

LESSON FOUR

THE MARKET NEVER STANDS STILL

INTRODUCTION

Prices of goods and services fluctuate as conditions that influence the behavior of buyers and sellers change. This lesson examines the major reasons for such changes in supply and demand, and the resulting effects of these changes on market prices.

CONCEPTS

- Demand
- Determinants of shifts in demand
- Supply
- Determinants of shifts in supply

CONTENT STANDARDS

There is a negative (inverse) relationship between price and quantity demanded, shown by moving along a demand curve.

Demand for a product will normally change (the demand curve will shift) if there is a change in consumers' incomes, tastes and preferences, or the prices of related (complementary or substitute) products.

There is a positive (direct) relationship between price and quantity supplied, shown by moving along a supply curve.

Supply of a product will normally change (the supply curve will shift) if there is a change in technology, in prices of inputs, or in the prices of other products that could be made and sold by producers.

OBJECTIVE

◆ Explain how demand and supply shift in response to changes in these determinants, and predict the effects of changes in demand and supply on market price and quantity.

LESSON DESCRIPTION

Working in pairs or small groups, students com-

plete several worksheets to study the factors (determinants) that affect the position of supply and demand curves in order to understand why market prices and output levels fluctuate. After learning these determinants, students predict the effects of changes in the determinants on market prices and quantities.

TIME REQUIRED

Two class periods. Day one—procedures 1-9. Day two—procedures 10-16 and Assessment.

MATERIALS

- ★ Classroom quantities of Activities 1 to 6.
- One transparency of Visual 1.

PROCEDURE

1. Distribute copies of Activity 1. Read the directions for Part I, and have students complete the tasks described. Have students explain their predictions to one another to see if there is a consensus, or confusion. At this point, do not try to correct students but make certain they are aware of any confusion or contradictions in their discussions. Read the directions for Part II, direct students to complete it, and have them explain their answers in the same way they discussed Part I.

2. Distribute copies of Activity 2. Again, read the directions for Part I, and have students complete the tasks described. As before, have students explain their answers to other students to see if there is a consensus, or confusion. Again, do not try to correct students at this time. Do Part II in the same manner.

3. Project a transparency of Visual 1, and inform students that confusion of the kind possibly encountered in Activities 1 and 2 can be eliminated by using diagrams that show changes in demand and supply and their effects on prices.

4. Use the top half of the transparency to explain that an increase in demand for a product means a larger quantity is demanded at every price. This is represented by the shift from curve D_1 to curve D_2 . Conversely, a shift from D_2 to D_1 represents a smaller quantity demanded at every price, or a decrease in demand.

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5. Emphasize that an increase in the demand for doughnuts means that more doughnuts are demanded at every price. Provide students with practice in interpreting the graph. *Ask:*

- A. What quantity of doughnuts is demanded at point A? (20) At point B? (40)
- B. What quantity is demanded at point C? (40) At point D? (60)
- C. What quantity is demanded at point E? (50) At Point F? (70)
- D. What conclusion can be drawn from these data? (On demand curve D_2 , 20 more doughnuts are demanded at every price than on demand curve D_1 .)

6. Ask students to predict how one should draw a curve that illustrates a decrease in demand from D_1 , and explain why. Draw such a curve, and label it D_0 . (Curve D_0 should be to the left of D_1 .)

7. Ask the students whether a movement from point A to point C on curve D_1 shows an increase in the demand for doughnuts? (No. It shows an increase in the quantity demanded, caused by a decrease in price from \$2.00 to \$1.00. It does not show that more doughnuts were demanded at all prices—e.g., at \$2.00 the quantity demanded does not change. Stress that a movement along a demand curve is called a change in the quantity demanded; a shift in the position of the entire curve is called a change in demand. This verbal distinction will be vital later in correcting any confusion encountered in Activities 1 and 2.)

8. Pass out copies of Activity 3, go over the instructions, and have students work in small groups to complete the activity sheet, using Part II of Activity 1 as a reference. Discuss the answers to the handout.

9. Review Part I of Activity 1, and instruct all students who formed one or more incorrect hypotheses at the start of the lesson to correct their mistakes on Activity 1.

10. Project the transparency of Visual 1 again.

Using the bottom half, point out to students that a movement from curve S_1 to curve S_2 is an increase in supply, because the quantity supplied increases for every price. A shift from curve S_2 to S_1 indicates a decrease in quantity supplied at every price, so this is a decrease in supply.

