

BY THE END OF THIS CHAPTER, STUDENTS SHOULD UNDERSTAND:

- what a competitive market is.
- what determines the demand for a good in a competitive market.
- what determines the supply of a good in a competitive market.
- how supply and demand together set the price of a good and the quantity sold.
- the key role of prices in allocating scarce resources in market economies.

CONTEXT AND PURPOSE:

- Chapter 4 is the first chapter in a three-chapter sequence that deals with supply and demand and how markets work. Chapter 4 shows how supply and demand for a good determines both the quantity produced and the price at which the good sells. Chapter 5 will add precision to the discussion of supply and demand by addressing the concept of elasticity—the sensitivity of the quantity supplied and quantity demanded to changes in economic variables. Chapter 6 will address the impact of government policies on prices and quantities in markets.
- The purpose of Chapter 4 is to establish the model of supply and demand. The model of supply and demand is the **foundation** for the discussion for the remainder of this subject. For this reason, time spent studying the concepts in this chapter will return you benefits throughout your study of economics. It can be argued that this chapter is the most important (for fundamental understanding) chapter in the text.

KEY POINTS:

1. Economists use the model of supply and demand to analyze competitive markets. In a competitive market, there are many buyers and sellers, each of whom has little or no influence on the market price.
2. The demand curve shows how the quantity of a good demanded depends on the price. According to the law of demand, as the price of a good falls, the quantity demanded rises. Therefore, the demand curve slopes downward.
3. In addition to price, other determinants of how much consumers want to buy include income, the prices of substitutes and complements, tastes, expectations, and the number of buyers. If one of these factors changes, the demand curve shifts.
4. The supply curve shows how the quantity of a good supplied depends on the price. According to the law of supply, as the price of a good rises, the quantity supplied rises. Therefore, the supply curve slopes upward.
5. In addition to price, other determinants of how much producers want to sell include input prices, technology, expectations, and the number of sellers. If one of these factors changes, the supply curve shifts.
6. The intersection of the supply and demand curves determines the market equilibrium. At the equilibrium price, the quantity demanded equals the quantity supplied.
7. The behavior of buyers and sellers naturally drives markets toward their equilibrium. When the market price is above the equilibrium price, there is a surplus of the good, which causes the market price to fall. When the market price is below the equilibrium price, there is a shortage, which causes the market price to rise.
8. To analyze how any event influences a market, we use the supply-and-demand diagram to examine how the event affects equilibrium price and quantity. To do this we follow three steps.

First, we decide whether the event shifts the supply curve or the demand curve (or both). Second, we decide which direction the curve shifts. Third, we compare the new equilibrium with the initial equilibrium.

9. In market economies, prices are the signals that guide economic decisions and thereby allocate scarce resources. For every good in the economy, the price ensures that supply and demand are in balance. The equilibrium price then determines how much of the good buyers choose to purchase and how much sellers choose to produce.

I. **MARKETS AND COMPETITION**

A. **What Is a Market?**

1. Definition of **market**: **a group of buyers and sellers of a particular good or service.**
2. Markets can take many forms and may be organized (agricultural commodities) or less organized (ice cream).

B. **What Is Competition?**

1. Definition of **competitive market**: **a market in which there are so many buyers and so many sellers that each has a negligible impact on the market price.**
2. Each buyer knows that there are several sellers from which to choose. Sellers know that each buyer purchases only a small amount of the total amount sold.

C. **In this chapter, we will assume that markets are perfectly competitive.**

1. Characteristics of a perfectly competitive market:
 - a. The goods being offered for sale are exactly the same (*Homogeneous or identical*).
 - b. The no. of buyers and sellers are so high that no single buyer or seller has any influence over the market price.
2. Because buyers and sellers must accept the market price as given, they are often called "price takers."
3. Not all goods are sold in a perfectly competitive market.
 - a. A market with only one seller is called a monopoly market.
 - b. Some markets fall between perfect competition and monopoly.

D. **We will start by studying perfect competition.**

1. Perfectly competitive markets are the easiest to analyze because buyers and sellers take the price as a given.
2. Because some degree of competition is present in most markets, many of the lessons that we learn by studying supply and demand under perfect competition apply in more complicated markets.

II. **DEMAND**

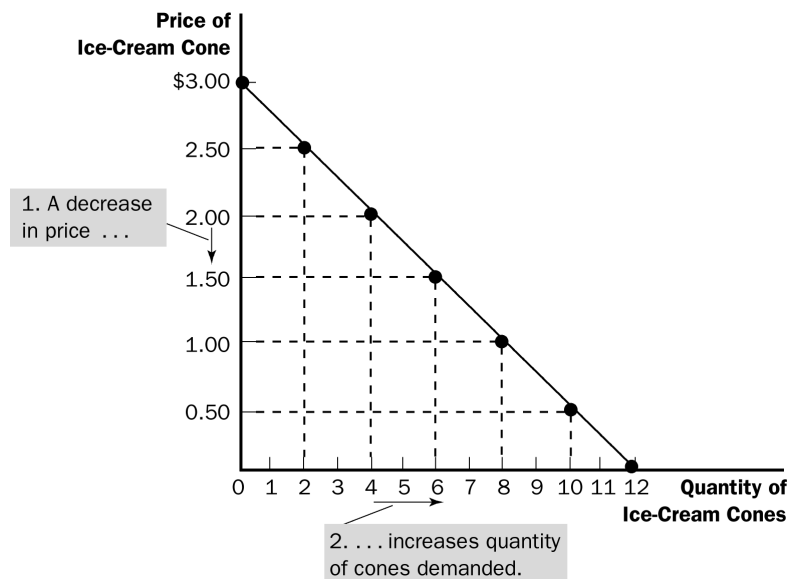
A. **The Demand Curve: The Relationship between Price and Quantity Demanded**

1. Definition of **quantity demanded**: **the amount of a good that buyers are willing and able to purchase.**
2. One important determinant of quantity demanded is the price of the product.

- a. Quantity demanded is negatively related to price. This implies that the demand curve is downward sloping.
 - b. Definition of **law of demand**: the claim that, other things being equal, the quantity demanded of a good falls when the price of the good rises.
3. Definition of **demand schedule**: a table that shows the relationship between the price of a good and the quantity demanded.

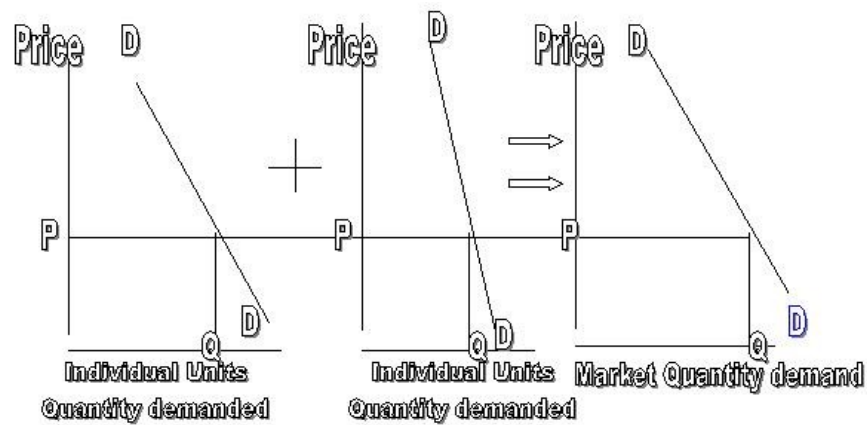
| Price of Ice Cream Cone | Quantity of Cones Demanded |
|-------------------------|----------------------------|
| 0.00 | 12 |
| 0.50 | 10 |
| 1.00 | 8 |
| 1.50 | 6 |
| 2.00 | 4 |
| 2.50 | 2 |
| 3.00 | 0 |

4. Definition of **demand curve**: a graph of the relationship between the price of a good and the quantity demanded.
- a. Price is generally drawn on the vertical axis.
 - b. Quantity demanded is represented on the horizontal axis.



