CHAPTER 3
(*MACRO* CHAPTER 3; *MICRO* CHAPTER 3)

# The Markets, Demand and Supply, and the and Price System

## FUNDAMENTAL QUESTIONS

1. In a market system, who How do we decides what who gets the scarce goods and services are produced?
2. What is demand?
3. What is supply?
4. How is price determined by demand and supply?
5. What causes price to change?
6. What happens when price is not allowed to change with market forces?

## OVERVIEW AND OBJECTIVES

*The primary purpose of this chapter is to develop the concepts of demand and supply and explain how they combine to produce equilibrium prices and quantities.*

*The unique features of this chapter are the treatment of barter versus money exchange and a discussion of the nature of market equilibrium in the real world. There is also a section about the impact on the market of price ceilings and floors.*

After reading and reviewing this chapter, the student should be able to:

1. Describe a market system.
2. Explain how money facilitates the exchange process.
3. Distinguish between demand and quantity demanded and supply and quantity supplied.
4. Explain the laws of demand and supply.
5. Construct demand and supply curves from demand and supply schedules.
6. Distinguish between a change in demand and a change in quantity demanded.
7. Distinguish between a change in supply and a change in quantity supplied.

8. List factors that cause shifts in demand and supply curves.
9. Determine equilibrium price and quantity.
10. Explain surpluses and shortages.
11. Determine impacts on equilibrium price and quantity resulting from shifts in demand and supply.
12. Explain the impact of price floors and price ceilings.

## KEY TERM REVIEW

market

barter

complementary goods

consumer sovereignty

double coincidence of wants

demand

demand curve

demand schedule

determinants of demand

determinants of supply

disequilibrium

double coincidence of wants

equilibrium

inferior goods

law of demand

law of supply

market

normal goods

productivity

quantity demanded

quantity supplied

shortage

**law of demand**

**determinants of demand**

**demand schedule**

**demand curve**

**normal goods**

**inferior goods**

**substitute goods**

**complementary goods**

**supply**

**quantity supplied**

**law of supply**

**determinants of supply**

**supply schedule**

**supply curve**

**supply scheduleproductivity**

**equilibrium**

**disequilibrium**

**surplus**

**shortage**

**exchange rate**

**price floor**

**price ceiling**

## LECTURE OUTLINE AND TEACHING STRATEGIES

**I. How Do We Decide Who Gets the Scarce Goods and Resources?The Market System**

Consumer sovereignty is the authority of consumers to determine what is produced through their purchases of goods and services; it dictates what goods and services will be produced.

A. **Profit and the allocation of resources:** When a good or service seems to have the potential to generate a profit, some entrepreneur will put together the resources needed to offer that good or service for sale. If the potential profit turns into a loss, the entrepreneur may stop buying resources and turn to some other occupation or project. The resources used in the

losing operation will then be available for use in an activity where they are more highly valued.

B. **Creative destruction:** In the process of firms always seeking to lower their costs and make higher profits, society finds that the goods and services that buyers want are produced in the least costly manner.

C. **The determination of income:** In a price or market system, those who have the ability to pay for the products get the products. Income determines your ability to pay, and a person's income comes from selling the services of the resources that person owns.

~~**An allocation system is the process of determining who gets the goods and services and who doesn't.**~~

~~**A.** Fairness: Scarcity means that someone gets left out.~~
~~**B.** Incentives: The market system creates the incentive to acquire purchasing ability and the incentive for quantities of scarce goods to increase. It also ensures that resources are allocated to where they are most highly valued.~~
~~**C.** The market process: Arbitrage: In a market system, buyers and sellers determine what is produced, how much is produced and sold, and how the goods and services are allocated. As long as the market is free to change, it will ensure that resources are allocated to where they have the highest value and people get what they want at the lowest price.~~

## II. Markets and Money

A. Barter and money exchanges: Barter is the exchange of goods and services directly without money and requires a double coincidence of wants.
**Teaching Strategy:** Try generating a discussion in class to see if a double coincidence of wants exists among the students.

## III. Demand

A. The law of demand: The quantity of a well-defined good or service that people are willing and able to purchase during a particular period of time decreases as the price of that good rises, *ceteris paribus.*
**Teaching Strategy:** There are two points that economists advance to argue for a downward-sloping demand curve—the income and substitution effects. The income effect takes place when a change in the price of a good alters the consumer's purchasing power. When the price of a good changes and in turn the demand for a substitute good changes, the substitution effect is at work.

