied where the demand curve and the supply curve intersect at point E_1. P_1 is the equilibrium price and Q_1 is the equilibrium quantity. If a consumer's income increases, the demand curve shifts to D_2. The new equilibrium is E_2 with a price of P_2 and quantity of Q_2. But note: the change in demand resulted in a change in quantity supplied. The movement from E_1 to E_2 is a movement along the supply curve.

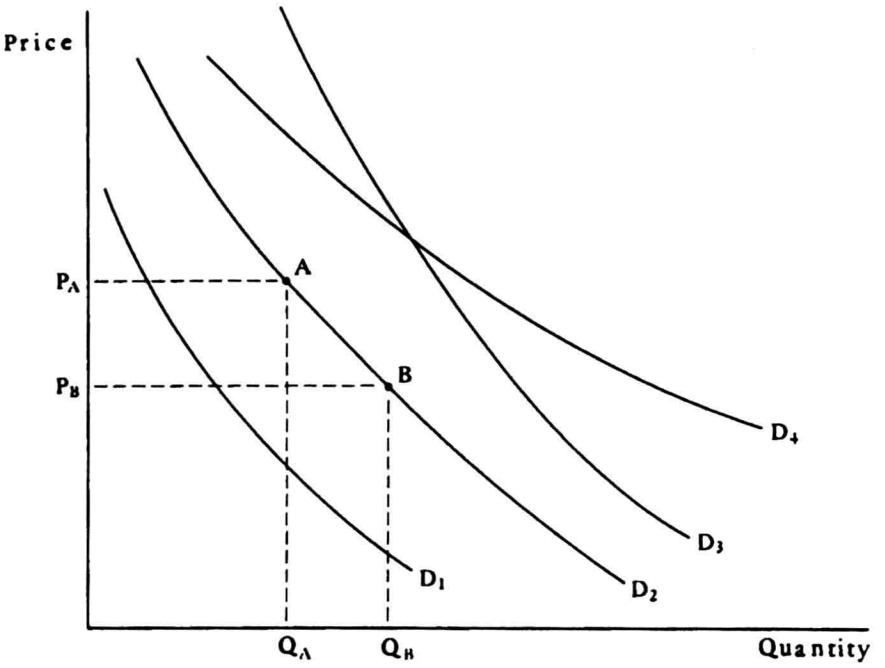

Figure 1-1

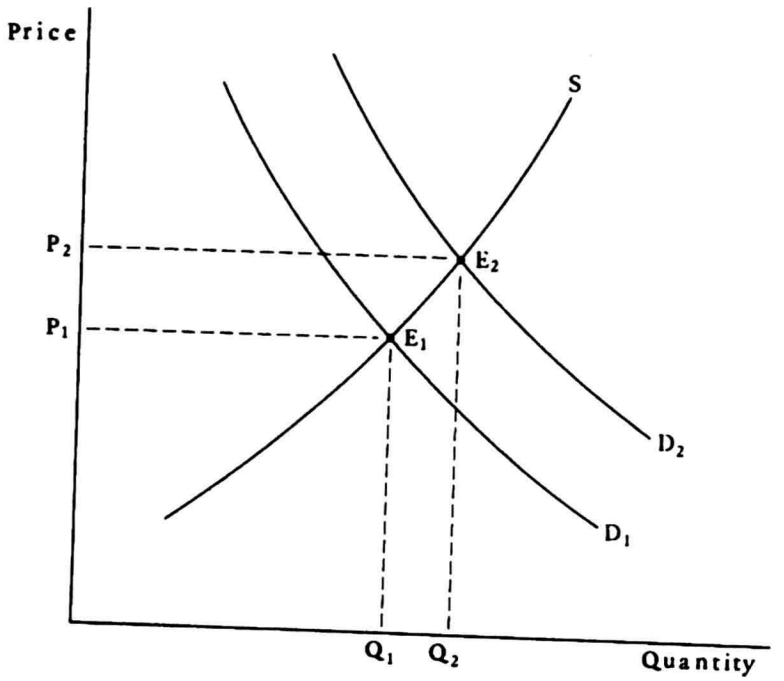

Figure 1-2

Illustrations

Policy Evaluation

Capital punishment is a controversial subject that can be used to illustrate the evaluation of policy. Although there are many things to consider in evaluating the desirability or undesirability of capital punishment, we will focus on one question: Is capital punishment a deterrent to crime?

