

3.1 Oligopoly

At the end of this section a student should be able to:

- Describe and critique the main features of oligopolistic product markets
- Demonstrate and analyse how a change in demand or supply in a market structure impacts on equilibrium
- Examine the implications of changing levels of competition and market power on price and output under oligopoly
- Collect data and calculate the concentration of power in a market using a concentration index such as the Herfindahl-Hirschman index; evaluate the implications of its concentration
- Explain why particular market concentrations are deemed problematic for consumers and are therefore regulated by Irish and European competition authorities

What is an Oligopoly?

- **Few Sellers in the industry.**
 - Because of this each seller can influence the price of the commodity and /or the output sold.
- **Interdependence between firms.**
 - Firms in oligopoly do not act independently of each other. They will each take into the account the likely reactions of their competitors, hence prices tend to be rigid.
- **Product Differentiation occurs.**
 - The commodities which firms sell are close substitutes. Firms will engage in advertising to persuade consumers to buy their product rather than a competitor's product.
- **Barriers to entry.**
 - These are common in an oligopolistic market as existing firms will wish to maintain their share of the market. Examples of barriers include: high costs of setting up in the industry, brand proliferation etc.
- **Collusion may occur.**
 - Firms within the industry may meet to control the output in the industry and/or control prices e.g. OPEC.
- **Non-price competition is more common than price competition.**
 - Due to the fear of how competitors will react, firms tend not to engage in price competition but rather they engage in non-price competition to gain consumers.

Objectives of Oligopolistic Firms other than maximising profits

- **Prevent government market intervention/interference**
 - Firms may fear that the existence of supernormal profits would attract government intervention into the market and thereby restrict the firm's activities.
- **Discourage the entry of new firms into the industry**

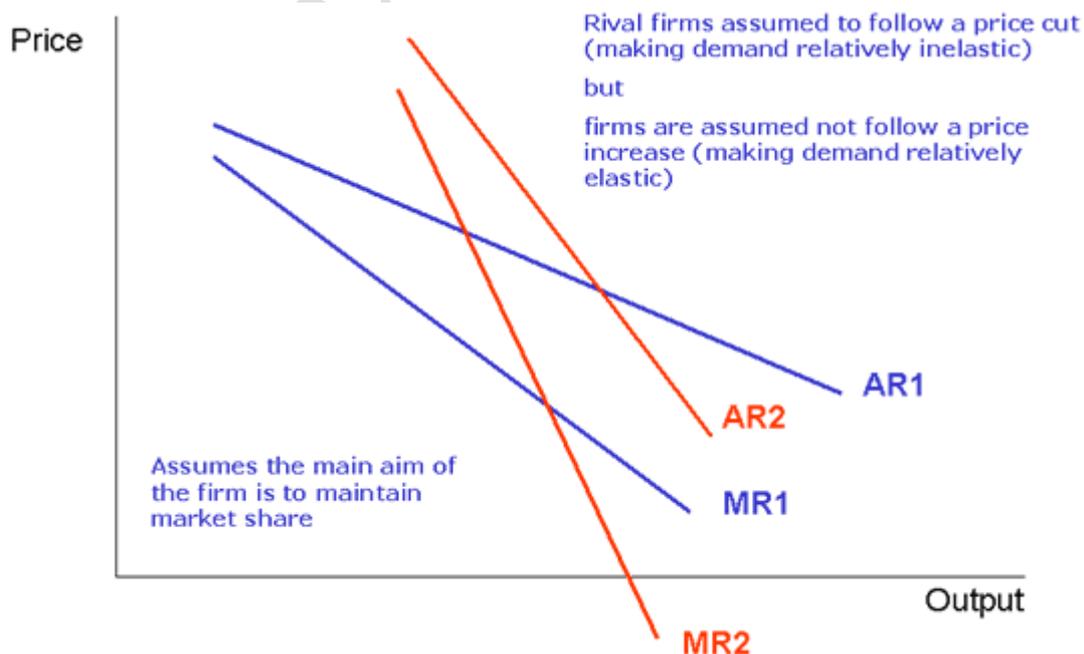
- Firms may set prices at a low level which is intended to discourage the entry of new firms into the industry (limit pricing). By pursuing this policy they are forsaking higher present profits for potentially higher future profits.
- **Maximisation of sales / increased share of market**
 - Once a minimum level of profit is earned to reward shareholders, provide funds for reinvestment etc. the firm may concentrate on maximising sales; increasing its share of the market. It may wish to achieve economies of scale; decrease the level of sales of rival firms; become the most dominant firm in the market.
- **Maintain adequate profits.**
 - The owners of the business may prefer to earn stable/moderate levels of profits rather than constantly striving for large supernormal profits as this is what they are satisfied with. Where the managers are not owners they may tend towards a more conservative approach rather than a dynamic drive to profit maximisation.

