

Best Uses:

- ⊙ Kinked demand curve: Oligopoly is central to the interdependence of firms and Kinked demand curve shows interdependence
- ⊙ Kinked demand curve also shows price rigidity
- ⊙ Note that collusion is simply shown with $AR > AC$ with a direct reference that AR is an agreed price between competing firms and/or quantity supplied is restricted
- ⊙ Collusion highlights the need for intervention by government to regulate markets to make sure they are competitive

ED 16: Oligopoly

SYLLABUS REFERENCE 1.5

Economics Models : Oligopoly

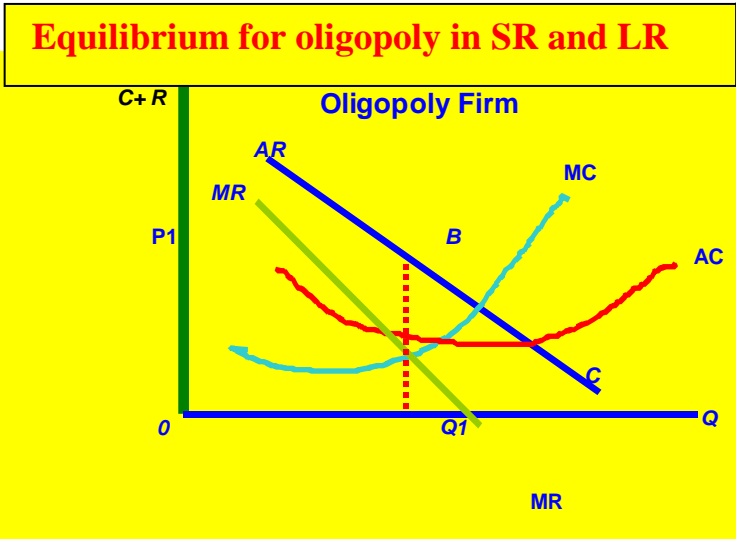
Syllabus Items: 74-77

- The model suggests that:**
1. Small number to 100 of firms in industry
 2. Higher prices than in PC
 3. Resource Allocation is poor compared to PC
 4. S/N profits in the long run
 5. Reaction of rival firms determines prices and interdependence is a major issue for firms

- Assumptions of the Model:**
1. Small no of firms to 100 Firms in industry but dominated by few (< 10)
 2. Preference for non price competition but it occurs
 - Price competition: $D = \text{Inelastic}$
 - Non Price competition: $D = \text{Elastic}$
 3. Barriers to entry exist or barriers to growth
EG oil, cars, large scale retailing



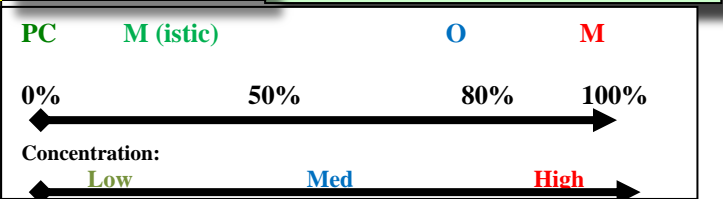
Oligopoly-competitive model



$mc \neq ac$
 $mc \neq ar$
 $mc = mr$
 $ar > ac$

- Note to diagrams:**
Look for the following points:
1. S/N exists where $AR > AC$
 2. Max profit at $MC = MR$
 3. Efficiency at lowest point of AC. Oligopoly not efficient e.g persuasive advertising
 4. who sponsors "Champions League"? At what cost?

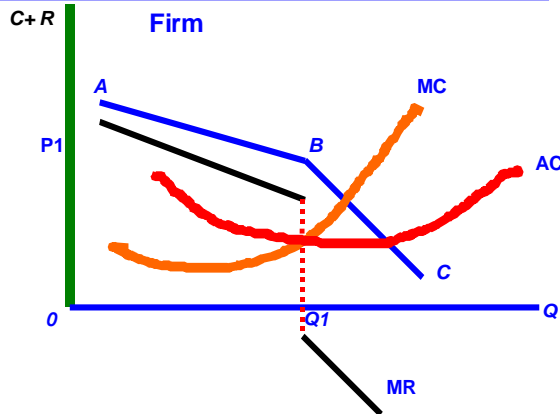
- CR_x**
- X represents the number of largest firms
 - CR₄ of 80% would indicate 4 largest firms share 80% of market



Oligopoly-less price competition

ED 16: Oligopoly

DIAGRAM A: Equilibrium for an Oligopolist competing on price cuts



For Oligopoly:

