What is economic freedom?

8. Economic freedom means you can engage in voluntary transactions without interference or restrictions from government or others.
9. With private property rights and economic freedom nations prosper, standards of living improve, and human development increases.

What are opportunity costs?

10. Economics is the study of how people choose to allocate scarce resources to satisfy their unlimited wants.
11. Scarcity is universal; it applies to anything people would like more of than is available at a zero price. Because of scarcity, choices must be made.
12. Opportunity costs are the forgone opportunities of the next best alternative. Choice means both gaining something and giving up something.
13. When you choose one option, you forgo all others. The benefits of the next best alternative are the opportunity costs of your choice.

What are gains from trade?

14. Comparative advantage is when one person or nation can carry out an activity at less cost than another person or nation.
15. Gains from trade occur when traders specialize according to comparative advantage and trade. The quantity each trader gets above what each could do alone is the gains from trade.

EXERCISES

1. Use economics to explain why diamonds are more expensive than water when water is necessary for survival and diamonds are not.
2. Use economics to explain why people leave tips in the following two cases: (a) at a restaurant they visit often; (b) at a restaurant they visit only once.
3. Use economics to explain why people contribute to charities.
4. In presidential campaigns, candidates always seem to make more promises than they can fulfill: more and better health care; a better environment; only minor reductions in defense; better education; better roads, bridges, sewer systems, and water systems; and so on. What economic concept is ignored by the candidates?
5. What does the old saying "There is no such thing as a free lunch" mean? If someone invites you to a lunch and offers to pay for it, is it free for you?

STUDY GUIDE FOR CHAPTER 1

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. Private property rights	G. labor
B. scarcity	H. capital
C. opportunity costs	I. comparative advantage
D. tradeoffs	J. specialization
E. resources	K. gains from trade
F. land	L. economic freedom

____ 1. the amount that trading partners benefit beyond the sum of what each could have produced without the trade

____ 2. the physical and intellectual services of people, including the training, education, and abilities of the individuals in a society

____ 3. Land, labor and capital are categories of __________.

____ 4. products such as machinery and equipment that are used in production

____ 5. everyone can not get everything they want

____ 6. the ability to produce a good or service at a lower opportunity cost than it would cost someone else to produce it

____ 7. all natural resources, such as minerals, timber, and water, as well as the land itself

____ 8. the highest-valued alternative that must be forgone when a choice is made

____ 9. Occurs if economic units produce the goods and services for which they have the lowest opportunity cost, and trade for other items

16. A price that is lower than equilibrium means that buy[illegible] able to buy more than sellers are willing and able to sup[illegible] sellers to raise the price.
17. Together, demand and supply determine the equilibrium [illegible]

What causes price to change?

18. A price that is above equilibrium creates a surplus, which lead[illegible]
19. A price that is below equilibrium creates a shortage, which leads [illegible] price.
20. A change in demand or a change in supply (a shift of either curve) will cause the equilibrium price and quantity to change.

EXERCISES

1. Illustrate each of the following events using a demand and supply diagram for bananas.
   a. Reports surface that imported bananas are infected with a deadly virus.
   b. Consumers' incomes drop.
   c. The price of bananas rises.
   d. The price of oranges falls.
   e. Consumers expect the price of bananas to decrease in the future.
2. Answer true or false, and if the statement is false, change it to make it true. Illustrate your answers on a demand and supply graph.
   a. An increase in demand is represented by a movement up the demand curve.
   b. An increase in supply is represented by a movement up the supply curve.
   c. An increase in demand without any changes in supply will cause the price to rise.
   d. An increase in supply without any changes in demand will cause the price to rise.
3. Using the following schedule, define the equilibrium price and quantity. Plot the demand and supply curves and show the equilibrium price and quantity.

Price	Quantity Demanded	Quantity Supplied
$1	500	100
2	400	120
3	350	150
4	320	200
5	300	300
6	275	410
7	260	500
8	230	650
9	200	800
10	150	975

4. A severe drought in California has resulted in a nearly 30 percent reduction in the quantity of citrus grown and produced there. Explain what effect this event might have on the Florida citrus market.
5. The prices of the Ralph Lauren Polo line of clothing are considerably higher than comparable quality lines. Yet it sells more than a JCPenney brand line of clothing. Does this violate the law of demand?
6. In December, the price of Christmas trees rises, and the quantity of trees sold rises. Is this a violation of the law of demand?
7. Evaluate the following statement: "The demand for U.S. oranges has increased because the quantity of U.S. oranges demanded in Japan has risen."
8. The federal government requires that all foods display information about fat content and other ingredients on food packages. The displays have to be verified by independent laboratories. The price of an evaluation of a food product could run as much as $20,000. What impact do you think this law will have on the market for meat?
9. Draw a downward-sloping demand curve and an upward-sloping supply curve for orange juice. Show what happens in each of the following cases:
   a. A freeze in Florida kills 30 percent of the oranges.
   b. A technological breakthrough has enabled Idaho to grow oranges.
   c. The supply of oranges from Mexico has been banned. The Mexican oranges accounted for about 15 percent of the market.
10. Explain what it means when the supply of television sets rises. Explain what it means when the quantity supplied of television sets rises. Explain how the price of television sets could rise, and yet the supply of television sets not change.

do take reservations, there is a month-long wait for a Saturday evening, three weeks for a Friday evening, two weeks for Tuesday through Thursday, and virtually no wait for Sunday or Monday evening. How do you explain these events using demand and supply?

6. Give an example of a compensating wage differential in your community. What does it mean?

7. Using demand and supply, illustrate the effects of a quota imposed by the Canadian government on wheat. Show the U.S. wheat market and the Canadian wheat market.

8. Using demand and supply, illustrate the effects of a ban on the use of steroids on the market for steroids. If people go to baseball games to see home runs, what will the ban do to the baseball market?