B. Market Demand versus Individual Demand

1. The market demand is the sum of all of the individual demands for a particular good or service.
2. The demand curves are summed horizontally—meaning that the quantities demanded are added up for each level of price.
3. The market demand curve shows how the total quantity demanded of a good varies with the price of the good, holding constant all other factors that affect how much consumers want to buy.

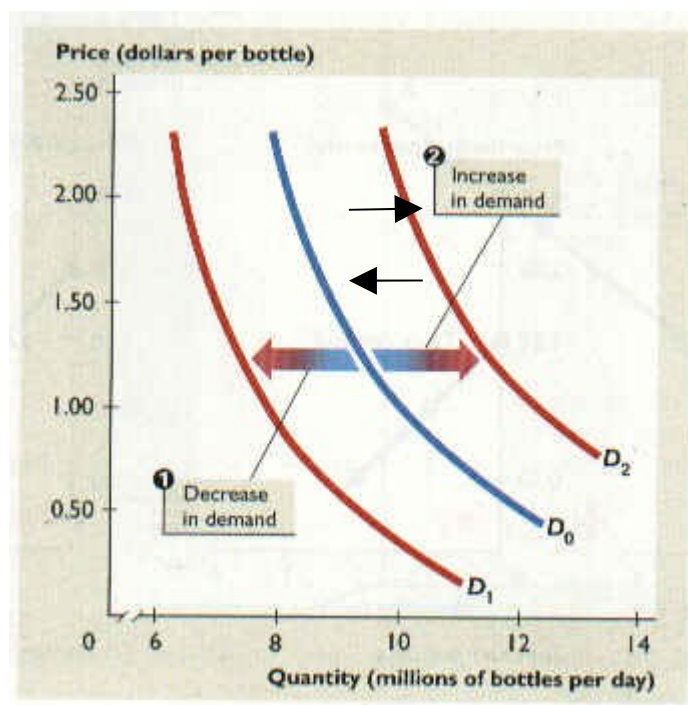


C. Shifts in the Demand Curve (Increase/Decrease in Demand)

(not that **Change in Quantity Demanded** (caused by change in price) and **change in Demand** (caused by change in other factors; i.e. income, price of other goods etc.) both are different)

1. The demand curve shows how much consumers want to buy at any price, holding constant the many other factors that influence buying decisions.
2. If any of these other factors change, the demand curve will shift.
 - a. An increase in demand is represented by a shift of the demand curve to the right. (***D₂ from D***)
 - b. A decrease in demand is represented by a shift of the demand curve to the left. (***D₁ from D***)

Figure: A shift in demand curve



3. Income
 - a. The relationship between income and quantity demanded depends on what type of good the product is.

- b. Definition of **normal good**: a good for which, other things being equal, an increase in income leads to an increase in demand. (Ex. High Quality food grains)

(Panel-A in the following figure)

- c. Definition of **inferior good**: a good for which, other things being equal, an increase in income leads to a decrease in demand. (Ex. Low quality food grains, black & white television)

(Panel-B)

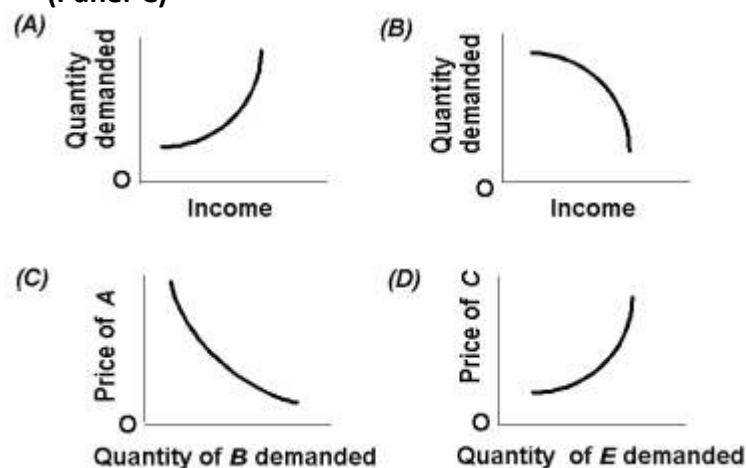
4. Prices of Related Goods

- a. Definition of **substitutes**: two goods for which an increase in the price of one good leads to an increase in the demand for the other. (Ex. Tea and Coffee)