**Teaching Strategy:** When beer prices fall during a Friday afternoon happy hour, bar patrons substitute more beer for other goods they could consume (the substitution effect). In addition, the increase in their purchasing power due to the cheaper beer allows them to buy more pretzels and pizza (the income effect).

B. The demand schedule: This is a list of the quantities of a good that consumers demand at different prices, *ceteris paribus.*
**Teaching Strategy:** Try asking students who would purchase laptop computers at different prices. Then, from their responses, generate a demand schedule.

C. The demand curve: This is a downward-sloping curve that is made from the combinations of price and quantity demanded in the demand schedule.
**Teaching Strategy:** Derive a demand curve from the demand schedule for laptop computer purchases.

D. From individual demand curves to a market curve: A market curve is the horizontal summation of all individual demand curves.

E. Changes in demand and changes in quantity demanded: Compare a movement along a demand curve to a shift in the entire curve. The determinants of demand are income, tastes, prices of related goods, expectations, and number of buyers.
**Teaching Strategy:** Ask your students to redraw their demand curves after they receive $1,000 in lottery winnings.

1. Income: Normal goods are goods that people buy more of when income increases. Inferior goods are those that people buy less of when income increases.
2. Tastes: The demand for any good or service depends on individuals' tastes and preferences.
3. Prices of related goods and services: Substitute goods are goods that can be used in place of each other; complementary goods are goods that are used together.
4. Expectations: Expectations about future events can have an effect on demand today.
5. **Number of buyers: The more individuals there are with income to spend, the greater the market demand is likely to be.**

## IV. Supply

A. The law of supply: The quantity of a good or service that producers will sell is positively related to price, *ceteris paribus.*
**Teaching Strategy:** Try focusing the law of supply around the profit motive of producers, that is, rational self-interest ~~(covered in Chapter 1).~~.

B. The supply schedule and supply curve: The supply curve is composed of all the combinations of prices and quantities supplied that are listed in the supply schedule.

C. From individual supply curves to the market supply: The market supply curve is the summation of all the individual supply curves. It is the horizontal summation—the total amount provided by all producers at each price.

D. Changes in supply and changes in quantity supplied: A change in quantity supplied occurs when only the product price changes and all other factors are held constant.
**Teaching Strategy:** Try to show a change in quantity supplied as a movement along a stationary supply curve, as shown in Figure 8~~10~~(b) in the text. A change in supply occurs when the quantity supplied at every price changes due to a change in a factor other than product price, such as resource prices, technology, producer expectations, number of suppliers, or prices of related goods or services.

**Teaching Strategy:** Try to show how higher wages obtained by the United Auto Workers (UAW) will cause the supply curve for automobiles to shift to the left. Refer to Figure 8~~10~~(a) in the text.

1. Prices of resources: The higher cost of resources causes a decrease in supply.
2. Technology and productivity: More efficient use of resources shifts the supply curve to the right.
3. Expectations of suppliers: The supply curve will shift if producers expect something to occur that will alter the anticipated profits at every possible price.
4. Number of suppliers: When more people produce a good or service, the market supply increases.
5. **Prices of related goods or services: If the price of an alternative good or service changes, the supply curve will change.**

## V. Equilibrium: Putting Demand and Supply Together

A. Determination of equilibrium: Quantity demanded equals quantity supplied at a set price.
**Teaching Strategy:** Try polling your class in terms of demand for automobiles and then draw the demand curve. Then draw a market supply curve; generate quantity demanded and quantity supplied at different prices; and show surpluses, shortages, and equilibrium.

B. Changes in the equilibrium price: demand shifts.
**Teaching Strategy:** Try having all your students imagine that they win $10,000 each in the lottery. Reconstruct the demand curve and show the new equilibrium price and quantity for cars.

C. Changes in the equilibrium price: supply shifts.
**Teaching Strategy:** Try showing the results of the UAW obtaining a wage increase on the equilibrium price and quantity of cars.

~~D. Market adjustment and market interference: In reality, it is common for quantities demanded and quantities supplied not to be equal.~~
~~**Teaching Strategy:** Demonstrate to your class how the size of a shortage from a price ceiling and the size of the surplus from a price floor depend on the slopes of the supply and demand curves.~~

~~1. Market interference: Price ceilings and price floors: Situations where the price is not allowed to decrease below a certain level or not allowed to rise to its equilibrium level are not uncommon.~~

~~E. Market adjustment: Watch the price of eggs: During the 1990s, many countries experienced reform to market-driven economies. Economic advisors told leaders to watch the price of eggs because the market for eggs would be the quickest to emerge.~~

## OPPORTUNITIES FOR DISCUSSION

1. Why does the demand curve slope down? Why does the supply curve slope up?
2. How do disequilibria appear in a market? How are disequilibria eliminated?
3. List some examples of why your demand curve for a particular good might change. Is this a change in quantity demanded or a change in demand?
4. Explain why our government sometimes feels that it is necessary to implement price ceilings or price floors.
5. Describe a real-life shortage or surplus of a good such as a popular toy for holiday sale. What eventually happened to the price of the good?
6. Have you ever attempted to barter for a good or service? Describe how a double coincidence of wants came into play.