The first step is to determine the effect of capital punishment on the crime rate. Proponents of capital punishment believe that it will reduce the crime rate. This can be tested by comparing crime rates in areas with capital punishment with crime rates in areas that do not allow capital punishment. (Note that other factors could affect crime rates—gun control laws, poverty, number of police, and the like—and these factors must be accounted for too.) The second step is to determine the magnitude of the deterrent effect of capital punishment. Is the reduction in the crime rate large or small? These two steps are in the realm of positive analysis because they deal with propositions that can be tested objectively.

Suppose we perform these tests and determine that capital punishment will cause a 10 percent reduction in the crime rate. Should capital punishment be used in our society? To answer this question requires a value judgment—some people will answer affirmatively and others negatively, depending on their values. Thus, this last question is in the realm of normative economics.

Demand and Supply for Home Computers

The market for home computers has increased dramatically since 1980. There appear to be two reasons for this growth in sales. First, the cost of producing home computers has decreased substantially because of technological change. Second, video games and packaged software programs have increased the potential uses of home computers. The effects of these changes can be examined using supply and demand curves. Figure 1-3 illustrates the effects with hypothetical demand and supply curves for home computers for 1980 that generate a price of $1500 and annual sales of 100,000.

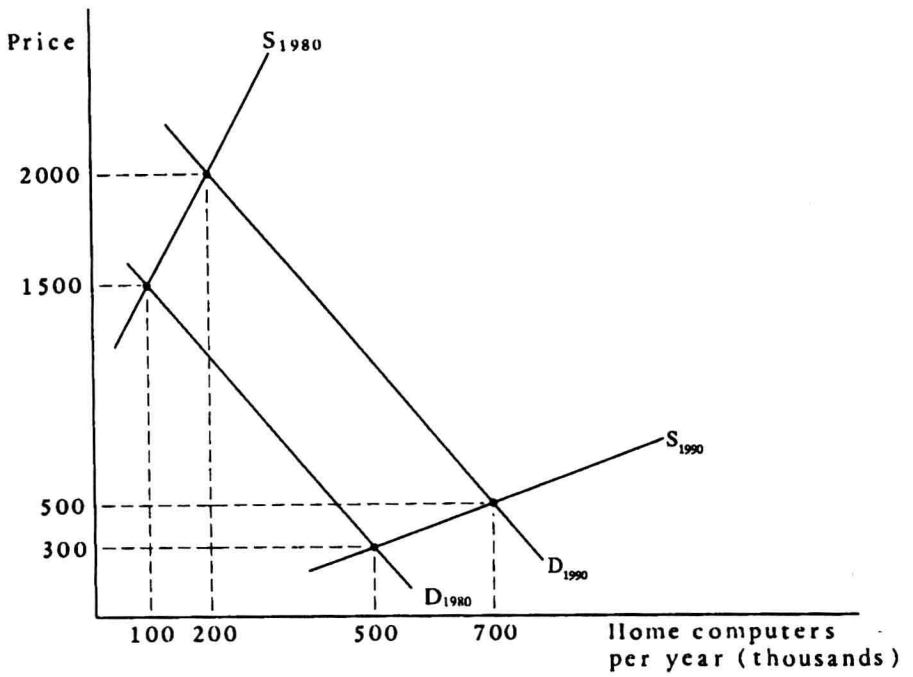

Figure 1-3

A change in the state of technological knowledge has lowered costs, resulting in a downward shift in the supply curve to S_{1990} . If nothing else had changed, quantity demanded would have risen to 500,000 units and price would have fallen to $300.

