CHAPTER CHECKLIST

1. Distinguish between quantity demanded and demand and explain what determines demand.

2. Distinguish between quantity supplied and supply and explain what determines supply.

3. Explain how demand and supply determine price and quantity in a market, and explain the effects of changes in demand and supply.

LECTURE TOPICS

- Demand
- Supply
- Market Equilibrium

COMPETITIVE MARKETS

A market is any arrangement that bring buyers and sellers together.
In this chapter, we study a competitive market that has so many buyers and so many sellers that no individual buyer or seller can influence the price.

**4.1 DEMAND**

**Quantity demanded**

The amount of a good, service, or resource that people are willing and able to buy during a specified period at a specified price. The quantity demanded is an amount per unit of time. For example, the amount per day or per month.

**The Law of Demand**

Other things remaining the same,

- If the price of good rises, the quantity demanded of that good decreases.
- If the price of a good falls, the quantity demanded of that good increases.

**Demand Schedule and Demand Curve**

Demand

The relationship between the quantity demanded and the price of a good when all other influences on buying plans remain the same. Demand is a list of quantities at different prices and is illustrated by the demand curve.
4.1 DEMAND

Demand schedule
A list of the quantities demanded at each different price when all the other influences on buying plans remain the same.

Demand curve
A graph of the relationship between the quantity demanded of a good and its price when all other influences on buying plans remain the same.

Individual Demand and Market Demand

Market demand
The sum of the demands of all the buyers in a market. The market demand curve is the horizontal sum of the demand curves of all buyers in the market.
4.1 DEMAND

Changes in Demand

Change in the quantity demanded
A change in the quantity of a good that people plan to buy that results from a change in the price of the good.

Change in demand
A change in the quantity that people plan to buy when any influence other than the price of the good changes.

Figure 4.3 shows changes in demand.

1. When demand decreases, the demand curve shifts leftward from $D_0$ to $D_1$.
2. When demand increases, the demand curve shifts rightward from $D_0$ to $D_2$.

The main influences on buying plans that change demand are:

- Prices of related goods
- Income
- Expectations
- Number of buyers
- Preferences

Prices of Related Goods
Substitute
A good that can be consumed in place of another good. For example, apples and oranges.

The demand for a good increases, if the price of one of its substitutes rises.
The demand for a good decreases, if the price of one of its substitutes falls.
### 4.1 DEMAND

**Complement**
A good that is consumed with another good. For example, ice cream and fudge sauce.

The demand for a good increases, if the price of one of its complements falls. The demand for a good decreases, if the price of one of its complements rises.

<table>
<thead>
<tr>
<th><strong>Income</strong></th>
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<tbody>
<tr>
<td>The demand for a <em>normal good</em> increases if income increases.</td>
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<tr>
<td>The demand for an <em>inferior good</em> decreases if income increases.</td>
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<table>
<thead>
<tr>
<th><strong>Expectations</strong></th>
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<tbody>
<tr>
<td>Expected future income and expected future prices influence demand today. For example, if the price of a computer is expected to fall next month, the demand for computers today decreases.</td>
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<table>
<thead>
<tr>
<th><strong>Number of Buyers</strong></th>
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<tr>
<td>The greater the number of buyers in a market, the larger is the demand for any good.</td>
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<table>
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<tr>
<th><strong>Preferences</strong></th>
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<tr>
<td>When preferences change, the demand for one item increases and the demand for another item (or items) decreases. Preferences change when:</td>
</tr>
<tr>
<td>• People become better informed</td>
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<td>• New goods become available</td>
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</table>
4.1 DEMAND

Demand: A Summary

- A decrease in the quantity demanded if the price of a good falls, and vice versa.
- Other things remaining the same, the quantity demanded decreases when the price increases.
- The demand curve is downward sloping.

4.2 SUPPLY

Supply Schedule and Supply Curve

Supply

The relationship between the quantity supplied of a good and the price of the good when all other influences on selling plans remain the same.