## ANSWERS TO EXERCISES0

01.

a. Demand curve shifts in.

b. Demand curve shifts in.

c. Demand curve does not change, but quantity demanded falls and quantity supplied rises.

d. Demand curve shifts in.

e. Demand curve shifts in.

02.

a. F. An increase in quantity demanded is represented by a move up the demand curve.

b. F. An increase in quantity supplied is represented by a move up the supply curve.

c. T. The demand curve shifts out, leading to an increase in the price.

d. F. The supply curve shifts out, leading to a decline in the price.

03. Equilibrium price = \$5; equilibrium quantity = 300. At a price of \$10, the quantity supplied is 975 and the quantity demanded is only 150. There is a surplus of 825. The surplus will cause the supplier to lower the price. Price must decline to \$5 in order to eliminate surplus. At a price of \$2,

there is a shortage of 280. The producer will raise the price until the shortage no longer exists. Price must increase to $5 in order to eliminate the shortage.

04. The minimum price of $7 means that a surplus of 240 will occur.

05. The price could change from minute to minute to ensure there are no lift lines. However, such a policy would be too costly for the owners to implement. Perhaps the owners and the skiers would prefer having some lift lines during the most popular times to not knowing what the price of a lift would be from minute to minute.

~~An effective price ceiling is one that is below equilibrium price. Thus, the price would have to be fixed at some level below $5 to be an effective price ceiling. At an effective price ceiling, there will be a shortage. The size of the shortage depends on which price is chosen.~~

~~**An effective price floor is one that is above equilibrium price. Thus, the price would have to be fixed at some level above $5 to be an effective price floor. At an effective price floor, there will be a surplus. The size of the surplus depends on which price is chosen.**~~

06. ~~The price could change from minute to minute to ensure there are no lift lines. However, such a policy would be too costly for the owners to implement. Perhaps the owners and the skiers would prefer having some lift lines during the most popular times to not knowing what the price of a lift would be from minute to minute.~~

0~~7.~~ The opportunity cost of using barter is higher than it is with currency. The use of currency would reduce the cost of transaction.

0~~8~~07. California and Florida citrus are substitutes. Thus, as the quantity of California citrus declines, the supply curve shifts in, and the price of California citrus rises. People shift their purchases from California to Florida citrus. The demand for Florida citrus rises. As a result, the price of Florida citrus rises.

0~~9~~08. People who buy the Polo line are also buying the prestige that comes with it. The prestige rises as the price rises. Thus, in our demand and supply curves, we would look at the Polo brand and the J.C. Penney brand as two different goods. The law of demand would state that for the J.C. Penney brand, the higher the price, the lower the quantity demanded, everything else staying the same. Similarly, the higher the price of the Polo brand, the lower the quantity demanded, everything else staying the same.

90~~10~~. No. The price of trees rises because the demand curve shifts out as the demand for trees rises.

0~~11~~010. The two goods are substitutes. Thus, a decrease in the price of artificial trees means a reduction in the demand for cut trees.

0~~12~~011. The restaurants have decided not to use the price of a meal as a way to allocate space in the restaurant to customers. As a result, some means other than price must do the allocation. One means is the length of time of the wait. Another means is to bribe or tip the maître d'.

~~013~~012. ~~If~~In November 1992, it took 124 yen to purchase one dollar. Suppose that a bushel of oranges is priced at $20 in the United States. The price in terms of yen is ¥2,480. The exchange rate between the yen and the dollar means that ¥2,480 converts to $20 ( $¥2{,}480 = \$20 \times ¥124/\$$ ). Suppose the exchange rate changes to ¥110 per dollar, and nothing else changes. The U.S. price of the oranges remains at $20. In Japan, the yen value of the oranges falls to $\$20 \times ¥110 = ¥2{,}200$ . Since the oranges are now less expensive in Japan because of the exchange rate change, the quantity of U.S. oranges demanded in Japan rises. This means that the demand for U.S. oranges has increased in Japan due to exchange rate changes. The U.S. consumers buy the same amount because for them the price has not changed. At the same time, the Japanese consumers buy more.