1. Quality
2. Choice
3. Innovation e.g car industry, computer and hi tech product development is rapid
4. Economies of scale may be important: how many apples does Aldi purchase in one year? Does this give Aldi a cost advantage?
5. 'Ryanair model'
6. 'Aldi model'

Against Oligopoly:

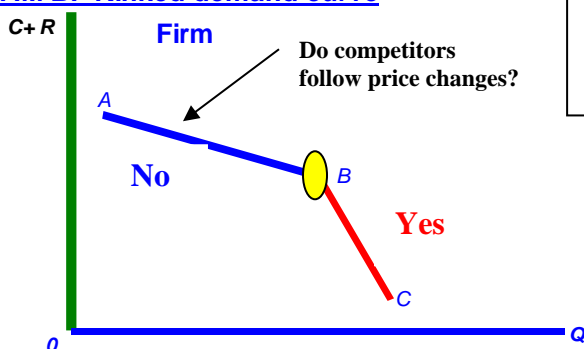
- Price leaders may exist
- Cartels may occur in the short run
- Wasteful use of resources
- Price 'rigidity' / 'stickiness'
 1. non collusive oligopoly (kinked model)
 2. collusive oligopoly

Price Rigidity model

Conclusions re Kinked Demand model:

1. Firms follow downward price changes (bc) but not upward price changes (ab). Why?
2. Price competition is avoided above B where demand is elastic (ab) i.e if price rises TR falls
3. Price competition is evident however when price falls from B along (bc) but TR falls here also as (bc) is inelastic. However not to respond would see firm losing customers.
4. Firms tend not to follow upward price changes and price competition is more likely for price falls along (bc). This could represent a 'price war'. All firms lose.
5. firms are 'interdependent' and watching the behaviour of others. This leads to Price rigidity. See diagram B point B ●
6. Results in non price competition
 - Advertising/branding
 - Promotions / free gift offers / stamps
 - Product innovation
 - After sales service/ reputation
 - Marketing

DIAGRAM B: Kinked demand curve



Note on diagrams A and B:

- ABC = AR / DEMAND CURVE
- The kinked demand curve only applies if the firm thinks that rivals that will not follow price rises.
- Firm loses out on price changes. P1 is preferred
- This is an example of 'non collusive oligopoly'.
- Diagram shows interdependence

Oligopoly-less competition

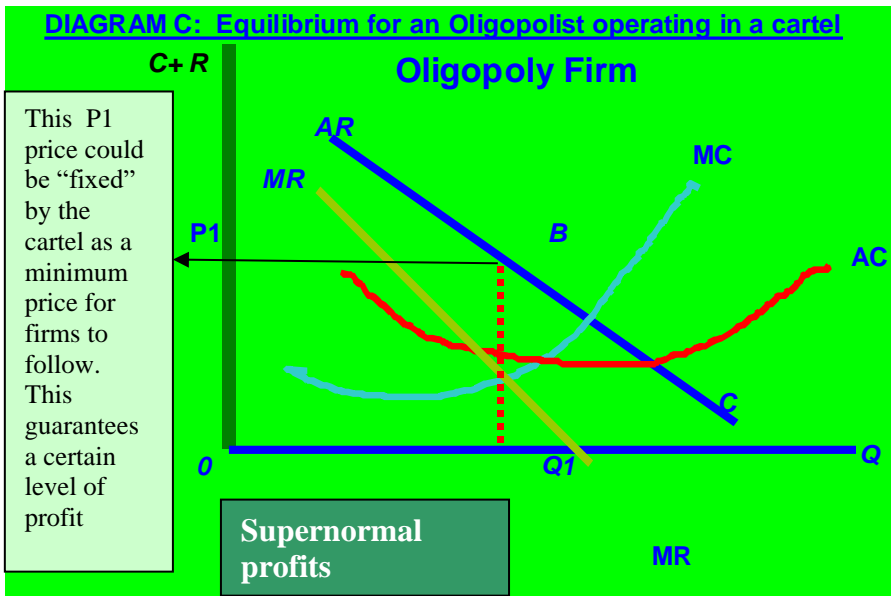
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Collusive Oligopoly¹- Collusive model

Note to diagrams:
Look for the following points:

5. S/N or economic profit exists where $AR > AC$
6. Max profit at $MC = MR$
7. Efficiency at lowest point of AC ? Not in diagram C. Efficiency is Not likely to occur!

