

BS2243 – Lecture 6

Collusion

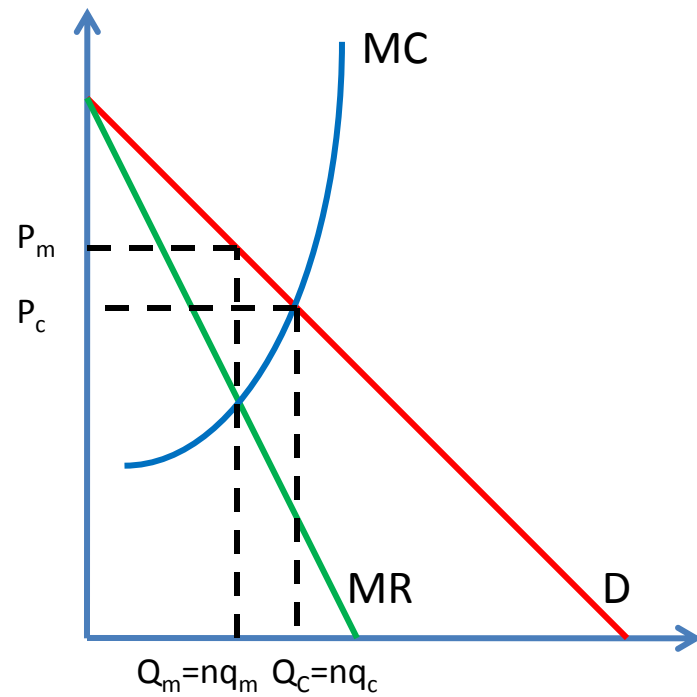
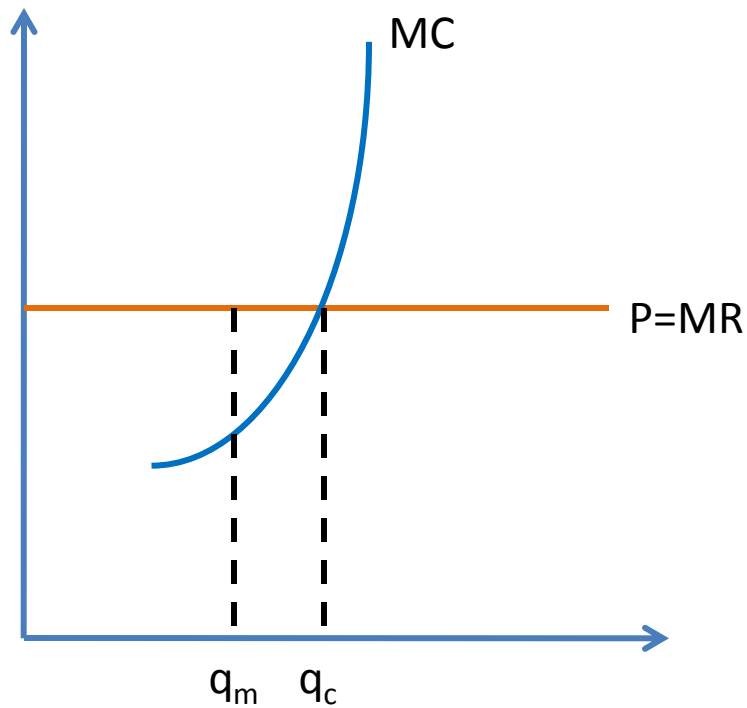
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(Dr. Sumon Bhaumik)

Cartels – why are they formed?

- Each individual firm takes into consideration the marginal gains/losses from changing its output level, but ignores the impact on the other firms
- A cartel is able to internalise this externality, and hence produce less in equilibrium
- However, the externality provides an incentive to cheat on cartel partners

Cartels – graphical view



Types of collusion

- Types:
 - Explicit (e.g., OPEC)
 - Tacit (price fixing)
- Some alleged cases of price fixing
 - Watchdog to probe steel plate sector (in South Africa) (www.iol.co.za)
 - Genentech, Celltech colluded on patent – lawsuit (in USA) (www.reuters.com)
 - “PQ transport critic [.....] noted some studies have shown collusion and corruption add 30 per cent to the cost of work in Quebec.”
(<http://www.montrealgazette.com>)