(Panel-D)

- b. Definition of **complements**: two goods for which an increase in the price of one good leads to a decrease in the demand for the other. (Ex. Car and Petrol)

(Panel-C)



5. Tastes
 6. Expectations
 a. Future Income
 b. Future Prices
 7. Number of Buyers

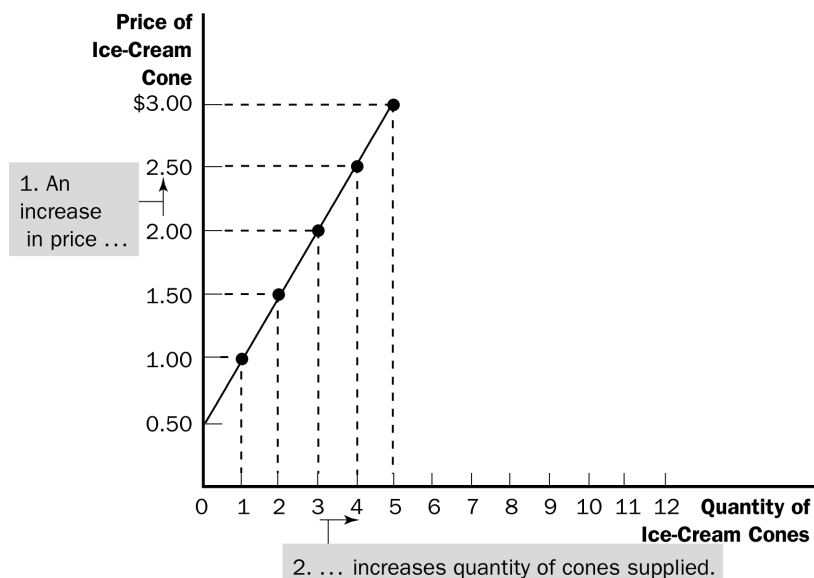
III. SUPPLY

A. The Supply Curve: The Relationship between Price and Quantity Supplied

1. Definition of **quantity supplied**: the amount of a good that sellers are willing and able to sell.
 a. Quantity supplied is positively related to price. This implies that the supply curve will be upward sloping.
 b. Definition of **law of supply**: the claim that, other things being equal, the quantity supplied of a good rises when the price of the good rises.
 2. Definition of **supply schedule**: a table that shows the relationship between the price of a good and the quantity supplied.

- Definition of **supply curve**: a graph of the relationship between the price of a good and the quantity supplied.

| Price of Ice Cream Cone | Quantity of Cones Supplied |
|-------------------------|----------------------------|
| \$0.00 | 0 |
| \$0.50 | 0 |
| \$1.00 | 1 |
| \$1.50 | 2 |
| \$2.00 | 3 |
| \$2.50 | 4 |
| \$3.00 | 5 |



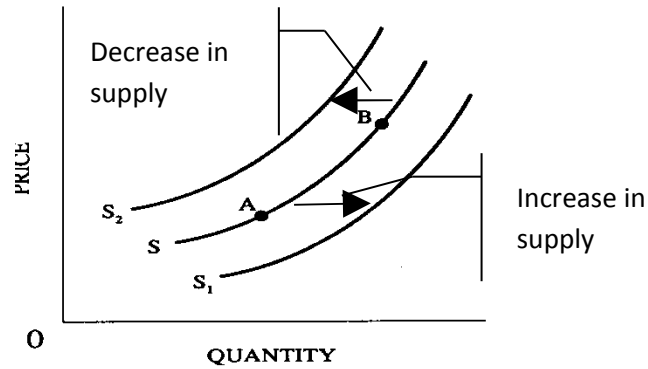
B. Market Supply versus Individual Supply

- The market supply curve can be found by summing individual supply curves.
- Individual supply curves are summed horizontally at every price.
- The market supply curve shows how the total quantity supplied varies as the price of the good varies.

