Supply and Demand Notes

- Markets bring buyers and sellers together. Variety of markets is vast. In some, buyers and sellers don’t even come face to face.

- Demand schedule and demand curve: shows the quantities of a good or service that buyers would be willing and able to purchase at various market prices.
  - Applies to a specific group at a specified period of time (ceteris paribus).
  - Law of demand: ceteris paribus, the quantity of a good demanded by buyers tends to rise as price falls and fall as price rises (negative relationship).
  - Individual and market demand curves: the market demand curve is found by horizontally summing individual demand curves. (The example below comes from Table 3-2 and Figure 3-2 in your book.)

**Example 2**

<table>
<thead>
<tr>
<th>Price per Unit</th>
<th>Quantity Demanded</th>
<th>Total Quantity Demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#1</td>
<td>#2</td>
</tr>
<tr>
<td>$5</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>$4</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>$3</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>$2</td>
<td>55</td>
<td>60</td>
</tr>
<tr>
<td>$1</td>
<td>80</td>
<td>87</td>
</tr>
</tbody>
</table>

- Quantity demanded: amount a consumer or group of consumers is willing and able to buy at a given price. Hence, a change in quantity demanded means a movement along a given demand schedule or curve. The only thing that changes the quantity demanded is a change in the price of the good, ceteris paribus.
- Change in demand: this always refers to a shift of the entire demand curve and happens when one of the factors we had previously held constant with our ceteris paribus assumption is relaxed. This is always some factor other than the good’s price.
- Factors that shift the demand curve:
  1. Tastes – a favorable change in tastes means that people now like this good more than before, which will increase demand (shift the curve to the right).
An unfavorable change means that people like this good less than before, which will decrease demand (shift the curve to the left).

2. Changes in the prices of related goods – related goods include complements and substitutes.

- **Complements** – these are goods that are consumed together, such as tennis rackets and tennis balls, cameras and film, and steak and baked potatoes. So, complements are pairs of goods where an increase in the price of one causes an decrease in demand for the other and a decrease in the price of one causes an increase in the demand for the other.

  **Example 3** The price of cameras increases. In the market for cameras, the price increase causes a movement up the existing demand curve (a decrease in quantity demanded). In the market for film, the price increase causes a decrease in demand (a leftward shift of the demand curve), because when the price of a complement increases, fewer cameras are purchased and less film is necessary.

  ![Market for Cameras](image1)
  ![Market for Film](image2)

- **Substitutes** – goods that a consumer or consumers consume as alternatives to one another, such as apples and oranges, cabbage and lettuce, and flannel and cotton sheets. So, substitutes are pairs of goods where an increase in the price of one causes an increase in the demand for the other and a decrease in the price of one causes a decrease in the demand for the other.

  **Example 4** The price of apples increases. In the market for apples, the price increase causes a movement up the existing demand curve (a decrease in quantity demanded). In the market for oranges, the price increase causes an increase in demand (a rightward shift of the demand curve), because when the price of a substitute increases, the relatively cheaper good will be consumed instead.
3. Income – the exact effect depends on the type of good (normal good or inferior good).
   - Normal good – when consumer income increases, demand for this kind of good increases. When consumer income decreases, demand for this kind of good decreases. Most goods are normal.
   - Inferior good – when consumer income increases, demand for this kind of good decreases. When consumer income decreases, demand for this kind of good increases. Examples of inferior goods include:
     1. Shoe repair services – when income increases, may consume new shoes instead.
     2. Staple foods – such as cheap ground beef and flour for baking (may buy bread instead when income increases).
     3. Intercity bus travel – when income increases, may fly instead.
4. Expectations – in particular, about future prices. If there is a belief that prices will increase in the future, people will buy more today while it is relatively cheaper. This will shift the demand curve to the right. If there is a belief that prices will fall in the future, people will consume less today and more tomorrow. This will shift the demand curve to the left.
5. Number of buyers – if the number of buyers increases, the demand curve will shift to the right. If the number of buyers falls, the demand curve will shift to the left. Note that this will shift the market demand curve, but not the demand curve for an individual consumer.
   - These are the primary factors that will shift the demand curve. However, there are others. For example, if there is heavy snow demand for snow tires may increase.