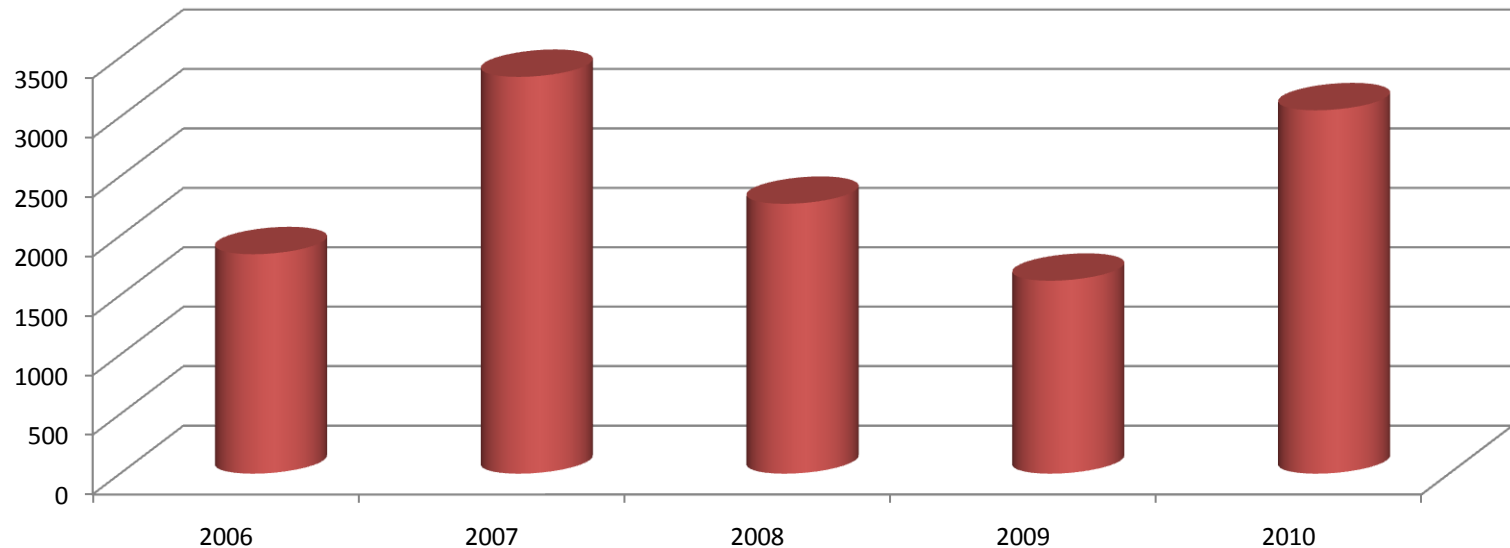
What does the law say?

- Competition law prohibits almost any attempt to fix prices - for example, **you cannot**:
 - **agree prices** with your competitors, eg you can't agree to work from a shared minimum price list
 - **share markets** or limit production to raise prices, eg if two contracts are put out to tender you can't agree that you'll bid for one and let your competitor bid for the other
 - impose minimum prices on different **distributors** such as shops
 - agree with your competitors what **purchase** price you will offer your suppliers
 - cut prices below cost in order to force a smaller or weaker competitor out of the market
- The law doesn't just cover formal agreements. It also includes other activities with a **price-fixing effect**. For example, you shouldn't discuss your pricing plans with your competitors. If you then all 'happen' to raise your prices, you are fixing prices
- The law is enforced by the OFT, which can impose a **fine** of up to 10 per cent of your turnover. It can also apply for company directors to be disqualified

Source: <http://www.businesslink.gov.uk>

Regulatory action

Fines imposed (Euro millions)



The figures are not adjusted for court judgements.

2007: This figure takes into account the amendment of 23 June 2008 to the decision of 5 December 2007 in case chloroprene rubber(see IP/07/1855).

2008: This figure takes into account the amendment of 24 July 2009 to the decision of 11 March 2008 in case international removal services.

2010: This figure takes into account the amendment of 30 September 2010 to the decision of 30 June 2010 in case pre-stressing steel.