Kinked Demand Curve

An oligopolist faces a downward sloping demand curve but the elasticity may depend on the reaction of rivals to changes in price and output. Assuming that firms are attempting to maintain a high level of profits and their market share it may be the case that:

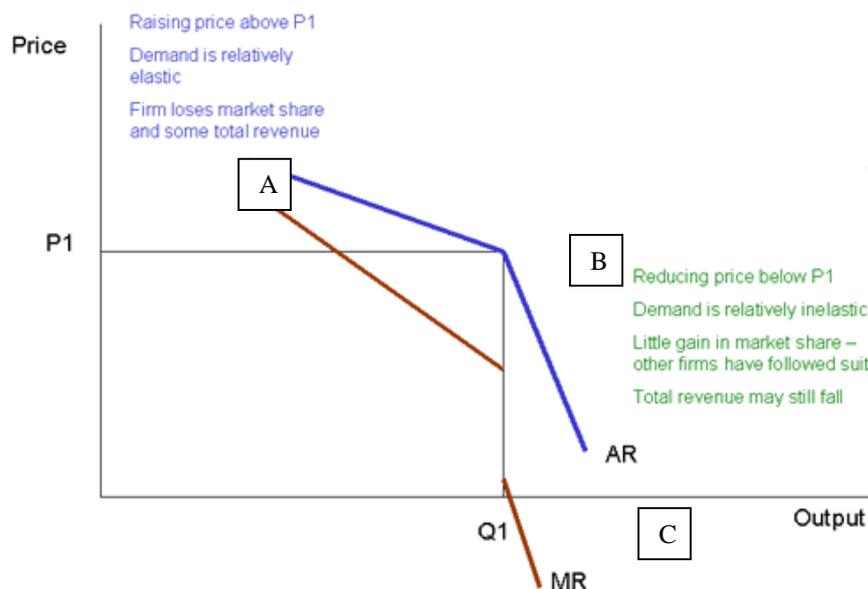
(a) rivals will not follow a price increase by one firm - therefore demand will be relatively elastic and a rise in price would lead to a fall in the total revenue of the firm

(b) rivals are more likely to match a price fall by one firm to avoid a loss of market share. If this happens demand will be more inelastic and a fall in price will also lead to a fall in total revenue.



The kink in the demand curve at price P and output Q means that there is a discontinuity in the firm's marginal revenue curve.

If we assume that the marginal cost curve is cutting the MR curve then the firm is maximising profits at this point.



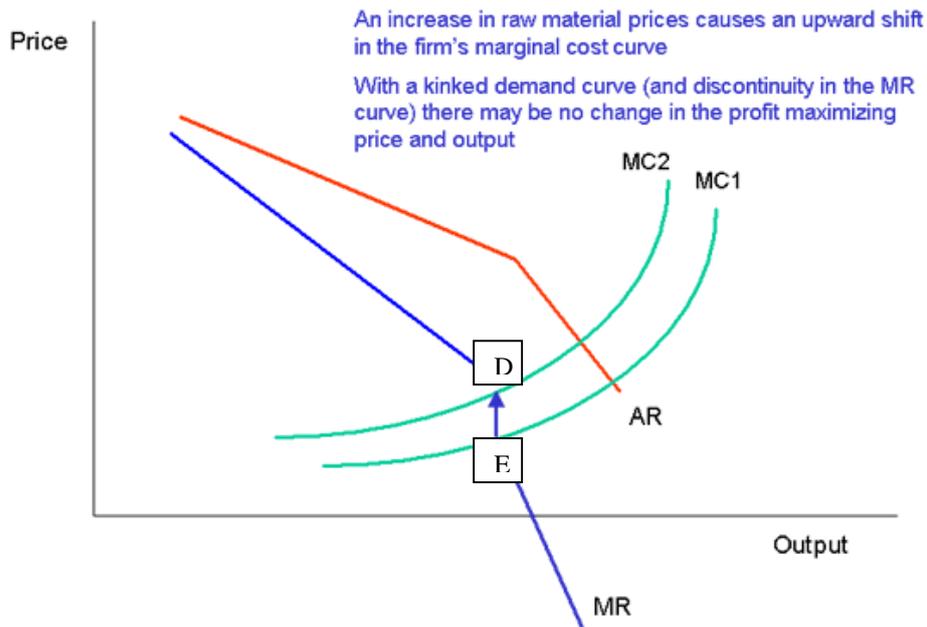
Demand curve - AB

If this firm increases its price others will leave their prices unchanged so this firm will lose many customers – this portion of the D/C is elastic.