STUDY GUIDE FOR CHAPTER 3

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. compensating wage differential
B. subsidy
C. price ceiling
D. price floor
E. tariff
F. quota
G. ban

____ 1. a situation in which the price is not allowed to rise above a certain level

____ 2. wage differences that make up for the higher risk or poorer working conditions of one job over another

____ 3. a tax on exports or imports

____ 4. payments made by government to encourage the production or purchase of a good

____ 5. a situation in which the price is not allowed to decrease below a certain level

____ 6. A limit on the amount of a good that may be imported

____ 7. a situation where buying or selling something is illegal

Quick-Check Quiz

1. What would happen in the market for rental housing in New York City if rent controls were abolished?
   - ☐ a. The demand for rental housing would decrease.
   - ☐ b. The supply of rental housing would increase
   - ☐ c. Neither the demand nor the supply of rental housing would change, but the market price and quantity would rise.
   - ☐ d. The demand for rental housing would decrease, but the supply of rental housing would increase.
   - ☐ e. The demand for rental housing would increase, but the supply of rental housing would decrease.

2. A decrease in demand results in a ____________ causing the equilibrium price to ____________ and the equilibrium quantity to ____________.
   - ☐ a. shortage; increase; increase
   - ☐ b. surplus; decrease; increase
   - ☐ c. shortage; increase; decrease
   - ☐ d. surplus; decrease; decrease
   - ☐ e. surplus; increase; decrease

3. The change in tastes away from low-fat meals initially resulted in a(n)
   - ☐ a. decrease in the demand for low-fat meals.
   - ☐ b. increase in the supply of low-fat meals.
   - ☐ c. increase in the quantity supplied of low-fat meals.
   - ☐ d. decrease in the quantity supplied of low-fat meals.
   - ☐ e. increase in the supply of low-carb foods.

4. Which of the following statements is false?
   - ☐ a. The demand for labor slopes down.
   - ☐ b. The supply of labor slopes up.
   - ☐ c. Younger workers earn higher wages than older workers.
   - ☐ d. Riskier jobs pay more than less risky jobs.
   - ☐ e. Males earn more than females.

5. Which statement is true?
   - ☐ a. The supply of workers in a less risky occupation is less than the supply of workers in a risky occupation.
   - ☐ b. The supply of workers in a less risky occupation is greater than the supply of workers in a risky occupation.
   - ☐ c. Firms will employ more people or hire people to work more hours as the wage rate increases.
   - ☐ d. Equilibrium-compensating wage differentials attract more workers from the less risky occupations to the risky ones.
   - ☐ e. The lower the hourly wage, the more hours that people are willing and able to work.

6. Which of the following caused the demand for health care to increase in recent years?
   - ☐ a. The percentage of elderly in the population is greater than before.
   - ☐ b. The cost of medical care has increased.
   - ☐ c. Government programs enable many people to get medical care without having to pay for it.
   - ☐ d. All of the above caused the demand for health care to increase in recent years.

EXERCISES

1. Use the table below to complete the following exercise. Plot the price and quantity data. Indicate the price elasticity value at each price. What happens to the elasticity value as you move down the demand curve?

Price	% Change in Price	Quantity Demanded	% Change in Quantity
$5		100	
10	100	80	220
15	66	60	225
20	33	40	233
25	25	20	250
30	20	0	2,100

2. Below the demand curve plotted in exercise 1, plot the total-revenue curve, measuring total revenue on the vertical axis and quantity on the horizontal axis.
3. What would a 10 percent increase in the price of movie tickets mean for the revenue of a movie theater if the price elasticity of demand was, in turn, −0.1, −0.5, −1.0, and −5.0?
4. Suppose the price elasticity of demand for movies by teenagers is −0.2 and that by adults is −2.0. What policy would the movie theater implement to increase total revenue?
5. Explain why senior citizens often obta[illegible] special price discounts.
6. Using the following data, calculate to[illegible] average, and marginal revenues:

Price	Quantity Sold
$100	200
90	250
80	300
70	350
60	400
50	450
40	500
30	550
20	600

7. In recent years, U.S. car manufacturers have charged lower car prices in western states in an effort to offset the competition by the Japanese cars. This two-tier pricing scheme has upset many car dealers in the eastern states. Many have called it discriminatory and illegal. Can you provide another explanation for the two-tier pricing scheme?

STUDY GUIDE FOR CHAPTER 4

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. total revenue
B. average revenue (AR)
C. marginal revenue (MR)
D. price elasticity of demand
E. elastic
F. Unit-elastic demand inelastic
G. inelastic
H. perfectly elastic demand
I. perfectly inelastic demand
J. price discrimination

____ 1. incremental revenue, change in total revenue divided by change in quantity

____ 2. percentage change in price smaller than percentage change in quantity

____ 3. price multiplied by quantity sold

____ 4. percentage change in price greater than percentage change in quantity demanded

____ 5. zero price elasticity

____ 6. price elasticity equal to −1

____ 7. per-unit revenue, total revenue divided by quantity

____ 8. different prices charged to different customers

____ 9. infinite price elasticity

____ 10. the percentage change in quantity demanded divided by the percentage change in price

Quick-Check Quiz

1. One day while you are in a shopping mall, someone comes up to you and asks you questions about a product. What is the firm that is paying someone to ask the questions probably trying to get information about?
   - ☐ a. its supply
   - ☐ b. its demand
   - ☐ c. its production costs
   - ☐ d. the quality of its management
   - ☐ e. its negative revenue
2. What method for learning about demand for a product can only be used by a firm that has been making the product for a period of time?
   - ☐ a. shopping mall surveys
   - ☐ b. telephone surveys
   - ☐ c. the firm's actual experience
   - ☐ d. doing a test trial in one or two cities
   - ☐ e. using focus groups

3. As quantity rises, total costs rise. Initially, as quantity rises costs rise slowly. Eventually, as quantity rises, total costs rise more rapidly. This means that average total costs fall initially as output is increased but eventually rise.
4. According to the law of diminishing marginal returns, when successive equal amounts of a variable resource are combined with a fixed amount of another resource, the additional output will initially rise but eventually decline.
5. The U shape of short-run, average-total-cost curves is due to the law of diminishing marginal returns.
6. The objective of firms is to make a profit. The difference between sales, or the value of output, and the input costs (including the opportunity costs) is called economic profit.