There was, however, another change: video games were developed that increased the potential uses of home computers. The development of video games caused a shift in the demand curve. Since the video games make home computers more useful, there is an increase in demand to D_{1990}. If nothing else had changed and S_{1980} was still the supply curve, price would have risen to $2000 and the quantity supplied would have risen to 200,000 units.

The new equilibrium is found by looking at the intersection of the new demand curve (D_{1990}) and the new supply curve (S_{1990}). Price is $500 and 700,000 units are sold The price fell as a result of the technological change, but it did not fall as far as it could have because of the development of prepackaged software programs and video games. Note that we must be careful to separate the factors that affect demand from the factors that affect supply.

Key Concepts

Microeconomics
price theory
theory
positive v. normative analysis
market
absolute price v. relative price
demand and supply
excess demand
excess supply
shift in demand
change in quantity demanded
shift in supply
change in quantity supplied
equilibrium v disequilibrium
cost-price illusion
nonprice rationing
quality deterioration
black markets

Review Questions

True/False

_____ 1. A theory must simplify and abstract from reality.

_____ 2. An economist is a better judge than a noneconomist of whether the effects of minimum wage are desirable.

_____ 3. The term price as used in microeconomics refers to the money price of a good.

_____ 4. The behavior of buyers and sellers depends on the money price of a good.

_____ 5. According to the law of demand, a price decrease leads to an increase in demand.

_____ 6. Demand curves slope down because of the presence of more consumers at lower prices.

_____ 7. A change in income will induce a shift in the demand curve.

_____ 8. An excess supply occurs when the market price exceeds the equilibrium price.

_____ 9. Price is determined by production costs.

_____ 10. Market forces are not relevant when the government does not allow the market to determine prices.

Multiple Choice/Short Answer

1. A good theory is one that
   a. has assumptions that mirror reality.
   b. describes the real world as closely as possible.
   c. incorporates as many facts as possible.
   d. explains or predicts what it is designed to explain or predict.

2. Policy analysis involves
   a. positive economics alone.
   b. normative economics alone.
   c. scientific criteria alone.
   d. both positive and normative analysis.

3. Identify the following statements as positive (P) or normative (N).

a. Monopolies innovate more than other firms do.	P	N
b. Monopolies charge higher prices than competitive firms.	P	N
c. Monopolies should be controlled by the government	P	N
d. High interest rates discourage investment spending.	P	N
e. The tax burden in the U.S. is too great.	P	N
f. If tariffs on imported steel are raised, sales of U.S. automakers will fall.	P	N
g. Government should subsidize the arts because the arts benefit everybody.	P	N

4. In microeconomics, markets refer to
   a. the interaction of buyers and sellers of a particular good.
   b. formal markets only, such as the New York Stock Exchange.
   c. grocery stores and farmers' markets.
   d. the coming together of buyers and sellers at a specific location.

5. The term price, as used in microeconomics, always refers to
   a. the absolute price of the good.
   b. the money price of the good.
   c. the relative price of the good.
   d. any of the above.

6. If the price of a gallon of gasoline in 1965 was 28 cents and in 1969 was 32 cents, then we know that
   a. the absolute price increased but we can't tell the relative price unless we know what happened to the prices of other goods.
   b. the absolute price increased but the relative price decreased.
   c. the money price increased, the absolute price was unchanged, and the relative price decreased.
   d. the absolute and relative price increased.

Questions 7 to 10 refer to Figure 1-4.