C. Shifts in the Supply Curve

- The supply curve shows how much producers offer for sale at any given price, holding constant all other factors that may influence producers' decisions about how much to sell.
- When any of these other factors change, the supply curve will shift.
 - An increase in supply is represented by a shift of the supply curve to the right.

- b. A decrease in supply is represented by a shift of the supply curve to the left.

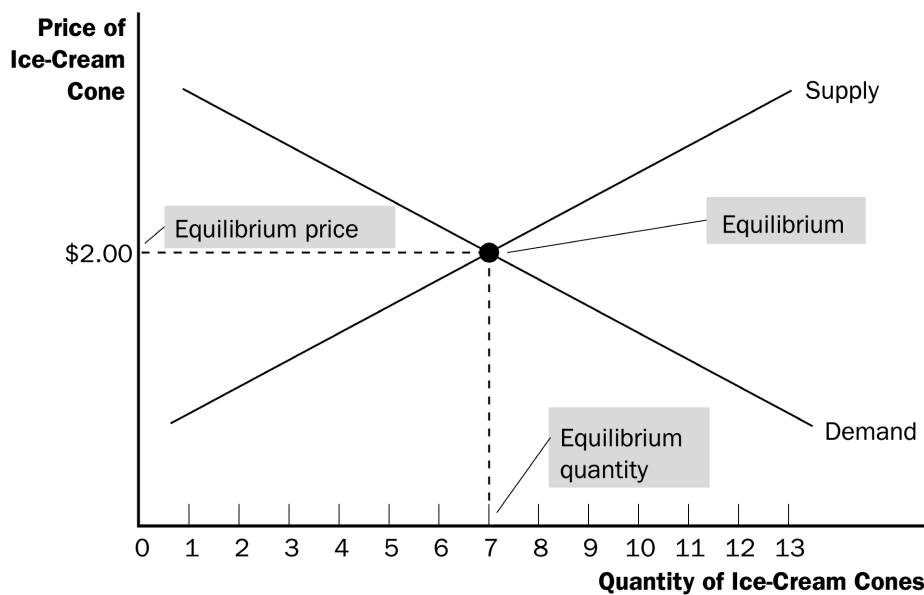


3. Input Prices
4. Technology
5. Expectations
6. Number of Sellers

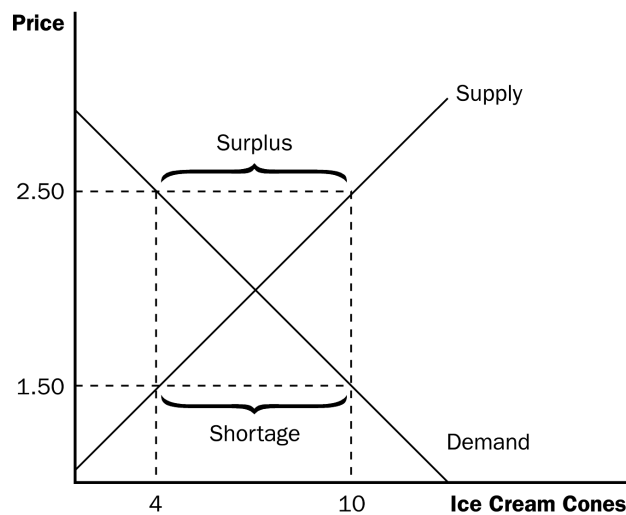
IV. SUPPLY AND DEMAND TOGETHER

A. Equilibrium

1. The point where the supply and demand curves intersect is called the market's equilibrium.
2. Definition of **equilibrium**: a situation in which the market price has reached the level at which quantity supplied equals quantity demanded.
3. Definition of **equilibrium price**: the price that balances quantity supplied and quantity demanded.
4. The equilibrium price is often called the "market-clearing" price because both buyers and sellers are satisfied at this price.