11. Emphasize that an increase in the supply of doughnuts means that more doughnuts are supplied at every price. *Ask:*

- A. What quantity of doughnuts is supplied at point A? (60) At point B? (70)
- B. What quantity is supplied at point C? (40) At Point D? (50)
- C. What quantity is supplied at point E? (30) At point F? (40)
- D. What conclusions can be drawn from these data? (On supply schedule S_2 , 10 more doughnuts are supplied at every price compared to schedule S_1 .)

12. Ask students to predict how one should draw a curve that illustrates a decrease in supply from S_1 . Draw such a curve, and label it S_0 . (Curve S_0 should be to the left of S_1 .)

13. Ask students whether a movement from point D to point B shows an increase in the supply of doughnuts. (No. It only shows an increase in the quantity supplied, caused by the increase in price from \$1.00 to \$2.00. At the price of \$1.00, more doughnuts are *not* supplied. Stress that a movement along a supply curve is only a change in the quantity supplied; a shift of the entire curve is called a change in supply. This verbal distinction is crucial to understanding one another in discussing economic topics, because the two phrases clearly refer to very different things.)

14. Distribute a copy of Activity 4 to each student. Go over the instructions. Have students work in small groups to complete the handout, using Part II of Activity 2 as a reference. Discuss the answers.

15. Review Activity 2 and instruct all students

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who suggested one or more incorrect hypotheses at the start of the lesson to correct their mistakes on Activity 2.

16. Distribute a copy of Activity 5 to each student. After students have completed the worksheet, go over their answers in class to reinforce understanding.

Opportunity for Less Able Students

From Part II of Activities 1 and 2, make a list of determinants of changes in demand and supply. List each determinant on the chalkboard as the heading for a separate column. Ask students: (1) to choose a product they buy for which prices have changed recently and (2) to suggest as many possible causes for the change as they can think of. As students name possible causes, help the students group them under the appropriate column on the board. When students are unable to think of any additional possible causes, explain that the causes of all price changes can be analyzed by considering which of the factors represented by each column may have changed. Have students practice using this idea by asking them to select a second product whose price has recently changed. Discuss the possible causes of the price change, and show how these causes are specific examples of general forces represented by the labels in the columns. Pick a third example, and this time start with the column headings, and ask students to give an example of some event that *might* have occurred to cause this determinant to make the price change in the way it did.

ASSESSMENT

1. Encourage students to visit a business selling a product in which they are interested. Ask the owner or manager to identify the last time prices for the product changed. Also ask him or her to list as many reasons as possible why the price changed. In class, review the determinants of changes in demand and supply. Help students put the reasons for the price change that were suggested by the owner/manager into categories that list the appropriate determinants of supply or demand. Put students into cooperative learning groups, and draw graphs that reflect the reasons for changes in price uncovered during their interviews—i.e., show the shifts in supply and/or demand.

2. Conduct one or more additional rounds of the Wheat Market Game (see Lesson 3), but this time cut the number of *sell* cards available at each price in half. Have students record their transaction prices and gains or losses on their score sheets. Examine the class tally sheet and ask students to explain how and why prices changed as they did, compared to the original version of the curve. (Prices should increase because of the decrease in supply.)

3. Next, conduct one or more additional rounds of the Wheat Market Game with the number of *buy* cards at each price cut in half. Have students record their transactions. Examine the class tally sheet and ask students to explain how and why prices changed as they did, compared to the earlier version of the game. (Prices should decrease because of the decrease in demand.)

4. Distribute a copy of Activity 6 to each student, to assess students' understanding of the key ideas in this lesson.

ACTIVITY 1

REASONS FOR CHANGES IN DEMAND

Name _____

Part I

Read the following seven newspaper headlines. In each case decide if the event will cause a change in the market demand for beef. If so, determine if it is an increase or a decrease, and write the correct answer. For example, if you think headline 1 means there will be a decrease in demand, write "decrease" in the first blank. For headline 2, if you think demand will increase, write "increase". If the event causes no change in demand, write "no change."

1. PRICE OF BEEF TO RISE
Demand _____
2. MILLIONS OF IMMIGRANTS SWELL U.S. POPULATION
Demand _____
3. PORK PRICES DROP
Demand _____
4. SURGEON GENERAL WARNS THAT EATING BEEF CAN BE HAZARDOUS TO HEALTH
Demand _____
5. TAKE-HOME PAY FOR AMERICANS DROPS 3RD MONTH IN ROW
Demand _____
6. NATIONWIDE FAD: THE RAP-BURGER
Demand _____
7. HIGHER PRICE FOR CHARCOAL THREATENS MEMORIAL DAY COOKOUTS
Demand _____

Part II

Put each change in demand from Part I into one of the following categories, based on the reason for the change. Write the number of the headline(s) next to the appropriate reason for the change in demand. Some categories may have more than one headline number, and any event that did not change demand should *not* be listed with any of the determinants.