- Supply schedule or supply curve: shows the quantities of a good or service that suppliers are willing and able to sell at various market prices.
- Applies to a specific group at a specific period of time (ceteris paribus).
- Ceteris paribus, the quantity of a good supplied by suppliers tends to rise as price rises and fall as price falls (direct relationship).
- Law of supply: ceteris paribus, the quantity of a good supplied by producers tends to decrease as price falls and increase as price rises (direct/positive relationship).
• **Individual and market supply curves:** as with demand, the market supply curve is derived by horizontally summing the individual supply curves.

• **Quantity supplied:** amount a producer or group of producers is willing and able to sell at a given price. Hence, a change in quantity supplied means a movement along a given supply schedule or curve. The only thing that changes the quantity supplied is a change in the price of the good, *ceteris paribus*.

• **Change in supply:** this always refers to a shift of the entire supply curve and happens when one of the factors we had previously held constant with our *ceteris paribus* assumption is relaxed. This is always some factor other than the good’s price.

• **Factors that shift the supply curve:**
  1. Technology – an improvement in technology means that the same amount of output can be produced at a lower price. This will increase the amount supplied at each and every price and shift the supply curve to the right.
  2. Cost of inputs – if the price of inputs increases, the supply curve will shift to the left. If the price of inputs falls, the supply curve will shift to the right.
  3. Prices of related goods – this refers to goods that a producer could make instead of the good they are currently making (a substitute production good). If the price of an alternative good goes up, producers would rather make that good than the good they are currently making. Therefore, supply will decrease and the supply curve will shift to the left.
  4. Expectations – if producers expect the price of their good to go up in the future, they will sell fewer goods today in anticipation of a greater profit tomorrow (the supply curve will shift to the left). If producers expect the price of their good to go down in the future, they will sell more goods (the supply curve will shift to the right).
  5. Taxes and subsidies – taxes raise the producers’ costs. Therefore, is taxes increase, they will sell fewer goods and the supply curve will shift to the left. A decrease in taxes will increase supply (curve will shift to the right). A subsidy makes production cheaper for suppliers. Therefore, when subsidies increase, supply will increase and the supply curve will shift to the right. If subsidies decline, supply will decrease and the supply curve will shift to the left.
  6. Number of sellers – if the number of sellers increases, the supply curve will shift to the right. If the number of sellers falls, the supply curve will shift to the left.

• **Market equilibrium:** the point where the demand and supply curves intersect. Equilibrium is a situation where there is no tendency to change.

• **Shortages (excess quantity demanded):** the quantity of a good demanded at a particular price exceeds the quantity supplied. If nothing prevents the price from rising, the price will be bid up until the shortage disappears and the market is in equilibrium.
• **Surplus (excess quantity supplied):** the quantity of a good supplied at a particular price exceeds the quantity demanded. If nothing prevents the price from falling, the price will be bid down until the surplus disappears and the market is in equilibrium.

• **Changes in demand and supply:**

<table>
<thead>
<tr>
<th>Demand</th>
<th>No Change</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td>No change</td>
<td>P↓ Q↑</td>
<td>P↑ Q↓</td>
</tr>
<tr>
<td>Increase</td>
<td>P↑ Q↑</td>
<td>P? Q↑</td>
<td>P↑ Q?</td>
</tr>
<tr>
<td>Decrease</td>
<td>P↓ Q↓</td>
<td>P↓ Q?</td>
<td>P? Q↓</td>
</tr>
</tbody>
</table>

• When one curve shifts, there is a movement along the other curve as the market moves toward equilibrium. So, if supply increases, quantity demanded increases as the price falls toward equilibrium.

• **Examples:**
  • Supply increases and there is no change in demand
• Supply decreases and there is no change in demand

![](image1)

• Demand increases and there is no change in supply

![](image2)

• Demand and supply both increase

![](image3)
• Demand increases and supply decreases

• Demand decreases and there is no change in supply

• Demand decreases and supply increases

Quantities change is uncertain. As drawn here, it decreases slightly.
- Both demand and supply decrease

Price change is uncertain
As drawn here, it does not change.