Supply a list of quantities at different prices and is illustrated by the supply curve.

Quantity supplied

The amount of a good, service, or resource that people are willing and able to sell during a specified period at a specified price.

The Law of Supply

Other things remaining the same,
- If the price of a good rises, the quantity supplied of that good increases.
- If the price of a good falls, the quantity supplied of that good decreases.

Supply schedule

A list of the quantities supplied at each different price when all other influences on selling plans remains the same.

Supply curve

A graph of the relationship between the quantity supplied and the price when all other influences on selling plans remain the same.
4.2 SUPPLY

Individual Supply and Market Supply

Market supply

The sum of the supplies of all sellers in a market.

The market supply curve is the horizontal sum of the supply curves of all the sellers in the market.

Changes in Supply

Change in quantity supplied

A change in the quantity of a good that suppliers plan to sell that results from a change in the price of the good.

Change in supply

A change in the quantity that suppliers plan to sell when any influence on selling plans other than the price of the good changes.
4.2 SUPPLY

Figure 4.7 shows changes in supply.

1. When supply decreases, the supply curve shifts leftward from $S_0$ to $S_1$.
2. When supply increases, the supply curve shifts rightward from $S_0$ to $S_2$.

The main influences on selling plans that change supply are:

- Prices of related goods
- Prices of resources and other Inputs
- Expectations
- Number of sellers
- Productivity

Prices of Related Goods

A change in the price of one good can bring a change in the supply of another good.

Substitute in production

A good that can be produced in place of another good. For example, a truck and an SUV in an auto factory.
- The supply of a good increases if the price of one of its substitutes in production falls.
- The supply a good decreases if the price of one of its substitutes in production rises.

Complement in production

A good that is produced along with another good. For example, straw is a complement in production of wheat.
- The supply of a good increases if the price of one of its complements in production rises.
- The supply a good decreases if the price of one of its complements in production falls.
4.2 SUPPLY

Prices of Resources and Other Inputs

Resource and input prices influence the cost of production. And the more it costs to produce a good, the smaller is the quantity supplied of that good.

Expectations

• Expectations about future prices influence supply.
• Expectations of future input prices also influence supply.

4.2 SUPPLY

Number of Sellers

The greater the number of sellers in a market, the larger is supply.

Productivity

Productivity is output per unit of input.
An increase in productivity lowers costs and increases supply.

4.3 MARKET EQUILIBRIUM

Market equilibrium
When the quantity demanded equals the quantity supplied—when buyers' and sellers' plans are consistent.

Equilibrium price
The price at which the quantity demanded equals the quantity supplied.

Equilibrium quantity
The quantity bought and sold at the equilibrium price.
4.3 MARKET EQUILIBRIUM

Figure 4.9 shows the equilibrium price and equilibrium quantity.

1. Market equilibrium at the intersection of the demand curve and the supply curve.
2. The equilibrium price is $1 a bottle.
3. The equilibrium quantity is 10 million bottles a day.

4.3 MARKET EQUILIBRIUM

- **Price: A Market’s Automatic Regulator**
  - **Law of market forces**
    - When there is a shortage, the price rises.
    - When there is a surplus, the price falls.
  - **Surplus or Excess Supply**
    The quantity supplied exceeds the quantity demanded.
  - **Shortage or Excess Demand**
    The quantity demanded exceeds the quantity supplied.

4.3 MARKET EQUILIBRIUM

Figure 4.10(a) market achieves equilibrium.

At $1.50 a bottle:
1. Quantity supplied is 11 bottles.
2. Quantity demanded is 9 bottles.
3. There is a surplus.
4. Price falls until the market is in equilibrium.

4.3 MARKET EQUILIBRIUM

Figure 4.10(b) market achieves equilibrium.