7. Which of the following could cause a movement from point A to point B? (More than one is correct.)
   a. A change in the price of the good itself.
   b. A shift in demand
   c. A change in the technological knowledge used in producing the good
   d. A change in the price of an input
   e. A change in consumers' income
   f. A shift in supply

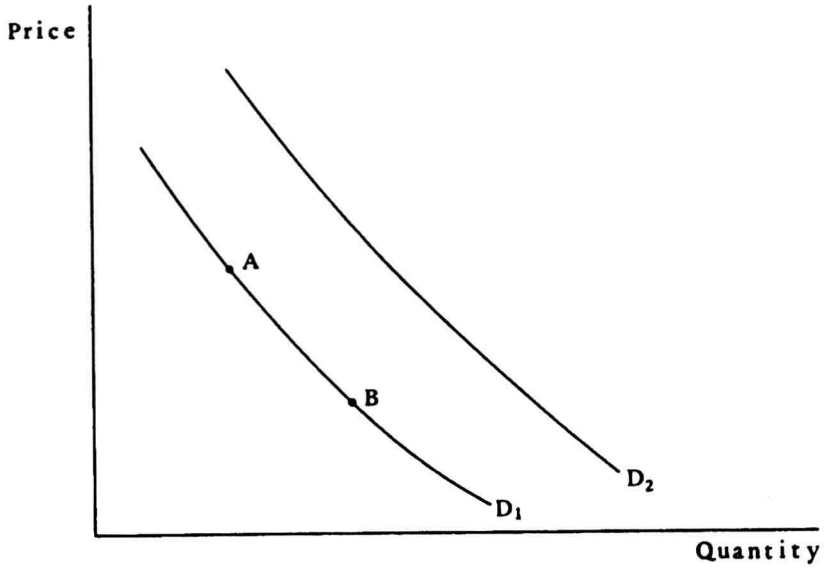

Figure 1-4

8. A movement from point B to point A is called
   a. a decrease in quantity demanded.
   b. a decrease in demand.
   c. a shift in demand.
   d. an increase in quantity supplied.

9. A movement from D_1 to D_2 is called
   a. an increase in quantity demanded.
   b. an increase in demand.
   c. a change in quantity demanded.
   d. an increase in supply.

10. A movement from D_1 to D_2 could be caused by
    a. a change in price.
    b. a shift in supply.
    c. a change in the price of a closely related good.
    d. a change in the conditions of input supply.

11. An increase in demand causes
    a. a decrease in quantity demanded.
    b. a decrease in quantity supplied.
    c. an increase in quantity supplied.
    d. a decrease in price.

Questions 12 to 14 refer to Figure 1-5.

12. Neither P_1 nor P_2 is an equilibrium price. At P_1 there is a
    a. shortage or excess demand.
    b. shortage or excess supply.
    c. surplus or excess demand.
    d. surplus or excess supply.

13. If price is currently at P_3, over time price will
    a. increase to P_2 because sellers have been successful at raising price and will continue to raise price.
    b. stay at P_3 unless the government intervenes.
    c. drop to P_1 because people will alter their behavior too much when they discover the excess supply.
    d. drop to P_4 because the excess supply puts downward pressure on price.

14. If P_2 is the highest price that can be set for gasoline because of price controls, at what price will gasoline sell for?
    a. P_1
    b. P_2
    c. P_3
    d. P_4

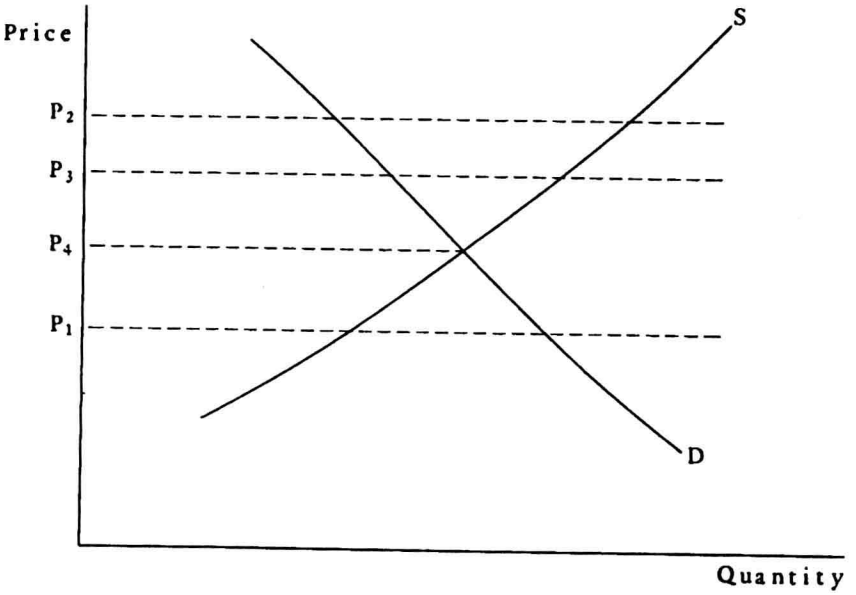

Figure 1-5

15. If the supply curve is vertical and the demand curve slopes down, what will happen to price if demand increases?
    a. No change in price.
    b. Price will increase.
    c. Price will decrease.
    d. Can't tell from the information given.

Discussion Questions and Problems

1. Economists generally assume that firms attempt to maximize profits. Business people often protest that they do not just seek profits but also have other goals for their firms.
   a. Is the assumption of profit maximization realistic?
   b. What might be the goals of managers of firms?
   c. Assume for now that not all business people seek to maximize profits. Does this mean the assumption of profit maximization should be discarded? Why or why not?

2. Suppose we have the following data concerning price and quantity sold of hamburger in the United States for May 1990 and 1991.

	1990	1991
Price	$1.50	$1.65
Quantity	1 million lbs.	1.05 million lbs.

   Are these data inconsistent with the law of demand? Explain.

3. Suppose we have the following price information:

	Gasoline	Dozen golf balls
January 1, 1988	$1.00	$4.00
January 1, 1989	$1.50	$4.50

   a. What is the relative price of gasoline in 1988?
   b. Did the relative price of gasoline increase or decrease from 1988 to 1989? By how much?
   c. What could have caused the change?

4. In December of 1981, Mexico's government-owned oil company increased the price for regular gasoline from 38 cents a gallon to 82 cents a gallon. The stated purpose for the price increase was to reduce the rising rate of domestic consumption of gasoline, which had been rising at an annual rate of 14 percent.
   a. Figure 1-6 shows an equilibrium price of 38 cents. Show how Mexico could raise the price to 82 cents.
   b. Is this a decrease in demand or a decrease in quantity demanded? Explain.
   c. What could have caused the increase in gasoline consumption prior to the price increase? From the information given, can we tell what caused the increase?
   d. Americans in cities near the Mexican border often travel to Mexico to buy gasoline because it is cheaper than gasoline in the U.S. Assume that the price of gasoline in the U.S. is $1.00 a gallon when Mexico raises the price from 38 cents to 82 cents. What will be the effect of Mexico's price increase on the gasoline market in U.S. cities near Mexico?

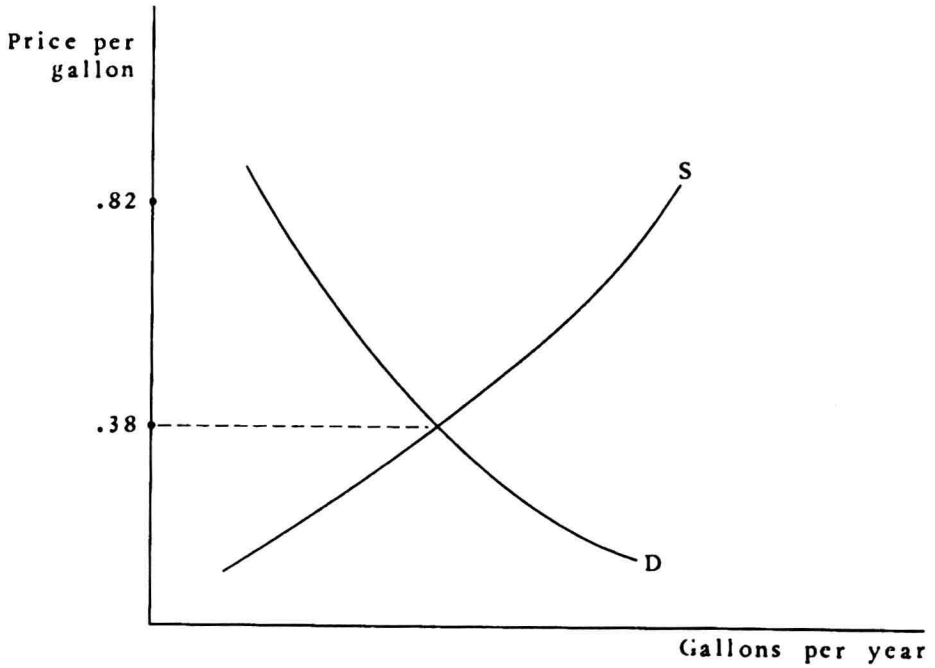

Figure 1-6

5. Explain why True/False question 9 is false.

6. The quality of stereo components has increased dramatically in recent years while the absolute price has stayed the same.
   a. Explain what must have been happening in recent years in the market for stereo tape cassette decks.
   b. What would be happening in the market for tape cassettes during this time period?

7. The government sets a legal minimum wage which covers most workers. Suppose an unregulated marked for unskilled workers would be in equilibrium at a wage rate of $3.50 an hour and the minimum wage is set at $4.00 an hour.
   a. Does the minimum wage cause an excess demand or excess supply of unskilled labor?
   b. What are some forms of nonprice rationing that are likely to arise as a result of the minimum wage?
   c. Suppose the inflation rate is very high and the minimum wage is constant at $4.00 an hour. What will happen in the market for unskilled labor over time?
   d. Some people believe the minimum wage should be "indexed," that is, raised automatically to keep pace with inflation. If the minimum wage was indexed, how would you change your answer to part c?

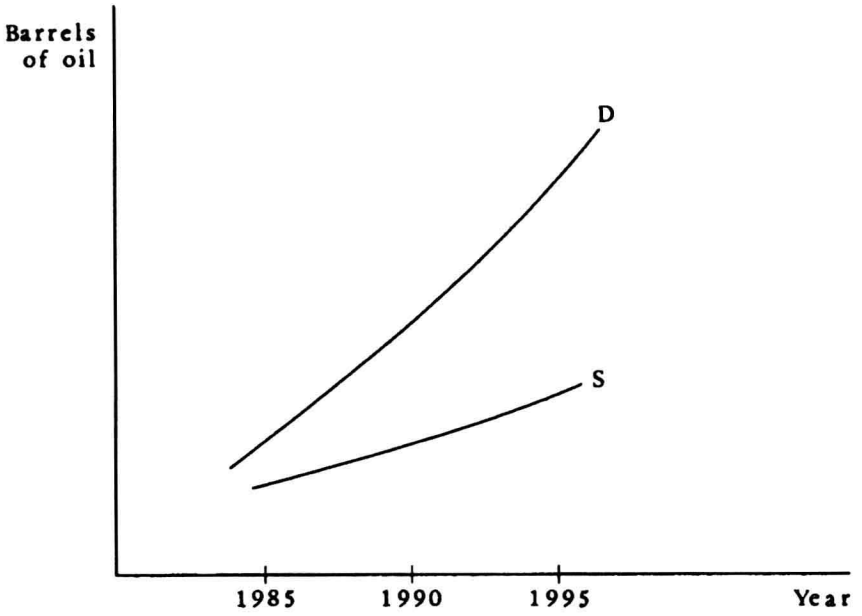

Figure 1-7

8. Figure 1-7 shows projected oil demand and supply from 1985 to 1995 based on trends from the 1970s. Explain why the projected shortages did not take place.

9. Suppose there are 10,000 tickets available to a rock concert, each with a price of $15. At a price of $15, 15,000 people want to purchase tickets.
   a. Is $15 an equilibrium price?
   b. All 10,000 tickets are to be sold through a ticket office. How will it be decided which of the 15,000 will get the tickets?
   c. Suppose you didn't get a ticket but desperately want to go to the concert. What can you do?