DIAGRAM C: Equilibrium for an Oligopolist operating in a cartel



This P1 price could be "fixed" by the cartel as a minimum price for firms to follow. This guarantees a certain level of profit

Supernormal profits

$$\begin{aligned} mc &= ac \\ mc &= ar \\ mc &= mr \\ ar &> ac \end{aligned}$$

Collusion: can easily be drawn on the model as it is usually a price fixing agreement: see P1 in diagram C.

With keyword 'collusion' Google

- Nintendo
- Apple
- Tchibo

How does collusion work?

1. Dominant firms agree secretly to fix a lowest profit maximising price (P1 on diagram C). Firms can charge higher if their customer elasticity is inelastic enough.
2. Each firm has a quota of goods that they can sell i.e. this maintains market share so no firm loses customers
3. Problem: There is an incentive for firms to exceed their quotas to increase their own profits at the expense of the other members of the cartel or simply sell at a lower price.
4. Cartels are short term and break down because of 3 above

evaluate

For Oligopoly:

7. Quality
8. Choice
9. Innovation e.g. car industry, computer and hi tech product development is rapid
10. Economies of scale may be important: how many apples does Aldi purchase in one year? Does this give Aldi a cost advantage?
11. 'Ryanair model'
12. 'Aldi model'

Against oligopoly:

1. Price leaders may exist e.g. 'Intel' model i.e. in 2009 received a 1 billion euro fine for anti competitive actions in Europe
2. Cartels may occur in the short run
3. Wasteful use of resources
4. Price 'rigidity' / 'stickiness' non collusive oligopoly (kinked model)
5. collusive oligopoly: can be **formal** or **tacit**. Collusion/ cartels extremely difficult to regulate.

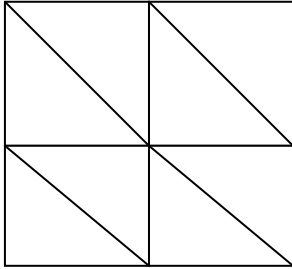
Oligopoly-less competition

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Collusion+ game theory

Read: Blink: pp 128-130

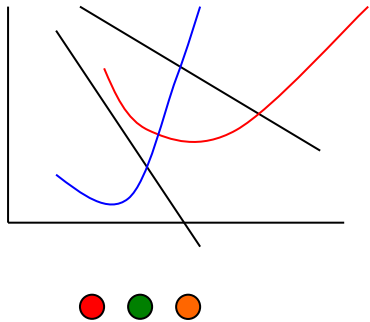
The key point to take out of this 'game theory' concept is that firms are interdependent and 'price rigidity' may be the better option in terms of losing to an opponent! Firms have 2 alternatives: 1. Price competition (depends on elasticities) 2. Non price competition (see Blink p131-132) See Figure 10.3 for a sample of game theory outcomes in Blink page 130.



Non collusive/price rigidity
But firms will follow price falls

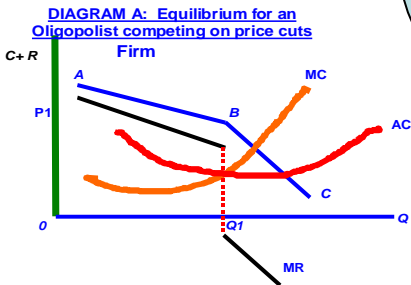
- Terms:**
- tacit collusion
 - predatory pricing
 - price leadership

Collusive-fill in diagram



Price Leadership

A common outcome in Oligopoly with high concentration is that in a CR4 (80%) situation with one dominant firm having 70% of the total market is 'price leadership' whereby other firms follow the price changes of the leading firm



Collusive oligopoly

Tacit: No formal agreement on price + monopoly outcome (due to price leadership)

formal collusion: quantity and price range fixed = Monopoly outcome

Note:

- firms collude in this fashion without any illegal agreements
- "Game Theory" looks at possible responses of firms to their competitors

Task: Use the collusion boxes above and decide the various options for the two contestants looking to win the 100,150 \$ in the gameshow: Video clip can be found in Utube list: 1.5

Collusion: Only a short term practice and over time breaks down.

When is it likely?

- Small number of firms dominate industry e.g. CR2 (80%)
- Stable cost and demand conditions so that applied quotas are easy to monitor
- Member firms can easily monitor competitors so that rules of cartel are followed

Exam questions:

November 05 HL1

- (a) Explain the differences between monopolistic and oligopoly as market structures. (b) Discuss the differences between a collusive and non collusive oligopoly.

May 08 HL 1

- (a) Explain how a firm operating in an oligopolistic market might attempt to increase its market share. (b) Evaluate the view that producers, and not consumers, are the main beneficiaries of oligopolistic market structures.