What is economic profit?

7. Economists take into account all opportunity costs. Profit is total revenue less all costs including the return to owners necessary to keep them from investing elsewhere.
8. Normal accounting profit is a zero economic profit. Positive economic profit occurs when revenue is greater than all opportunity costs. Negative economic profit occurs when revenue is less than total opportunity costs.

Why is profit maximized when $MR = MC$?

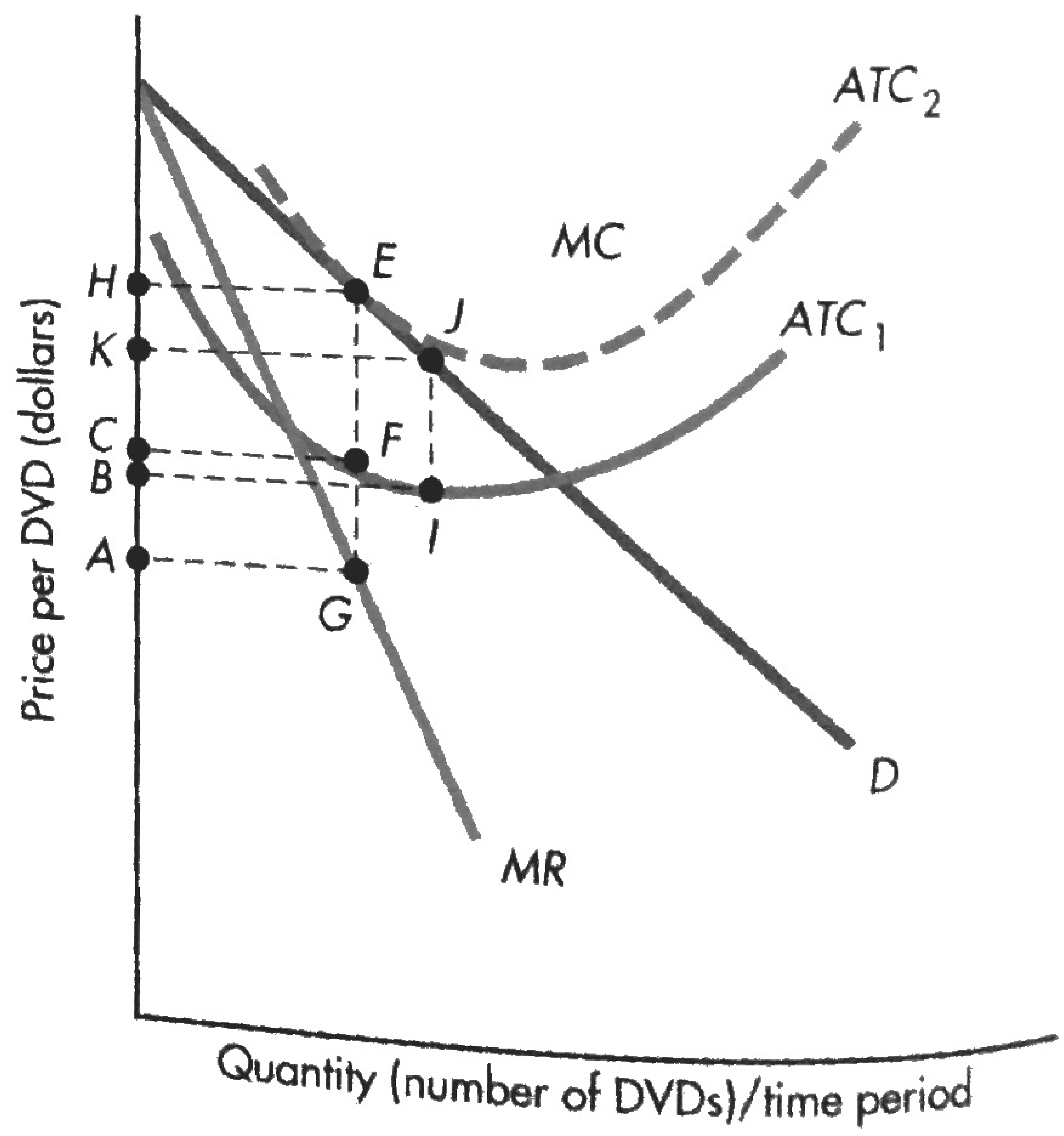
9. Profit is maximized at the output level at which total revenue exceeds total costs by the greatest amount, at the point at which $MR = MC$.
10. The supply rule for all firms is to supply the quantity at which the firm's marginal revenue and marginal costs are equal and to charge a price given by the demand curve at that quantity.

EXERCISES

1. Use the table below and find average total costs and marginal costs.

Output	Costs	ATC	MC
0	$100	$____	$____
1	175	____	____
2	225	____	____
3	255	____	____
4	300	____	____
5	400	____	____

2. Use the completed table for exercises a and b.
   a. Plot each of the cost curves.
   b. At what quantity of output do marginal costs equal average total costs?
3. Describe the relation between marginal and average total costs.
4. In the following figure, if the firm has average total costs ATC_1, which rectangle measures total profit? If the firm has average costs ATC_2, what is total profit?