5. Definition of **equilibrium quantity**: the quantity supplied and the quantity demanded at the equilibrium price.
6. If the actual market price is higher than the equilibrium price, there will be a surplus of the good.
 - a. Definition of **surplus**: a situation in which quantity supplied is greater than quantity demanded.
 - b. To eliminate the surplus, producers will lower the price until the market reaches equilibrium.
7. If the actual price is lower than the equilibrium price, there will be a shortage of the good.
 - a. Definition of **shortage**: a situation in which quantity demanded is greater than quantity supplied.
 - b. Sellers will respond to the shortage by raising the price of the good until the market reaches equilibrium.



8. Definition of the **law of supply and demand**: the claim that the price of any good adjusts to bring the supply and demand for that good into balance.

B. Three Steps to Analyzing Changes in Equilibrium

1. Decide whether the event shifts the supply or demand curve (or perhaps both).
2. Determine the direction in which the curve shifts.
3. Use the supply-and-demand diagram to see how the shift changes the equilibrium price and quantity.

C. Shifts in Curves versus Movements along Curves

1. A shift in the demand curve is called a "change in demand." A shift in the supply curve is called a "change in supply."
2. A movement along a fixed demand curve is called a "change in quantity demanded." A movement along a fixed supply curve is called a "change in quantity supplied."

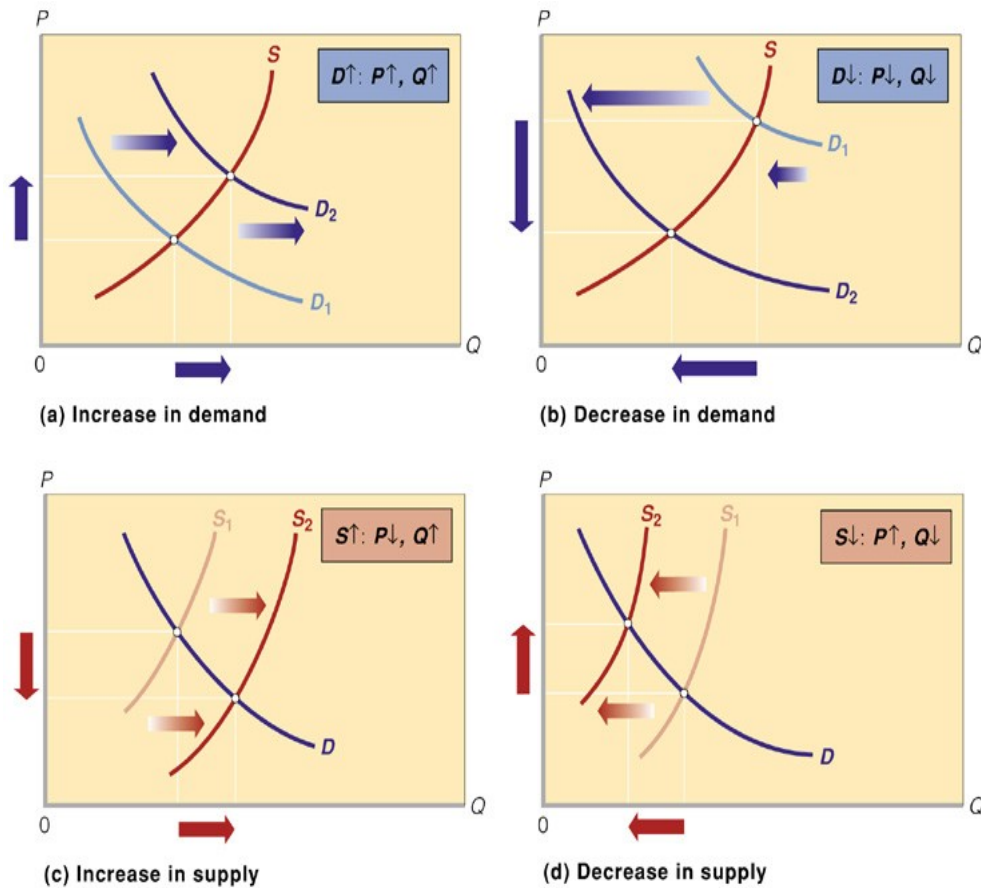
D. Example: A Change in Demand

1. Both, equilibrium price and quantity demanded increase because of increase in demand (*panel-a in the figure*)

- Both, equilibrium price and quantity demanded decrease because of decrease in demand (*panel-b in the figure*)

E. **A Change in Supply** (panel-c & d in the figure)

- Both, equilibrium price and quantity demanded increase because of increase in supply (*panel-c in the figure*)
- Both, equilibrium price and quantity demanded decrease because of decrease in supply (*panel-d in the figure*)

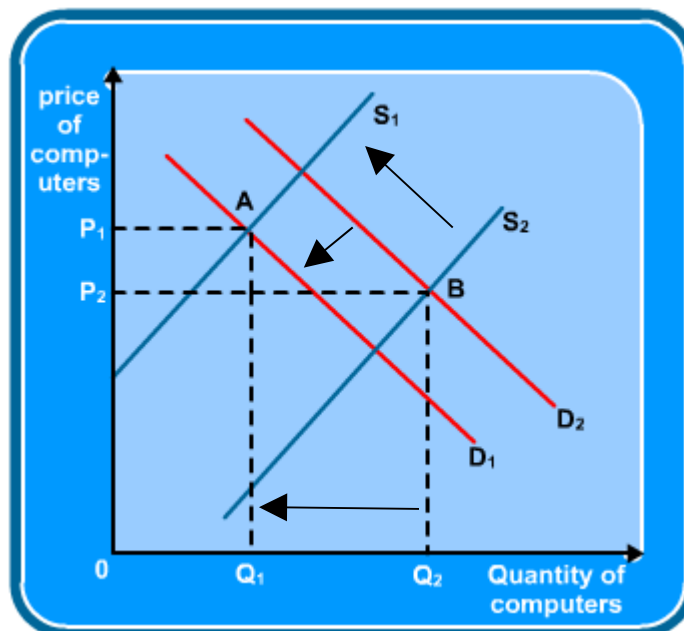
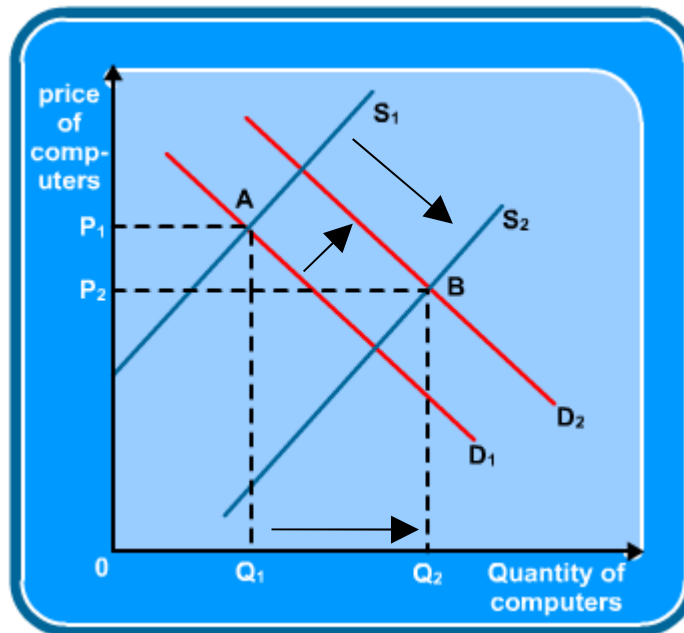


F. **A Change in Both Supply and Demand**

- Case-1: increase in both demand (d_2 from d_1) and supply (s_2 from s_1)

Effect

- On quantity demanded: Increases
- On equilibrium price: may increase (if increase in demand is more than increase in supply), decrease (if increase in demand is less than increase in supply) or constant (if both are same)



H. Summary

1. When an event shifts the supply or demand curve, we can examine the effects on the equilibrium price and quantity.
2. Table 4 reports the end results of these shifts in supply and demand.

V. CONCLUSION: HOW PRICES ALLOCATE RESOURCES

- A. The model of supply and demand is a powerful tool for analyzing markets.
- B. Supply and demand together determine the prices of the economy's goods and services.
 1. These prices serve as signals that guide the allocation of scarce resources in the economy.

2. Prices determine who produces each good and how much of each good is produced.