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”.

♠ Blockaded 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 constitutes 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:

\[ \text{HHI} = S_1^2 + S_2^2 + S_3^2 + S_4^2 + \ldots \]

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%

\[ \text{HHI} = 20^2 + 5^2 + 6^2 + 2^2 + 8^2 + 35^2 + 3^2 \\
+ 7^2 + 3^2 + 11^2 \]

\[ \text{HHI} = 400 + 25 + 36 + 4 + 64 + 1225 + 9 \\
+ 49 + 9 + 121 = 1942 \]

In this case  \( 1,000 < \text{HHI} < 10,000 \)

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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

---

**Balanced and Unbalanced Oligopoly**

<table>
<thead>
<tr>
<th>Industry A</th>
<th>Industry B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50%</td>
</tr>
<tr>
<td>2</td>
<td>21%</td>
</tr>
<tr>
<td>3</td>
<td>19%</td>
</tr>
<tr>
<td>4</td>
<td>17%</td>
</tr>
<tr>
<td>23%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Balanced Oligopoly</th>
<th>Unbalanced Oligopoly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>19%</td>
</tr>
<tr>
<td>4</td>
<td>8%</td>
</tr>
</tbody>
</table>
Concentrating the Concentration:

Horizontal Mergers
A merger between firms producing the same good in the same industry

Vertical Mergers
A merger between firms that have a supplier - purchaser relationship

Conglomerate Mergers
A merger between firms in unrelated industries

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

Theories of Oligopoly Pricing:

Game Theory Pricing:

Payoff Matrix

<table>
<thead>
<tr>
<th></th>
<th>Ford</th>
<th>GM</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>
An example of the Prisoner’s Dilemma is the Payoff Matrix

Prisoner A is Sam
Prisoner B is Bill

<table>
<thead>
<tr>
<th>Neither Sam nor Bill confesses</th>
<th>Sam confesses and Bill doesn’t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill confesses and Sam doesn’t</td>
<td>Both Sam and Bill confess</td>
</tr>
</tbody>
</table>

Prisoners’ Dilemma:

Payoff Matrix

<table>
<thead>
<tr>
<th></th>
<th>Prisoner B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prisoner A</td>
<td>Deny</td>
</tr>
<tr>
<td>Deny</td>
<td>1, 1</td>
</tr>
<tr>
<td>Confess</td>
<td>1/2, 12</td>
</tr>
</tbody>
</table>

Theories of Oligopoly Pricing:

Game Theory Pricing:

<table>
<thead>
<tr>
<th></th>
<th>Ford</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>10, 10</td>
</tr>
<tr>
<td>Low</td>
<td>14, 4</td>
</tr>
</tbody>
</table>
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:
The Kinked Demand Curve Model:

Price

P

0 Q

Quantity

Price

P

0 Q

Quantity

Price

P

0 Q

Quantity
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: