**Chapter 9:**

Maximizing Profit:

Profit = Total Revenue - Total Cost

Total Revenue (TR) = $P \times Q$

Average Revenue (AR) = $\frac{TR}{Q} = \frac{P \times Q}{Q} = P$

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**Marginal Revenue:**

It measures the change in total revenue generated by one additional unit of goods or services.

$$MR = \frac{\Delta TR}{\Delta Q}$$

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**Weekly Revenue and Cost Data for a Gold Miner**

Price of Gold = $600 / oz

<table>
<thead>
<tr>
<th>Weekly Output</th>
<th>Weekly TR</th>
<th>Weekly TC</th>
<th>Weekly Profit</th>
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Graph showing the relationship between Marginal Revenue (MR), Marginal Cost (MC), and Output (q). The profit maximization point occurs where $P = MR$. The graph illustrates the upward-sloping MC and the marginal revenue curve intersecting the price line at the optimal output level.
Chapter 10: Identifying Markets and Market Structure

Characteristics of Perfect Competition:

- Numerous small firms and customers. Firms have insignificant market share.
- Homogeneity of Product. Firms produce perfect substitutes.
- Freedom of Entry and Exit.
- Perfect Information.

Normal Profit: The entrepreneur’s opportunity cost. It is equal to or greater than the maximum income an entrepreneur could have received employing his or her resources elsewhere. Normal Profit is included in the firm’s costs.

Economic Profit: Profit that an entrepreneur makes over the Normal Profit.
Monopoly:

This is a situation where a single producer (firm) is the sole producer of a good that has no close substitutes.

Sources of Monopoly:

- The firm may control the entire supply of raw materials required to produce that output.
- The firm may have a patent or copyright.
- The case of “Natural Monopoly”. Economies of Scale may permit only one firm to be efficient in the market.
Sources of Monopoly:
- The firm may control the entire supply of raw materials required to produce that output.
- The firm may have a patent or copyright.
- The case of “Natural Monopoly”. Economies of Scale may permit only one firm to be efficient in the market.
- The case of Government Franchises.
- Through Mergers and Acquisitions.

Characteristics of Monopoly:
- A single seller: A single firm produces all industry output. The monopoly is the industry.
- Entry into the industry is totally blocked.
- Imperfect dissemination of information: Cost, price, and product quality information are withheld from uninformed buyers.
Find the Profit maximizing output from the following information.

<table>
<thead>
<tr>
<th>P</th>
<th>Q</th>
<th>TR</th>
<th>MR</th>
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<table>
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<td>5</td>
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<td>4</td>
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<tr>
<td>6</td>
<td>19</td>
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</tr>
</tbody>
</table>

Profit = TR – TC = 32 – 19 = 13

Monopolistic Competition:
It is a form of market organization in which there are many sellers of a heterogeneous or differentiated product, and entry into and exit from the industry are rather easy in the long run.

Differentiated Product:
Products which are similar but not identical and satisfy the same basic need.

Characteristics:
♣ Large number of buyers and sellers.
♣ Product Heterogeneity.
♣ Free Entry and Exit.
♣ Perfect dissemination of information.

The Market Structure Spectrum
The Demand Curve for Coca-Cola: Before and After Substitutes Appear on the Market

![Demand Curve Diagram]

**The Effect of Advertising on the Firm’s Demand Curve**

![ Advertising Effect Diagram ]

**Oligopoly:**

This is a form of market organization in which there are few sellers of a homogeneous or differentiated product. Unlike the other forms of market structure that we have discussed, a firm in Oligopoly makes pricing and marketing decision in light of the expected response by rivals.

**Characteristics of Oligopoly:**

- **Few Sellers:** A handful of firms produce the bulk of industry output.
- **Homogeneous or unique product:** If product is homogeneous, then we have “Pure Oligopoly”. If product is differentiated, then we have “Differentiated Oligopoly”.
- **Blocked Entry and Exit:** Firms are heavily restricted from entering the industry.
- **Imperfect Dissemination of Information:**
What are some examples of Oligopoly?
- Automobiles
- Steel
- Soup
- Cereals
- Gasoline

Measure of Market Concentration:
4 Firm Concentration Ratios:
This is the percentage of total industry sales of the 4 largest firms in the industry.

- Firm A = 20%
- Firm B = 5%
- Firm C = 6%
- Firm D = 2%
- Firm E = 8%
- Firm F = 35%
- Firm G = 3%
- Firm H = 7%
- Firm I = 3%
- Firm J = 11%

What is an example of a high concentration ratio?
Out of 151 firms in the aircraft industry, the leading 4 constitute 79% of total sales.

What is the Herfindahl-Hirschman Index (HHI)?
A measure of industry concentration, calculated as the sum of the squares of the market shares held by each firm in the industry.

The Herfindahl-Hirschman Index:
\[ HHI = S_1^2 + S_2^2 + S_3^2 + S_4^2 + \ldots \]

- Firm A = 20%
- Firm B = 5%
- Firm C = 6%
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\[ HHI = 20^2 + 5^2 + 6^2 + 2^2 + 8^2 + 35^2 + 3^2 + 7^2 + 3^2 + 11^2 \]
\[ HHI = 400 + 25 + 36 + 4 + 64 + 1225 + 9 + 49 + 9 + 121 = 1942 \]
In this case \( 1,000 < HHI < 10,000 \)

What is a Balanced Oligopoly?
An oligopoly in which the sales of the leading firms are distributed fairly evenly among them.

What is an Unbalanced Oligopoly?
An oligopoly in which the sales of the leading firms are distributed unevenly among them.
What is Collusion?
The practice of firms to negotiate price and market decisions that limit competition

What is a Cartel?
A group of firms that collude to limit competition in a market by negotiating and accepting agreed-upon price and market shares

How do firms in an unbalanced Oligopoly set price?
Most often they practice price leadership

What is Price Leadership?
A firm whose price decisions are tacitly accepted and followed by other firms in the industry
Imagine 3 identical firms, A, B, and C in an industry. What happens If A raises price?

B and C will not raise their prices

Imagine 3 identical firms in an industry A, B, C what happens If A lowers price?

B and C will lower their prices

The Kinked Demand Curve Model:

Price

Quantity

0 Q

Price

Quantity

0 Q

Price

Quantity

0 Q

Price

Quantity

0 Q
Brand Multiplication:
Variations of essentially one good that a firm produces to increase its market share.
Firm’s Market Share = (Number of Brands) x (Brand’s Market Share)

Price Discrimination:
The practice of offering a specific good or service at different prices to different segments of the market.

Centralized Cartels: