Chapter 3 – Demand, Supply and Market Equilibrium

In Chapter 2 ⇒ Markets bring together Buyers (demanders) and Sellers (suppliers) of goods/services.

Markets: Link potential Buyers and Sellers ⇒ Markets can be Local, National, International or VIRTUAL.

Demand – A schedule or curve showing various amounts of a good/service, that consumers are willing & able to purchase at different possible prices at specific times. (page 53)

Demand schedule: A table showing combinations of Prices and Quantity Demanded ($Q_D$), at those prices.

Ex: Strawberries

<table>
<thead>
<tr>
<th>Price $(\text{per clamshell})$</th>
<th>$Q_D$ (clamshells)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
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<tr>
<td>2</td>
<td>3</td>
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<tr>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

Demand curve: plot the combinations (in the Demand Schedule) on a graph, and join the points.

LAW OF DEMAND – (All else equal – Ceteris Paribus): As Price increases, quantity demanded decreases, and as price decreases, quantity demanded increases. (page 53)
Market Demand – Add horizontally the individual quantities demanded by each of the consumers in the market (at a specific price). The total of all these quantities gives the market demand.

Ex: 2 buyers (Demanders in the market)

Horizontal summation: At a price of $3, John’s quantity demanded is 3 units, Paul’s quantity demanded is 5 units, giving a Market Demand of $3 + 5 = 8 units.

Change in Demand vs. Change in Quantity Demanded (Q_D)

Depends on the Determinants of Demand
1. Income
2. Tastes & Preferences
3. Number of Buyers (Demanders)
4. Prices of Related Goods
5. Change in expectations

Depends on Price (only)
1. Price ↑ → Q_D↓
2. Price↓ → Q_D↑

Income (and other determinants of demand are held constant – ceteris paribus)
1. Change in Tastes & Preferences

2. Income

If income increased, and Demand increased, i.e., if income went up and the Demand curve shifted to the RIGHT, then it’s a NORMAL GOOD. *The opposite is also true.*

Ex: sugar, milk, etc.

If income decreased, and Demand increased, i.e., if income went down and the Demand curve shifted to the RIGHT, then it’s an INFERIOR GOOD. *The opposite is also true.*

Ex: Ramen noodles, *CityLink* bus service (in Abilene, TX), *CTTransit* bus service (Hartford, CT), etc.

3. Number of Buyers (Demanders)

If number of buyers increases, Demand increases, i.e., Demand curve shifts to the RIGHT;

If number of buyers decreases, Demand decreases, i.e., Demand curve shifts to the LEFT;

4. Prices of Related Goods

Ex: If Price of Coffee increases, then Demand for Sugar or Milk decreases (opposite is true)

Then these goods are called **COMPLEMENTS** (they go together)

Ex: If Price of Beef increases, and Demand for chicken or pork increases (opposite is true)

Then these goods are called **SUBSTITUTES** (use in place of other good)
5. Change in Expectations

Inclement weather in California → oranges/ citrus fruits are spoilt (frozen in the trees) → expectations of higher prices in the future → so today’s Demand increases (want to stock up before prices go up in the future → y’all, supermarkets, wholesalers, etc. stocking up)

So, **A CHANGE OF DEMAND → SHIFT OF THE DEMAND CURVE** (to the left or right)

**CHANGE IN Q₀ → MOVEMENT ALONG THE SAME DEMAND CURVE** (on a given Demand curve)

**Supply** – A schedule or curve showing various amounts of a good/service that *producers* are willing and able to *make available for sale* at different possible prices at specific times.

(pages 58 – 62)

**Supply schedule** – A table showing combinations of prices and quantity supplied (Q₀) at those prices.

**Ex: Strawberries** (earlier example)

<table>
<thead>
<tr>
<th>Price $ (per clamshell)</th>
<th>Q₀ (clamshells)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
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<td>4</td>
<td>3</td>
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**Supply curve** – Plot the combinations of the supply schedule in a graph and join the points.
**LAW OF SUPPLY** – (All else equal – *Ceteris Paribus*): As Price increases, quantity supplied (Qₘ) increases, and as Price decreases, quantity supplied (Qₘ) decreases (Direct relationship between the variables – positive slope relationship!)

**Market Supply** – Add horizontally the individual quantities supplied of all the producers (suppliers) in the market. (Similar in approach to calculating Market Demand, earlier.)

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**Diagram:**

**Change in Supply vs. Change in Quantity Supplied**

- Depends on the **Determinants of Supply**
  1. Resource Prices - Inputs
  2. Technology
  3. Number of Sellers (Suppliers)
  4. Taxes & subsidies
  5. Expectations (ex: corn prices going up → more corn cultivation)

- Depends on **Price** (only)
  1. Price ↑ → Qₘ↓
  2. Price ↓ → Qₘ↑

**Increase in Supply or Decrease in Supply**

- **$**
- **S**
- **S₁**
- **S₂**

**DECREASE**

**INCREASE**

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5
Increase/ Decrease in Quantity supplied

So, A CHAI

CHANGE IN $Q_s$ → MOVEMENT ALONG THE SAME SUPPLY CURVE (on a given Supply curve)

PUTTING DEMAND AND SUPPLY TOGETHER ➤ EQUILIBRIUM PRICE & QUANTITY

(pages 62 – 64)

SHORTAGE ➤ Excess Demand

SURPLUS ➤ Excess Supply
Examples:

**Price Ceiling – Rent Control** in big cities – rents are kept low, but results in shortage of rental property, as landlords are unwilling to rent out property at the stipulated low rents.

**Price Floor – Minimum Wage** – those working get paid more, but others who are unemployed, remain unemployed, as firms are unwilling to hire at higher minimum wage.

**Interaction of Demand and Supply** (effect on Prices) (pages 65 – 72)

1. Hold ‘Demand’ constant, change in ‘Supply’ (Increase or Decrease Supply)
2. Hold ‘Supply’ constant, change in ‘Demand’ (Increase or Decrease Demand)
3. Change ‘Demand’ & ‘Supply’ at the same time (Increase or Decrease, Demand or Supply, simultaneously, depending on the question one is trying to analyze.)

The impact on Prices (i.e., Prices going up or down) will depend on the **magnitude** of the changes in Demand and Supply.

Possibly, the best way to do this analysis is by drawing rough graphical sketches and showing the approximate changes, e.g., Demand increasing by 10%, and Supply increasing by 20% - what is the effect on prices?
An example of how to solve graphical problems with information contained therein:

At $2 \quad Q_D = 6,000 \text{ lbs}; \quad Q_S = 2,000 \text{ lbs}; \quad \text{Shortage} = Q_D - Q_S = 6,000 - 2,000 = 4,000 \text{ lbs}

At $3 \quad Q_D = 5,000 \text{ lbs}; \quad Q_S = 3,000 \text{ lbs}; \quad \text{Shortage} = Q_D - Q_S = 5,000 - 3,000 = 2,000 \text{ lbs}

At $4 \quad \text{Equilibrium}: \quad Q_D = Q_S = 4,000 \text{ lbs}

At $6 \quad Q_D = 2,500 \text{ lbs}; \quad Q_S = 5,500 \text{ lbs}; \quad \text{Surplus} = Q_S - Q_D = 5,500 - 2,500 = 3,000 \text{ lbs}