10. Analyze the differences between an all-volunteer army and a draft system in securing 1 million soldiers.

11.

Price	Quantity Demanded (Y= $20,000)	Quantity Demanded (Y= $25,000)	Quantity Supplied
$10	0	1/2	16
9	1/2	2	15
8	1	5	14
7	4	8	12
6	6	10	10
5	8	12	8
4	10	14	5
3	11	15	3
2	12	16	1
1	13	17	0

Use the data above and Figure 1-8. Draw the demand curve when income (Y) is $20,000. Label it D_1. Draw the supply curve and label it S. What is the equilibrium price and output? What happens if income increases to $25,000? (Show on the graph.) What happens to quantity supplied? If the government has a price ceiling of $5 per unit, what happens when the individual's income increases from $20,000 to $25,000?

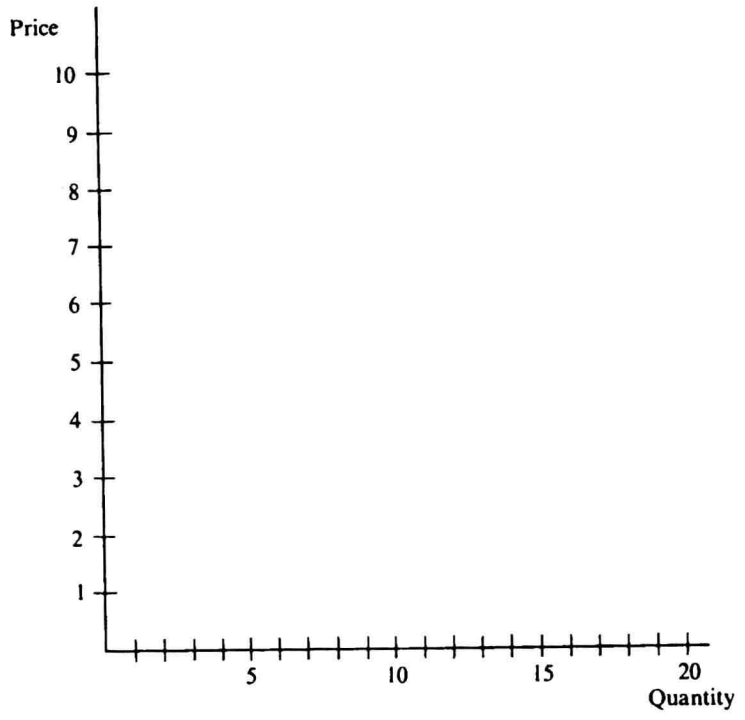

Figure 1-8

12. If demand curves slope down, then at a high enough price it is likely that a consumer will demand zero units of the good. Is it possible for the individual to demand a negative amount at an even higher price? Explain.

13. What is meant by the "cost-price" illusion? Does this invalidate demand and supply theory?

14. From the tools you have acquired in this chapter, offer a brief explanation for each of the following:
    a. Many firms advertise their products.
    b. The price of shrimp is lower in New Orleans than in Chicago.
    c. There are more telephones per capita in Los Angeles than in Mexico City.
    d. The price of coffee increases immediately after a freeze in Brazil even though the freeze doesn't reduce the amount of coffee beans that exist at the time.

Answers

Review Questions

True/False

1. True
2. False
3. False. Relative prices.
4. False. Relative prices.
5. False. A price decrease leads to an increase in quantity demanded.
6. False. Demand curves slope down because of greater consumption by consumers who were buying the good already as well as because of the presence of additional consumers.
7. True
8. True
9. False
10. False

Multiple Choice/Short Answer

1. d
2. d
3. a. P
   b. P
   c. N
   d. P
   e. N
   f. P
   g. N
4. a
5. c
6. a
7. a, c, d, f
8. a
9. b
10. c
11. c
12. a
13. d
14. d
15. h