~~014~~013. The cost of supplying the packaged meat will rise as a result of the new labeling law. This means that the supply curve will shift in (or up). As a result, the price of meat will rise.

~~015~~014. The desired combination depends on society's preferences. The market defines where on the PPC the society will locate. The PPC does not show which combination will be produced.

**15**~~16~~. The turmoil in the Mideast in 2011 caused a decrease in supply of oil, shifting the supply curve to the left. All other things held equal, this would cause the equilibrium price to rise.

~~**17.** Had a price ceiling on oil been imposed, the price would have not been allowed to reach equilibrium. This would create a shortage, and some other rationing device would have been used other than price.~~

## ~~ANSWERS TO STUDY GUIDE HOMEWORK0~~

~~01. Demand: as the price of a good increases, the quantity demanded decreases; as the price of a good decreases, the quantity demanded increases.~~

~~Supply: as the price of a good increases, the quantity supplied increases; as the price of a good decreases, the quantity supplied decreases.~~

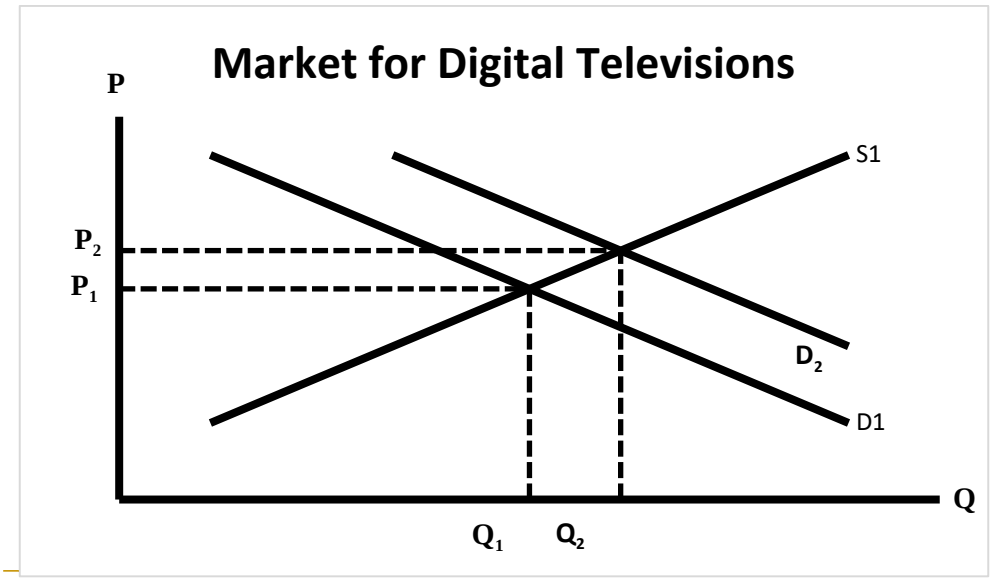
~~02. Income, tastes, prices of related goods, consumers' expectations, and the number of buyers.~~

~~03. A "change in demand" means the entire demand relationship has shifted. A "change in quantity demanded" means that, as a result of a change in the price of the good, the quantity that people are willing and able to buy has changed, but the demand relationship is still the same.~~

~~04. Prices of resources, technology and productivity, expectations of producers, number of producers, and prices of related goods or services.~~

~~05.~~

~~0a.~~




~~b. Tastes~~

~~c.If the supply of digital televisions stayed the same, the price of digital televisions would increase. In fact, the supply of digital televisions has been increasing rapidly because of new firms entering the market and improvements in technology, driving the price down.~~

## ACTIVE LEARNING EXERCISE

*This exercise will explore the derivation of market demand using the class as the market of buyers for soft drinks. Using the actual demand for two cans of soft drinks, you will be able to create a demand schedule and a demand curve. Students should be able to see the relationship between demand and supply and also discuss the concepts of shortages and surpluses.*

Bring two cans of soft drinks to class. Ask how many would like a soft drink. Then ask how many have the money to buy a soft drink. Tell the class that you will be selling the two cans of soft drink to the two students who are willing to pay the most for them. Be sure students realize real money will change hands. Then begin the process:

1. How many will buy the soft drink at a price of 10 cents?
2. How many will buy the soft drink at a price of 50 cents?
3. Etc.

Stop the bidding when there are only two students left willing and able to pay the price. Then, after adding up those willing and able to buy the soft drink at each price, plot the demand curve.