3.4.4 Oligopoly

a) Characteristics of oligopoly:
- *High barriers to entry and exit*
- *High concentration ratio*
- *Interdependence of firms*
- *Product differentiation*

b) Calculation of n-firm concentration ratios and their significance
c) Reasons for collusive and non-collusive behaviour
d) Overt and tacit collusion; cartel and price leadership
e) Simple game theory: the prisoner's dilemma in a simple two firm/ two outcome model
f) Types of price competition:
- *Price wars*
- *Predatory pricing*
- *Limit pricing*

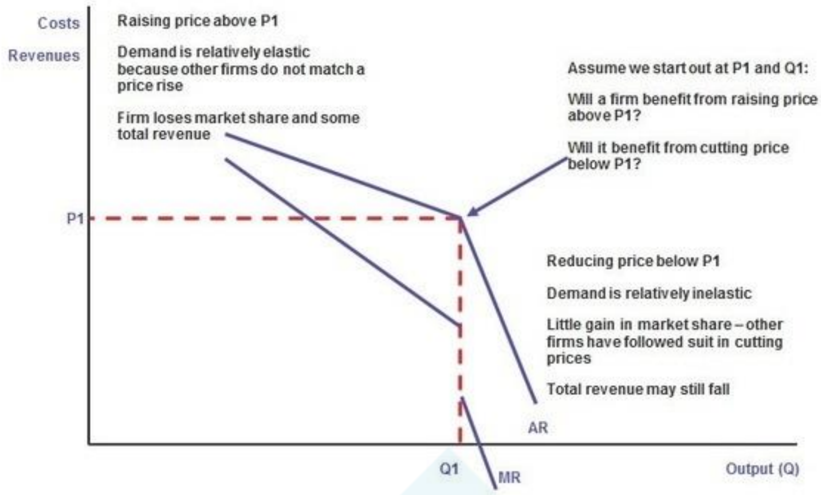
g) Types of non-price competition

- Oligopoly: a market where few firms dominate
- Assumptions:
  - Concentration ratios are high
  - High barriers to entry and exit
  - Firms aim for profit maximisation
  - Firms are price makers
  - Product differentiation
  - The firms are interdependent
- N-firm concentration ratio: it measures the proportion of the market dominated by the *largest n firms*.
- Game theory: the study of strategies used to make decisions

	Raise Price	Maintain Price
Raise Price	100 A 100	150 B 50
Maintain Price	50 C 150	80 D 80

- If they both have high prices they can make supernormal profits, however, the firms have an incentive to lower price because this is the dominant strategy and will increase their revenue. However, if both firms do this they will both be worse off than if they didn't lower price in the first place.
- There is a dilemma here which makes it seem worth colluding but also worth breaking the collusion at which point the collusion becomes worth it again.
- Pricing strategies:

  - Price wars: when price cutting leads to retaliation meaning the other firms will want to cut their price again to increase sales
  - Predatory pricing: cutting prices below the average cost of production to force other firms out of the market so they can raise prices later. It is mostly illegal.
  - Limit pricing: cutting the price to the point where new entrants with higher costs can't compete. The incumbent firm can sustain it because they have lower costs than new firms and may not be illegal. AR=AC
  - Price leadership: when a dominant firm acts to change prices and others will follow for fear of sparking a price war. Barclays is regarded as the price leader for LIBOR.
  - Penetration pricing: using an unusually low price to enter a new market
- Hit and run entry: a business enters an industry temporarily to take advantage of abnormally high market profits
- Non-pricing strategies: make demand more inelastic
  - Product:
    - Customer service
    - Branding
    - Quality
  - Place
  - Promotion:
    - Special offers
    - Advertising and marketing
    - Public relations
- Non-pricing strategies:
- Collusion: when firms operate together or collaborate
  - Overt collusion (open/formal): a single firm sends messages to another firm about its prices or other decisions. It is illegal and easier to detect
  - Tacit collusion (quiet/not formal): an implicit understanding might operate between firms. It is illegal and harder to control.
- Reasons for collusive behaviour:
  - Lower consumer surplus, higher prices and greater profits
  - They can deter new entrants which is anti-competitive
- Reasons for non-collusive behaviour:
  - More likely to occur where there are several firms, one firm has a significant cost advantage, products are homogenous and the market is saturated.
- Costs of collusion:
  - Loss of consumer welfare from higher prices
  - Absence of competition means efficiency is lower
  - Lower quantity means a loss of allocative efficiency
- Benefits of collusion:
  - Industrial standards could improve from collaboration
  - Excess profits can be used for investment
  - It saves on duplicate R&D
  - Firms can exploit economies of scale
- Kinked demand theory:



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- Raising prices will not be copied by other firms so demand is relatively elastic so increasing price reduces revenue
- Lowering price will be copied by all firms so it will follow the normal demand curve which is inelastic so reducing price reduces revenue
- The kinked demand curve explains why prices are generally stable