At 75 cents a bottle:
5. Quantity demanded is 11 bottles.
6. Quantity supplied is 9 bottles.
7. There is a shortage.
8. Price rises until the market is in equilibrium.
4.3 MARKET EQUILIBRIUM

Figure 4.11(a) shows the effects of an increase in demand.
1. An increase in demand shifts the demand curve rightward.
2. The price rises to restore market equilibrium.
3. Quantity supplied increases along the supply curve.
4. Equilibrium quantity increases.

4.3 MARKET EQUILIBRIUM

Figure 4.11(b) shows the effects of a decrease in demand.
1. A decrease in demand shifts the demand curve leftward.
2. The price falls to restore market equilibrium.
3. Quantity supplied decreases along the supply curve.
4. Equilibrium quantity decreases.

4.3 MARKET EQUILIBRIUM

Effects of Changes in Demand
When demand changes:

- The supply curve does not shift.
- But there is a change in the quantity supplied.
- Price and quantity change in the same direction as the change in demand.

4.3 MARKET EQUILIBRIUM

Figure 4.12(a) shows the effects of an increase in supply.
1. An increase in supply shifts the supply curve rightward.
2. The price falls to restore market equilibrium.
3. Quantity demanded increases along the supply curve.
4. Equilibrium quantity increases.
4.3 MARKET EQUILIBRIUM

Figure 4.12(b) shows the effects of a decrease in supply.
1. A decrease in supply shifts the supply curve leftward.
2. The price rises to restore market equilibrium.
3. Quantity demanded decreases along the supply curve.
4. Equilibrium quantity decreases.

4.3 MARKET EQUILIBRIUM

Effects of Changes in Supply

When supply changes:
- The demand curve does not shift.
- But there is a change in the quantity demanded.
- Price changes in the same direction as the change in supply.
- Quantity changes in the opposite direction to the change in supply.

4.3 MARKET EQUILIBRIUM

Figure 4.13(a) shows the effects of an increase in both demand and supply.

An increase in demand shifts the demand curve rightward and an increase in supply shifts the supply curve rightward.
1. Quantity increases.
2. Price might rise or fall.

4.3 MARKET EQUILIBRIUM

Increase in Both Demand and Supply

- Increases the equilibrium quantity.
- The change in the equilibrium price is ambiguous because the:
  - Increase in demand raises the price.
  - Increase in supply lowers the price.
4.3 MARKET EQUILIBRIUM

Figure 4.13(b) shows the effects of a decrease in both demand and supply.

A decrease in demand shifts the demand curve leftward and a decrease in supply shifts the supply curve leftward.

3. Quantity decreases.
4. Price might rise or fall.

Decrease in Both Demand and Supply

- Decreases the equilibrium quantity.
- The change in the equilibrium price is ambiguous because the:
  - Decrease in demand lowers the price
  - Decrease in supply raises the price.

Figure 4.14(a) shows the effects of an increase in demand and a decrease in supply.

An increase in demand shifts the demand curve rightward, and a decrease in supply shifts the supply curve leftward.

1. Price rises.
2. Quantity might increase, decrease, or not change.

Increase in Demand and Decrease in Supply

- Raises the equilibrium price.
- The change in the equilibrium quantity is ambiguous because the:
  - Increase in demand increases the quantity.
  - Decrease in supply decreases the quantity.
4.3 MARKET EQUILIBRIUM

Figure 4.14(b) shows the effects of a decrease in demand and an increase in supply.

A decrease in demand shifts the demand curve leftward, and an increase in supply shifts the supply curve rightward.

1. Price falls.
2. Quantity might increase, decrease, or not change.

Decrease in Demand and Increase in Supply

- Lowers the equilibrium price.
- The change in the equilibrium quantity is ambiguous because the:
  Decrease in demand decreases the quantity.
  Increase in supply increases the quantity.

Demand and supply in markets for goods, services, and resources determine quantities and prices.

The market price makes buying and selling plans consistent.

Demand, supply, and market equilibrium determine what, how, and for whom goods and services are produced.