- _____ A change in consumer tastes
- _____ A change in consumer incomes
- _____ A change in the number of consumers in the market
- _____ A change in the price of a substitute good
- _____ A change in the price of a complementary good

ACTIVITY 2

REASONS FOR CHANGES IN SUPPLY

Name _____

Part I

Read the following eight newspaper headlines. In each case, decide if the event will cause any change in the market supply of cars. If so, determine if it is an increase or a decrease, and write the correct answer. For example, if you think headline 1 means there will be a decrease in supply, write "decrease" in the first blank. For headline 2, if you think supply will increase, write "increase". If the event causes no change, write "no change."

1. AUTO WORKERS AGREE TO WAGE AND FRINGE CUTS
Supply _____
2. NEW ROBOT TECHNOLOGY INCREASES EFFICIENCY IN DETROIT FACTORIES
Supply _____
3. NATIONWIDE AUTO STRIKE BEGAN AT MIDNIGHT
Supply _____
4. QUOTAS ELIMINATED: FOREIGN CAR IMPORTS RISE
Supply _____
5. STEEL PRICES RISE 10%
Supply _____
6. LARGE AUTO PRODUCER GOES BANKRUPT, CLOSES FACTORIES
Supply _____
7. BUYERS REJECT NEW CAR MODELS: SELLERS LOWER PRICES
Supply _____
8. SHORTAGES ABOUND IN CONSUMER ELECTRONICS—CONSUMERS CAN'T BUY ENOUGH NEW GAMES AND GADGETS
Supply _____

Part II

Put each change in supply from Part I into one of the following categories, based on the reason for the change. Write the number of the headline next to the appropriate reason for the change in supply. Some categories may have more than one headline number, and any event that did not change supply should *not* be listed with any of the determinants.

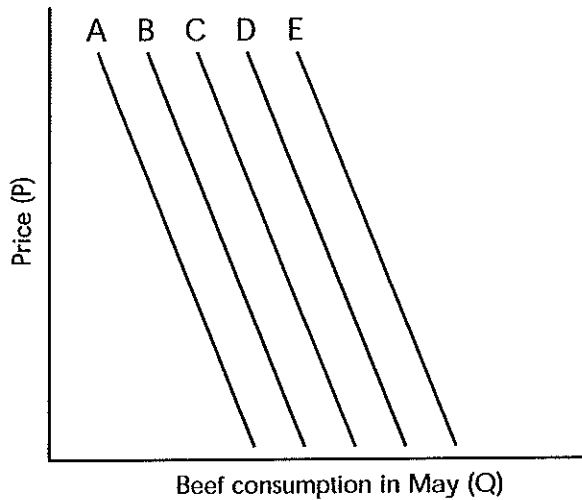
- ____ A change in the cost of factors of production
- ____ A change in technology
- ____ A change in the number of sellers in the market
- ____ A change in profit opportunities from producing other products

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ACTIVITY 3

REASONS FOR CHANGES IN DEMAND

Name _____



Part 1

Read the following eight newspaper headlines. In each case decide if the event will cause a change in the demand for beef. If so, determine if it is an increase or a decrease, and write the correct answer. Begin at curve C. If you think headline 1 means there will be a decrease in demand, write "decrease" in the first blank and "B" in the second blank; move to curve B to do headline 2. Or, if you think headline 1 means demand will increase, write "increase" and "D" in the blanks for headline 1; move to curve D to do headline 2.

Move only one curve at a time. Do not skip two curves, say from A to C, even if you think the headline means there will be a large change in demand. Do not go beyond the five curves. If you are at A and the next headline implies a decrease in demand, you goofed somewhere. There is one headline which implies that the demand for beef does *not* change.

1. PRICE OF BEEF TO RISE

Demand _____ Curve _____

2. MILLIONS OF IMMIGRANTS SWELL U.S. POPULATION

Demand _____ Curve _____

3. PORK PRICES DROP

Demand _____ Curve _____

4. SURGEON GENERAL WARNS THAT EATING BEEF CAN BE HAZARDOUS TO HEALTH

Demand _____ Curve _____

5. TAKE-HOME PAY FOR AMERICANS DROPS 3RD MONTH IN ROW

Demand _____ Curve _____

6. NATIONWIDE FAD: THE RAP-BURGER

Demand _____ Curve _____

7. HIGHER PRICE OF CHARCOAL THREATENS MEMORIAL DAY COOKOUTS

Demand _____ Curve _____

Part II

Put each change in demand from Part I into one of the following categories, based on the reason for the change. Write the number of the headline(s) next to the appropriate reason for the change in demand. Some categories may have more than one headline number, and any event that did not change demand should *not* be listed with any of the determinants.