Source: <http://ec.europa.eu/competition/cartels/statistics/statistics.pdf>

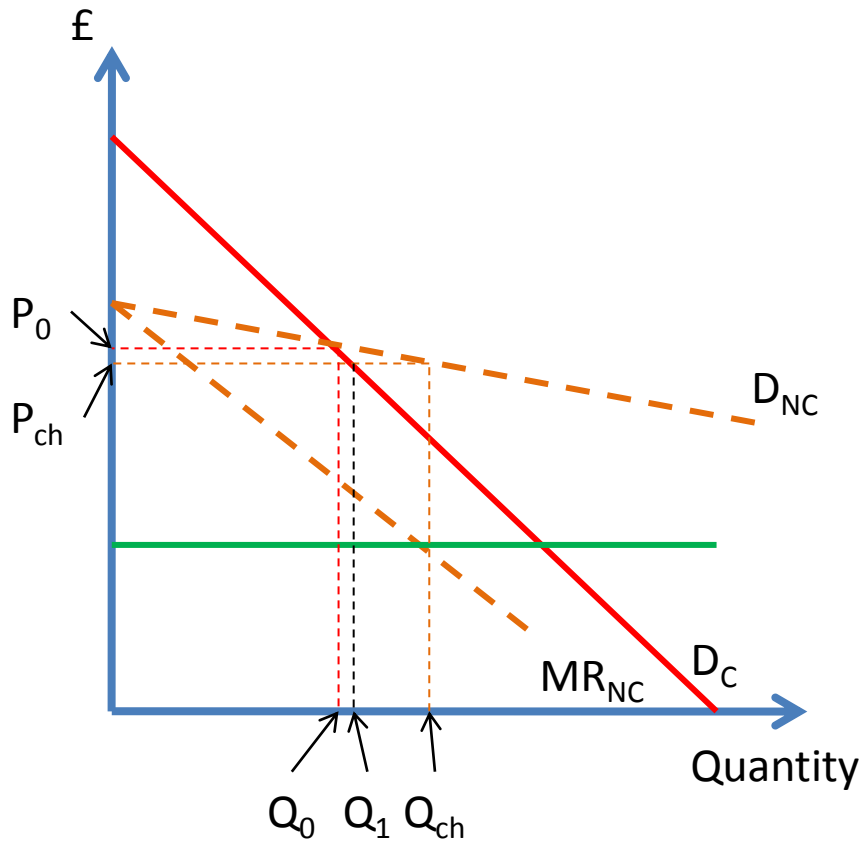
Cartel formation – necessary conditions

- Ability to raise price above competitive levels without facing competition from non-members
 - Elasticity of demand
 - Market share of the cartel members
 - Barriers to entry
- The expected penalty should not be high
- The cost of enforcement should not be high
 - Number of cartel members (more likely in concentrated industries)
 - Geographic spread of the cartel members

Enforcing a cartel agreement

Necessary conditions	OPEC
There are few firms in the market	√
Prices do not fluctuate independently	Demand can fluctuate significantly
Prices are widely known	√
All cartel members sell identical products at the same point in the distribution chain	There are multiple modes of distribution, and each member has its own distribution network

Collusive agreements – from one firm's view



- A firm follows the price set by a cartel (P_0)
 - Its demand curve is D_C and it sells Q_0
- It deviates from the cartel agreement and maximises profits
 - New demand curve is D_{NC}
 - New quantity is Q_{ch}
 - This quantity is sold at price P_{ch}
- If all cartel members follow, firm is back on D_C , and sells Q_1

Avoiding prisoners' dilemma – price leadership

Payoff matrix			
		Venezuela	
		Cooperate	Defect
Saudi Arabia	High price	(10 000, 500)	(9 000, 1 000)
	Low price	(8 000, 375)	(7 000, 450)

- *High price* is Saudi Arabia's dominant strategy
- As the market leader by some margin, it can credibly enforce a high price equilibrium
- Hence, prisoners' dilemma outcome is avoided

Methods of preventing cheating

- Assign cartel members their own geographical territories
- Fix market shares of individual cartel members
- “Most favoured nation” clause in sales contract
- “Meeting competition” clause in long term supply contracts
- Agreement among cartel members to raise output to the pre-cartel level if price falls below some pre-determined “trigger” level, generally for a finite period of time