5. Using the following demand schedule, compute marginal and average revenue:

Price	$100	$95	$88	$80	$70	$55	$40	$22
Quantity	1	2	3	4	5	6	7	8

6. Suppose the marginal costs of producing the good in exercise 5 is a constant $10 per unit of output. What quantity of output will the firm sell?
7. What follows is some accounting information for each of the firms shown. Can you tell which firm is the most successful? Explain.

	Boeing	**Goodyear**	**Liz Claiborne**	**Circuit City**
Sales	$5,601	$423	$622	$1,767
Profits	$254	$26.9	$56.2	$31.6

8. Explain why a firm will be un[illegible] economic profit in the long run [illegible] freely enter and compete with th[illegible] Explain why that firm will not earn ne[illegible] economic profit in the long run.
9. Can accounting profit be positive if economic profit is negative? Can accounting profit be negative and economic profit positive? Explain.
10. Use the following information to calculate accounting profit and economic profit:

Sales	$100
Employee expenses	40
Inventory expenses	20
Value of owner's labor in any other enterprise	40

STUDY GUIDE FOR CHAPTER 5

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. average total costs (*ATC*)
B. marginal costs (*MC*)
C. short run
D. long run
E. law of diminishing marginal returns
F. economic profit
G. zero economic profit
H. positive economic profit
I. negative economic profit
J. normal profit
K. fixed costs
L. variable costs

____ 1. revenue larger than all costs

____ 2. costs that have to be paid even when production is zero

____ 3. per-unit cost; total cost divided by the total output

____ 4. revenue less all costs

____ 5. the additional cost of producing one more unit of output

____ 6. a period of time short enough so that the quantities of at least one of the resources cannot be varied

____ 7. profit that occurs when total revenue is greater than total opportunity costs

____ 8. profit that occurs when total revenue equals total opportunity costs

____ 9. costs that change relative to output

____ 10. declining marginal increases in output attributed to combining equal additional amounts of a variable resource with a fixed amount of another resource

____ 11. a period of time in which everything can be changed

____ 12. A situation in which total revenue is less than all opportunity costs.

Quick-Check Quiz

1. According to the law of diminishing marginal returns, as successive units of a variable resource are added to some fixed resources, the additional output will
   - ☐ a. initially rise but will eventually decline.
   - ☐ b. initially decline but will eventually rise.
   - ☐ c. continually rise.
   - ☐ d. continually decline.
   - ☐ e. remain constant.
2. The primary objective of business firms is to
   - ☐ a. sell as much as possible.
   - ☐ b. keep their total costs to the minimum.
   - ☐ c. keep their marginal costs to the minimum.
   - ☐ d. maximize profit.
   - ☐ e. pay their employees more than other workers earn.
3. A firm is getting normal profit when
   - ☐ a. revenue just pays all opportunity costs.
   - ☐ b. it has a zero economic profit.
   - ☐ c. revenue just pays the cost of all resources except capital.
   - ☐ d. all of the above are true.
   - ☐ e. only a and b are true.

18. In an industry or business that has economies of scale, the l... firms can produce more cheaply than the smaller firms. As a result, th... ger firms can sell at a price that is lower than what the smaller firms ...

EXERCISES

1. Using a single industry, contrast and compare perfect competition and monopoly. For instance, using the coffee shop example, explain how its behavior might differ if it had many rivals who would and could copy whatever it does, or if it had no rivals.
2. Which would you think best characterizes the following businesses—a commodity market, a market with differentiation, or a monopoly?
   a. airlines
   b. fast food
   c. computer chips
   d. corn
   e. diamonds
3. A monopolist has no rivals. Yet it cannot simply set an exorbitantly high price. Do you agree with this statement? Explain.
4. Complete the following table.

Output	Price	Total Costs	Total Revenue ($P \times Q$)
1	\$5	\$10	______
2	5	12	______
3	5	15	______
4	5	19	______
5	5	24	______
6	5	30	______
7	5	45	______

5. Explain why firms advertise.
6. Give 10 examples of differentiated goods or services. Explain what differentiates them.
7. Why will a firm choose to produce where $MR = MC$? Why not choose a quantity where $MR > MC$?
8. Use the information in the table of question 4 to calculate total revenue, marginal revenue, and marginal costs. Indicate the profit-maximizing level of output. What market structure is th... n operating in? What would change if the structu... were monopolistic competition?
9. Draw a perfectly elastic demand curv... on top of a standard U-shaped, average-total-cost curve. Now add in the marginal cost and marginal revenue curves. Find the profit-maximizing point, $MR = MC$. Indicate the firm's total revenue and total costs.
10. Describe profit maximization in terms of marginal revenue and marginal costs.
11. Using demand curves, illustrate the effect of product differentiation on haircutters.
12. Why might society prefer a situation in which entry can occur to a situation in which entry is restricted?
13. Under what circumstances would a large size provide an advantage to a firm? How could it serve as a barrier to entry?
14. You and your rival must simultaneously decide what price to advertise in the weekly newspaper. If you each charge a low price, you each earn zero profits. If you each charge a high price, you each earn profits of \$3. If you charge different prices, the one charging the higher price loses \$5 and the one charging the lower price makes \$5.
    a. Find the equilibrium when there are no repeated transactions.
    b. Now suppose there are repeated transactions. How would that change the results?
15. The South American cocaine industry consists of several "families" that obtain the raw material, refine it, and then ship it to the United States. It is not a difficult business to enter, particularly on the retail end where drug dealers sell the drug to consumers in the United States. What would you predict would happen to the economic profits of the drug dealer? Suppose the families in South America form a cartel. What is the result of the cartel?

STUDY GUIDE FOR CHAPTER 6

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. commodity
B. perfect competition
C. differentiated
D. monopolistic competition
E. monopoly
F. price takers
G. collusion
H. cartel
I. cost-plus or markup pricing
J. sunk cost
K. economies of scale
L. diseconomies of scale
M. creative destruction
N. facilitating practices
O. most-favored customer (MFC)
P. game theory
Q. Nash equilibria
R. convention
S. dominant strategy

18. Global environmental problems are more difficult to resolve than domestic ones because of the lack of property rights. When no one government owns the resource being damaged by an externality, then the externality cannot be resolved by any one government.

Will a free market for drugs be better than the war on drugs?

19. Banning or prohibiting items for which consumers have a price-elastic demand is relatively easy. People just switch to a close substitute. Banning items for which demand is price inelastic is another matter. Consumers don't have substitutes, so they continue attempting to purchase the banned item.
20. The war on drugs has raised the cost of supplying and selling drugs. Yet because demand is price inelastic, consumption has not decreased much. Costs are passed along to consumers, who pay higher prices but consume nearly as much.
21. The war on drugs results in suppliers offering ever more potent forms of the drugs. In addition, the incentive to maintain quality of the drugs is reduced as suppliers seek additional profits.
22. Crime rises as suppliers compete for turf and sales and consumers look for resources with which to purchase the drugs.
23. Legalization of drugs would reduce crime and lower the prices of drugs, possibly leading to increased consumption.

Does discrimination make economic sense?

24. Discrimination occurs when some factor not related to an individual's value to the firm affects the wage rate that person receives.
25. Discrimination is costly to those who discriminate and should not last in a market economy, at least when entry is easy.
26. Statistical discrimination is the result of imperfect information and can occur as long as information is imperfect.

EXERCISES

1. What is a free market? Why do governments interfere with the operation of free markets?
2. Why have expenditures on medical care risen more rapidly than expenditures on any other goods and services?
3. Why are there more medical specialists and fewer general practitioners in the United States now than was the case 50 years ago?
4. What is a third-party payer? How does that affect the cost of health care?
5. Explain what is meant by the term *discrimination*. Explain what statistical discrimination is.
6. Why do economists say that discrimination is inherently inefficient and therefore will not occur in general?
7. Use the following table to answer these four questions:
   a. What are the external costs per unit of output?
   b. What level of output will be produced?
   c. What level of output should be produced to achieve economic efficiency?
   d. What is the value to society of correcting the externality?

Quantity	Marginal Costs (*MC*)	Marginal Social Costs (*MSC*)	Marginal Revenue (*MR*)
1	$ 2	$ 4	$ 12
2	4	6	10
3	6	8	8
4	8	10	6
5	10	12	4

8. If, in exercise 7, the *MC* and *MSC* columns were reversed, you would have an example of what? Would too much or too little of the good be produced?

10. In the United States, monetary policy is the province of the Federal Reserve, and fiscal policy is up to the Congress and the president.

How do the three private sectors—households, businesses, and the international sector—interact in the economy?

11. Money, goods, and services flow from households to firms and back in a circular flow.
12. Some household income is not spent but instead is saved in financial intermediaries from which firms borrow for expansion of their productive capacity.
13. The circular flow diagram assumes that households are not directly engaged in international trade but, rather, that only business firms buy and sell goods and services across international borders.

How does the government interact with the other sectors of the economy?

14. The circular flow diagram illustrates interactions among all sectors of the economy—households, businesses, the international sector, and the public sector.

EXERCISES

1. Is a family a household? Is a household a family?
2. Which sector (household, business, or international) spends the most? Which sector spends the least? Which sector, because of volatility, has importance greater than is warranted by its size?
3. What does it mean if net exports are positive?
4. Why does the value of output always equal the income received by the resources that produced the output?
5. Total spending in the economy is equal to consumption plus investment plus government spending plus net exports. If households want to save and thus do not use all of their income for consumption, what will happen to total spending? Because total spending in the economy is equal to total income and output, what will happen to the output of goods and services if households want to save more?
6. People sometimes argue that imports should be limited by government policy. Suppose a government quota on the quantity of imports causes net exports to rise. Using the circular flow diagram as a guide, explain why total expenditures and national output may rise after the quota is imposed. Who is likely to benefit from the quota? Who will be hurt?
7. Draw the circular flow diagram linking households, business firms, and the international sector. Use the diagram to explain the effects of a decision by the household sector to increase saving.
8. Suppose there are three countries in the world. Country A exports $22 million worth of goods to country B and $10 million worth of goods to country C; country B exports $6 million worth of goods to country A and $12 million worth of goods to country C; and country C exports $8 million worth of goods to country A and $2 million worth of goods to country B.
   a. What are the net exports of countries A, B, and C?
   b. Which country is running a trade deficit? A trade surplus?
9. There are many more sole proprietorships than corporations or partnerships. Why are there so many sole proprietorships? Why is the revenue of the average sole proprietorship less than that of the typical corporation?
10. Using the circular flow diagram, illustrate the effects of an increase in taxes imposed on the household sector.

12. The foreign exchange market is a global market in which [illegible] trade one currency for another.
13. Exchange rates, the price of one country's money in terms [illegible]other country's money, are necessary to compare prices quoted [illegible]rent currencies.
14. The value of a good in a domestic currency equals the for[illegible]urrency price times the exchange rate.
15. When a domestic currency appreciates, domestic goods be[illegible] more expensive to foreigners, and foreign goods become cheaper [illegible]omestic residents.
16. When a domestic currency depreciates, domestic goods beco[illegible] cheaper to foreigners, and foreign goods become more expensive to dom[illegible]tic residents.

How do nations record their transactions with the rest of the world?

17. The balance of payments is a record of a nation's transactions with the rest of the world.
18. The current account is the sum of the balances in the merchandise, services, investment income, and unilateral transfers accounts.
19. The financial account reflects the transactions necessary to finance the movement of merchandise, services, investment income, and unilateral transfers into and out of the country.
20. A deficit in the current account must be offset by a surplus in the financial account.