_____ A change in consumer tastes

_____ A change in the number of consumers in the market

_____ A change in consumer incomes

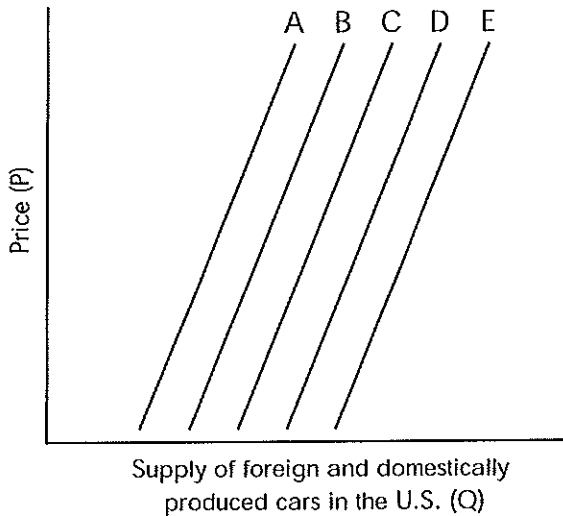
_____ A change in the price of a substitute good

_____ A change in the price of a complementary good

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**ACTIVITY 4
REASONS FOR CHANGES IN SUPPLY**

Name _____



Part I

Read the following eight newspaper headlines. In each case, decide if the event will cause any change in the supply of cars. If so, determine if it is an increase or a decrease, and write the correct answer. Begin at curve C. If you think headline 1 means there will be a decrease in supply, write "decrease" in the first blank and "B" in the second blank; move to curve B to do headline 2. Or, if you think headline 1 means supply will increase, write "increase" and "D" in the blanks for headline 1; move to curve D to do headline 2.

Move only one curve at a time. Do not skip two curves, say from A to C, even if you think the headline means there will be a large change in supply. Do not go beyond the five curves. If you are at A and the next headline implies a decrease in supply, you goofed somewhere. There is one headline which implies that the supply of cars does *not* change.

1. AUTO WORKERS AGREE TO WAGE AND FRINGE CUTS
Supply _____ Curve _____
2. NEW ROBOT TECHNOLOGY INCREASES EFFICIENCY IN DETROIT FACTORIES
Supply _____ Curve _____

3. NATIONWIDE AUTO STRIKE BEGAN AT MIDNIGHT
Supply _____ Curve _____
4. QUOTAS ELIMINATED: FOREIGN CAR IMPORTS RISE
Supply _____ Curve _____
5. STEEL PRICES RISE 10 PERCENT
Supply _____ Curve _____
6. LARGE AUTO PRODUCER GOES BANKRUPT, CLOSES OPERATION
Supply _____ Curve _____
7. BUYERS REJECT NEW CAR MODELS: SELLERS LOWER PRICES
Supply _____ Curve _____
8. SHORTAGES ABOUND IN ELECTRONICS: CONSUMERS CAN'T BUY ENOUGH NEW GAMES AND GADGETS
Supply _____ Curve _____

Part II

Put each change in supply from Part I into one of the following categories, based on the reason for the change. Write the number of the headline(s) next to the appropriate reason for the change in supply. Some categories may have more than one headline number, and any event that did not change supply should *not* be listed with any of the determinants.

- _____ A change in the cost of factors of production
- _____ A change in technology
- _____ A change in the number of sellers in the market
- _____ A change in profit opportunities producing other products

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ACTIVITY 5

CHANGES IN SUPPLY AND DEMAND CHANGE MARKET PRICE AND QUANTITY

Name _____

Economists studied the gasoline market to find out how many millions (M) of gallons consumers would be willing to buy each day and how many gallons sellers would be willing to sell each day at various prices. This research showed that:

<u>If the price of a gallon of gasoline was:</u>	<u>Consumers would be willing to buy:</u>	<u>Producers would be willing to sell:</u>
\$0.40	55 M gallons	25 M gallons
0.80	40 M gallons	40 M gallons
1.20	25 M gallons	55 M gallons
1.60	10 M gallons	70 M gallons
2.00	5 M gallons	85 M gallons
2.40	1 M gallons	90 M gallons