Demand curve – BC

If this firm lowers its price others will match this price decrease so this firm will gain few additional customers – this portion of the D/C is inelastic.

The kinked demand curve theory suggests that there will be price rigidity in these markets and firms will rely more on non-price competition to boost sales, revenue and profits. Price rigidity occurs when prices tend not to change when costs change in an oligopolist industry. This is because firms are fearful of the likely reaction of their competitors should they change prices. Between points D & E as MR is constant, if MC changes (to MC2) prices tend not to change.



Equilibrium Position of a Oligopoly

The Equilibrium Position of an Oligopoly

- Equilibrium occurs at point G where (a) $MC = MR$ & (b) MC is rising.
- The firm will produce Q_1 and sell this output at price P_1
- The firm's cost of production is shown at point X, which is not the lowest point on the AC as the firm wastes resources on non-price competition
- Should costs rise between points D and E then market price tends to remain constant at P_1 .
- This firm is earning SNPs because AR exceeds AC and barriers to entry exist.

- Between point A and B the D/AR curve has an elastic shape. If the business raises its prices it will have a greater than proportionate decrease on quantity demanded and the firm will be worse off
- Between point B and C the D/AR curve has an inelastic shape. If the business lowers its prices it will have a less than proportionate increase on quantity demanded and the firm will be worse off

See video [here](#)

Collusion

Firms agree to act together to influence the market

- **Forms of Collusion**
 - **Pricing Policy / Limit Pricing**
 - One firm, with the tacit agreement of others, could reduce prices forcing unwanted entrants out of the industry.
 - **Production/output policy**
 - Firms could join together to limit output to certain agreed amounts.
 - **Sales Territories.**
 - Firms could divide up the markets between them and agree not to compete in each other's market segments.
 - **Refusal to supply firms.**
 - Firms may not supply those firms who buy from firms not in the cartel.
 - **Implicit Collusion**
 - Each firm recognises that behaving as if they were branches of a single firm their joint profits would be higher. So firms do not provoke their rival

Price vs Non-Price Competition

- **Why consumers may prefer price competition**
 - **Lower prices / value for money**
 - Consumers will benefit from availability of commodities at lower prices. Consumers will be able to get better value for their limited income.
 - **Higher disposable income**
 - With lower prices consumers will now have a higher disposable income, resulting in a better standard of living.
 - **More choice**
 - As consumers have a greater disposable income they can now choose how to spend this additional income.
 - **Preferable to non-price competitive measure because:**
 - Consumers pay for non-price competitive measures e.g. advertising; Offers may be unwanted / of little value; tokens may go unused etc.

Market Concentration

What is market concentration and how is it measured?

- The **concentration ratio** measures the combined market share of the top 'n' firms in the industry
- Share can be by sales, employment or any other relevant indicator
- The value of 'n' is often five, but may be three or any other small number. If the top 'n' firms gain a high market share the industry is said to have become more **highly concentrated**

The Herfindahl-Hirschman Index (HHI)

This is a measure of market concentration. The index is calculated by squaring the % market share of each firm in the market and summing these numbers.

For example in a market consisting of only four firms with shares of 30%, 30%, 20% and 20% the Herfindahl Index would be 2600 ($900 + 900 + 400 + 400$)

The index can be as high as 10,000 if the market is a pure monopoly (100^*)

The lower the index the more competitive the market is and can reach almost zero for perfect competition. If an industry has 1000 companies each with 0.1% market share then the index would only be 10 ($1000 \times 0.1^*$)

A market with a HHI measure exceeding 2,000 can be characterised as 'highly concentrated'. For example, if a local radio station market consisted of two companies with 40 per cent each, and of two companies with 10 per cent each, it would have an HHI of 3,400.

The superior quality and accuracy of the Herfindahl Index over the simple concentration ratio can be seen when three markets are examined each with a four firm concentration ratio of 85%.

Assume that in each market the remaining 15% of the market is controlled by 15 firms each with 1% market share:

Market A: 40% 20% 20% 5% = 85% - Herfindahl Index = 2440

Market B: 25% 20% 20% 20% = 85% - Herfindahl Index = 1840

Market C: 75% 5% 3% 2% = 85% Herfindahl Index = 5670

See helpful video [here](#)