EXERCISES

1. The following table lists the stages required in the production of a personal computer. What is the value of the computer in the GDP?

Stage	Value Added
Components manufacture	$ 60
Assembly	250
Wholesaler	540
Retailer	1,500

2. What is the difference between GDP and each of the following?
   a. gross national product
   b. net national product
   c. national income
   d. personal income
   e. disposable personal income

Use the following national income accounting information to do exercises 3–7:

Stage	Value Added
Consumption	$400
Imports	10
Net investment	20
Government purchases	100
Exports	20
Capital consumption allowance	20
Statistical discrepancy	5
Receipts of factor income from the rest of the world	12
Payments of factor income to the rest of the world	10

3. What is the GDP for this economy?
4. What is the GNP for this economy?
5. What is the NNP for this economy?
6. What is the national income for this economy?
7. What is the gross investment in this economy?
8. Why has nominal GDP increased faster than real GDP in the United States over time? What would it mean if an economy had real GDP increasing faster than nominal GDP?
9. If a surfboard is produced this year but not sold until next year, how is it counted in this year's GDP and not next year's?
10. What is the price of 1 U.S. dollar in terms of each of the following currencies, given the following exchange rates?
   a. 1 European euro = $.95
   b. 1 Chinese yuan = $.12
   c. 1 Israeli shekel = $.30
   d. 1 Kuwaiti dinar = $3.20
11. A bicycle manufactured in the United States costs $150. Using the exchange rates listed in Table 10.1,

what would the bicycle cost in the currency of each of the following countries?
a. Australia
b. Britain
c. Canada

12. The U.S. dollar price of a Swedish krona changes from \$.1572 to \$.1730.
a. Has the dollar depreciated or appreciated against the krona?
b. Has the krona appreciated or depreciated against the dollar?

Use the information in the following table on Mexico's international transactions to do exercises 13–15 (the amounts are the U.S. dollar values in millions):

Merchandise imports	\$96,000
Merchandise exports	89,469
Services exports	10,901
Services imports	10,819
Investment income receipts	4,032
Investment income payments	17,099
Unilateral transfers	4,531

13. What is the balance of trade?
14. What is the current account?
15. Did Mexico become a larger international net debtor during this period?
16. If the U.S. dollar appreciated against the euro, what would you expect to happen to U.S. net exports with Germany?
17. Suppose the U.S. dollar price of a British pound is \$1.50; the dollar price of a euro is \$.90; a hotel room in London, England, costs 120 British pounds; and a comparable hotel room in Hanover, Germany, costs 220 euros.
a. Which hotel room is cheaper to a U.S. tourist?
b. What is the exchange rate between the euro and the British pound?
18. Use the national income accounting definition $GDP = C + I + G + X$ to explain what a current account deficit (negative net exports) means in terms of domestic spending, production, and borrowing.

STUDY GUIDE FOR CHAPTER 10

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. national income accounting
B. gross domestic product (GDP)
C. intermediate goods
D. value added
E. inventory
F. capital consumption allowance
G. depreciation
H. indirect business taxes
I. gross national product (GNP)
J. net national product (NNP)
K. gross investment
L. net investment
M. national income
N. personal income
T. GDP price index (GDPPI)
U. consumer price index
V. cost of living adjustments (COLAs)
W. producer price index (PPI)
X. foreign exchange
Y. foreign exchange market
Z. balance of payments
AA. current account
BB. balance of trade
CC. financial account

___ 1. the difference between the value of the output and the value of the intermediate goods used in the production of that output

___ 2. taxes that are collected by businesses for a government agency

___ 3. a measure of the average price level in an economy

13. Inflation can stem from demand-pull or cost-push pressures.
14. Hyperinflation—an extremely high rate of inflation—can force a country to introduce a new currency.

EXERCISES

1. What is the labor force? Do you believe that the U.S. government's definition of the labor force is a good one—that it includes all the people it should include? Explain your answer.
2. Suppose you are able bodied and intelligent, but lazy. You would rather sit home and watch television than work, even though you know you could find an acceptable job if you looked.
   a. Are you officially unemployed?
   b. Are you a discouraged worker?
3. Does the GDP gap measure all of the costs of unemployment? Why or why not?
4. Why do teenagers have the highest unemployment rate in the economy?
5. Write an equation that defines the real interest rate. Use the equation to explain why unexpectedly high inflation redistributes income from creditors to debtors.
6. Many home mortgages in recent years have been made with variable interest rates. Typically, the interest rate is adjusted once a year based on the current rates on government bonds. How do variable interest rate loans protect creditors from the effects of unexpected inflation?
7. The word *cycle* suggests a regular, recurring pattern of activity. Is there a regular pattern in the business cycle? Support your answer by examining the duration (number of months) of each expansion and contraction in Figure 11.1.
8. Suppose 550 people were surveyed, and of those 500, 450 were working full time. Of the 100 not working, 20 were full-time college students, 30 were retired, 10 were under 16 years of age, 15 had stopped looking for work because they believed there were no jobs for them, and 25 were actively looking for work.
   a. How many of the 550 surveyed are in the labor force?
   b. What is the unemployment rate among the 550 surveyed people?
9. Consider the following price information:

	Year 1	Year 2
Cup of coffee	$ .50	$1.00
Glass of milk	$1.00	$2.00

   a. Based on the information given, what was the inflation rate between year 1 and year 2?
   b. What happened to the price of coffee relative to that of milk between year 1 and year 2?
10. Use a supply and demand diagram to illustrate the following conditions:
   a. Cost-push inflation caused by a labor union successfully negotiating for a higher wage
   b. Demand-pull inflation caused by an increase in demand for domestic products from foreign buyers
11. Why can't the nominal interest rate be negative?