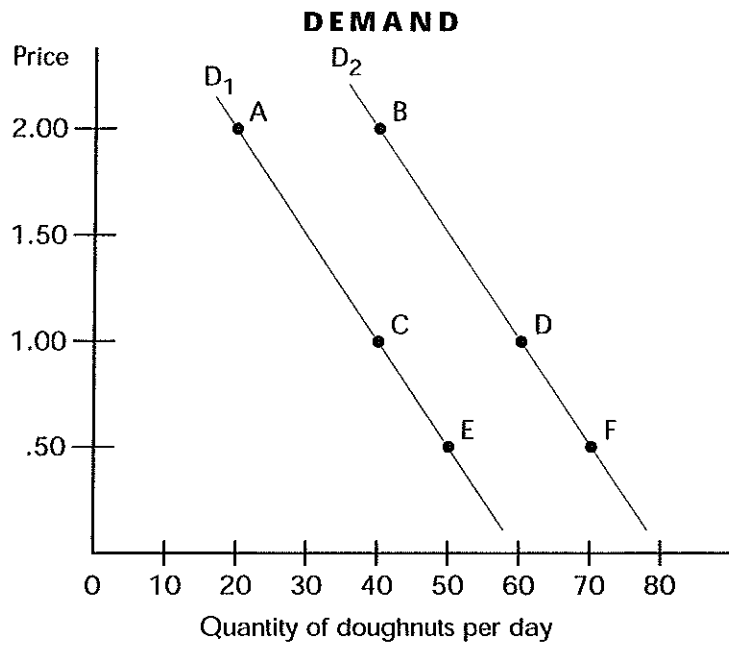
1. According to the table, the market clearing (or equilibrium) price for gasoline is _____ and at this price the number of gallons of gasoline bought and sold is _____. Label the equilibrium price E_1 .
2. How do you know this is the market clearing price? _____

3. Assume that big gas-guzzling cars become very popular again. Because consumers buy so many gas guzzlers, they want to buy 30 million more gallons of gasoline per day at every price. For example, at \$.40 per gallon people now want to buy 85 million gallons rather than 55 million. Write a new table showing the amount that people would like to buy at each price. What is the new market-clearing price? _____ How many gallons will be bought and sold at this price? _____ Label the new equilibrium price E_2 .
4. Now assume that two oil producing countries get into a war and destroy each other's oil wells. Because of this, sellers are willing to sell 30 million fewer gallons of gasoline per day at every price. For example, at \$.80 per gallon sellers are willing to sell only 10 million gallons rather than 40 million gallons. Write another table showing the new amount that people would like to sell at each price. What is the new market-clearing (or equilibrium) price, assuming the demand schedule from question 3 is used again? _____ How many gallons will be bought and sold at this price? _____ Label this new equilibrium price E_3 .

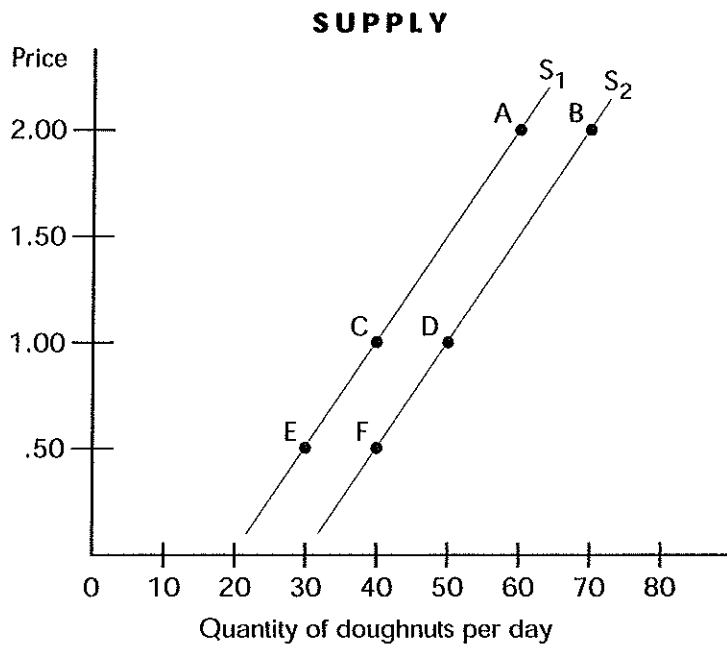
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VISUAL 1

SHIFTS IN DEMAND AND SUPPLY DEMAND



→ INCREASES →
← DECREASES ←



→ INCREASES →
← DECREASES ←