STUDY GUIDE FOR CHAPTER 11

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. business cycle
B. recession
C. depression
D. leading indicator
E. coincident indicator
F. lagging indicator
G. unemployment rate
H. discouraged workers
I. underemployment
J. potential real GDP
K. natural rate of unemployment
L. inflation
M. nominal interest rate
N. real interest rate
O. demand-pull inflation
P. cost-push inflation
Q. hyperinflation

___ 1. a period in which real GDP falls

___ 2. a sustained rise in the average level of prices

___ 3. the nominal interest rate minus the rate of inflation

___ 4. the pattern of rising real GDP followed by falling real GDP

___ 5. a variable that changes before real output changes

___ 6. an extremely high rate of inflation

___ 7. the unemployment rate that would exist in the absence of cyclical unemployment

___ 8. inflation caused by increasing demand for output

___ 9. a severe, prolonged economic contraction

___ 10. the observed interest rate in the market

SUMMARY

[illegible] eliminate a GDP [illegible]

1. [illegible] GDP can be closed by increasing [illegible]
2. Government spending affects aggregate expenditures directly; taxes affect aggregate expenditures indirectly through their effect on consumption.
3. Aggregate expenditures must rise to bring equilibrium real GDP up to potential real GDP—to eliminate the GDP gap.
4. An increase in government spending matched by an increase in taxes raises equilibrium spending and real GDP.
5. If the public expects to pay higher taxes as a result of government borrowing, then the expansionary effects of government deficits may be reduced.
6. Government borrowing can crowd out private spending by raising interest rates and reducing investments.

How has U.S. fiscal policy changed over time?

7. Fiscal policy in the United States is a product of the budget process.
8. Federal government spending in the United States has increased from just 3 percent of the GDP before the Great Depression to about 18 percent of the GDP today.
9. Fiscal policy has two components: discretionary fiscal policy and automatic stabilizers.

What are the effects of budget deficits?

10. Budget deficits, through their effects on interest rates, international trade, and the national debt, can reduce investment, output, net exports, and national wealth.
11. Progressive taxes and transfer payments are automatic stabilizers, or elements of fiscal policy that change automatically as national income changes.

How does fiscal policy differ across countries?

12. Industrial countries spend a much larger percentage of their government budget for social programs than do developing countries.
13. Industrial countries depend more on direct taxes and less on indirect taxes than do developing countries.

EXERCISES

1. What is the role of aggregate demand in eliminating the GDP gap? How does the slope of the *AS* curve affect the fiscal policy actions necessary to eliminate the GDP gap?
2. Briefly describe the process of setting the federal budget in the United States. What is the time lag between the start of the process and the point at which the money is actually spent?
3. In what ways are government deficits harmful to the economy?
4. Define and give three examples of automatic stabilizers.
5. Briefly describe the major differences between fiscal policy in industrial countries and that in developing countries.
6. Why will real GDP tend to rise when government spending and taxes rise by the same amount?
7. How can a larger government fiscal deficit cause a larger international trade deficit?
8. Why do government budget deficits grow during recessions?
9. Taxes can be progressive, regressive, or proportional. Define each and briefly offer an argument for why income taxes are usually progressive.

EXERCISES

1. Describe the four functions of money using the U.S. dollar to provide an example of how dollars serve each function.
2. Discuss how each of the following would serve the functions of money:
   a. Gold
   b. Yap stone money
   c. Cigarettes
   d. Diamonds
3. What is a financial intermediary? Give an example of how your bank or credit union serves as a financial intermediary between you and the rest of the economy.
4. Why are informal financial markets used in developing countries? Give an example of an informal financial market.
5. First Bank has cash reserves of $200,000, loans of $800,000, and deposits of $1,000,000.
   a. Prepare a balance sheet for the bank.
   b. If the bank maintains a reserve requirement of 12 percent, what is the largest loan it can make?
   c. What is the maximum amount the money supply can be increased as a result of First Bank's new loan?
6. Yesterday bank A had no excess reserves. Today it received a new deposit of $6,000.
   a. If the bank maintains a reserve requirement of 2 percent, what is the maximum loan bank A can make?
   b. What is the maximum amount the money supply can be increased as a result of bank A's new loan?
7. The deposit expansion multiplier measures the maximum possible expansion of the money supply in the banking system. What factors could cause the actual expansion of the money supply to differ from that given by the deposit expansion multiplier?
8. What is liquidity? Rank the following assets in order of their liquidity: $10 bill, personal check for $20, savings account with $400 in it, PayPal account with $500 in it, stereo, car, house, travelers' check.

Use the following table on the components of money in a hypothetical economy to do exercises 9 and 10.

Money Component	Amount
Travelers' checks	$100
Currency	2,000
Small-denomination time deposits	3,500
Savings deposits	2,000
Demand deposits	7,000
Other checkable deposits	9,000
U.S. Treasury bonds	25,000
Retail money market mutual funds	7,500

9. What is the value of M1 in the previous table?
10. What is the value of M2 in the previous table?

STUDY GUIDE FOR CHAPTER 14

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. money
B. liquid asset
C. currency substitution
D. credit
E. M1 money supply
F. transactions account
G. international reserve asset
H. international reserve currency
I. murabaha
J. Federal Deposit Insurance Corporation (FDIC)
K. Eurocurrency market (offshore banking)
L. international banking facility
M. ROSCAS
N. hawala
O. fractional reserve banking system
P. required reserves
Q. excess reserves
R. deposit expansion multiplier
S. shadow banks
T. securitization

___ 1. available savings that are lent to borrowers to spend

___ 2. an asset used to settle debts between governments

___ 3. financial assets that are the most liquid

___ 4. the cash reserves beyond those required, which can be loaned

___ 5. The process of combining, repackaging or restructuring a collection of assets to transform their risk and maturity qualities,

___ 6. a network for transferring money, popular in Muslim countries

___ 7. the use of foreign money as a substitute for domestic money when the domestic economy has a high rate of inflation

SUMMARY

What does the Federal Reserve do?

1. The Federal Reserve is the central bank of the United States.
2. The Federal Reserve System is operated by 12 district banks and a Board of Governors in Washington, DC.
3. The Fed services and supervises the banking system, acts as the banker of the U.S. Treasury, and controls the money supply.

How is monetary policy set?

4. The Fed controls nominal GDP indirectly by controlling the quantity of money in the nation's economy.
5. The Fed uses the federal funds rate as a short-run operating target to help it achieve its ultimate goal—economic growth with stable prices.

What are the tools of monetary policy?

6. The three tools of monetary policy are the reserve requirement, the discount rate, and open market operations.
7. The Fed buys bonds to increase the money supply and sells bonds to decrease the money supply.
8. The Federal Open Market Committee (FOMC) issues directives to the Federal Reserve Bank of New York outlining the conduct of monetary policy.

What role do central banks play in the foreign exchange market?

9. Central banks intervene in the foreign exchange market when it is necessary to maintain a targeted exchange rate.

What are the determinants of the demand for money?

10. The demand for money stems from the need to buy goods and services, to prepare for emergencies, and to retain a store of value.
11. There is an inverse relationship between the quantity of money demanded and the interest rate.
12. The greater the nominal income, the greater the demand for money.
13. Because the Fed sets the money supply, the money supply function is independent of the interest rate and real GDP.

How does monetary policy affect the equilibrium level of real GDP?

14. By altering the money supply, the Fed changes the interest rate and the level of investment, shifting aggregate demand and the equilibrium level of real GDP.

What does the ECB do?

15. The ECB is the central bank of the 17 nations adopting the euro as their national currency.
16. The ECB conducts monetary policy for the euro region.
17. The policy of the ECB is made by a Governing Council composed of the 6 executive board members and the 17 governors of the euro area national central banks.

EXERCISES

1. The Federal Reserve System divides the nation into 12 districts.
   a. List the 12 cities where the district banks are located.
   b. Which Federal Reserve district do you live in?
2. Briefly describe the functions the Fed performs for the banking community. In what sense is the Fed the bankers' bank?
3. Draw a graph showing equilibrium in the money market. Carefully label all curves and

axes and explain why the curves have the slopes they do.

4. Using the graph you prepared for exercise 3, illustrate and explain what happens when the Fed decreases the money supply.
5. When the Fed decreases the money supply, the equilibrium level of income changes. Illustrate and explain how.
6. Describe the quantity theory of money, defining each variable. Explain how changes in the money supply can affect real GDP and the price level. Under what circumstances could an increase in the money supply have *no* effect on nominal GDP?
7. There are several tools the Fed uses to implement monetary policy.
   a. Briefly describe these tools.
   b. Explain how the Fed would use each tool in order to increase the money supply.
8. First Bank has total deposits of $2,000,000 and legal reserves of $220,000.
   a. If the reserve requirement is 10 percent, what is the maximum loan that First Bank can make, and what is the maximum increase in the money supply based on First Bank's reserve position?
   b. If the reserve requirement is changed to 5 percent, how much can First Bank lend, and how much can the money supply be expanded?
9. Suppose you are a member of the FOMC, and the U.S. economy is entering a recession. Write a directive to the New York Fed about the conduct of monetary policy over the next two months. Your directive should address targets for the federal funds rate. You may refer to the *Federal Reserve Bulletin* for examples since this publication reports FOMC directives.
10. Suppose the Fed has a target range for the yen–dollar exchange rate. How would it keep the exchange rate within the target range if free market forces push the exchange rate out of the range? Use a graph to help explain your answer.
11. Why do you demand money? What determines how much money you keep in your pocket, purse, or bank accounts?
12. What is the current yield on a bond? Why do interest rates change when bond prices change?
13. If the Fed increases the money supply, what will happen to each of the following (other things being equal)?
    a. Interest rates
    b. Money demand
    c. Investment spending
    d. Aggregate demand
    e. The equilibrium level of national income
14. Suppose the banking system has vault cash of $1,000, deposits at the Fed of $2,000, and demand deposits of $10,000.
    a. If the reserve requirement is 20 percent, what is the maximum potential increase in the money supply given the banks' reserve position?
    b. If the Fed now purchases $500 worth of government bonds from private bond dealers, what are excess reserves of the banking system? (Assume that the bond dealers deposit the $500 in demand deposits.) How much can the banking system increase the money supply given the new reserve position?
15. Which countries have their monetary policy made by the ECB?
16. How is the ECB different from the Federal Reserve?
17. Visit the Federal Reserve Economic Data website maintained by the St. Louis Fed at research.stlouisfed.org/fred2. Make a graph of the excess reserves of depository institutions from 1959 to the present.

STUDY GUIDE FOR CHAPTER 15

Key Term Match

Match each term with its correct definition by placing the appropriate letter next to the corresponding number.

A. Federal Open Market Committee (FOMC)
B. intermediate target
C. equation of exchange
D. velocity of money
E. quantity theory of money
F. FOMC directive
G. legal reserves
H. federal funds rate
I. discount rate
J. open market operations
K. foreign exchange market intervention
L. sterilization
M. transactions demand for money
N. precautionary demand for money
O. speculative demand for money

___ 1. the buying and selling of government bonds by the Fed to control bank reserves, the federal funds rate, and the money supply

___ 2. the demand to hold money to buy goods and services

___ 3. the official policymaking body of the Federal Reserve System

___ 4. the interest rate a bank charges when it lends excess reserves to another bank

___ 5. the buying and selling of foreign exchange by a central bank to move exchange rates up or down to a targeted level

___ 6. an objective used to achieve some ultimate policy goal