EC326 Industrial Economics 2- Lectures Autumn 2004.

Note: this set of material is purely a collection of overhead transparencies put together; there may be overlaps or inconsistencies. It is provided as a service to students but is not meant to be a complete record of the material provided in the lectures.

Mike Waterson

Plan of Lecture 1:

1. **Basic idea of competition policy and regulatory policy**

2. **Rationale: Loss in consumer surplus; efficiency issues (examples)**

3. **Forms of market power**

4. **Private v State action**

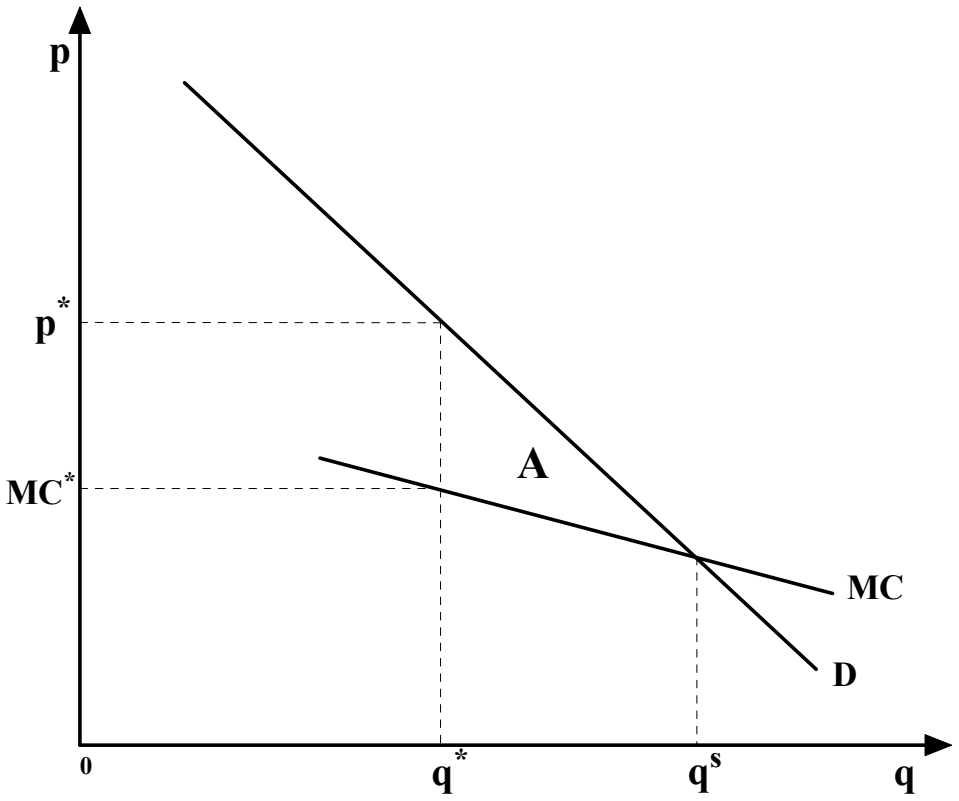
5. **Legislation (very brief outline)**

Competition Policy and Regulatory Policy

- **Economic surveillance of activities of firms- control of practices/ actions of firms taken against others or against consumers.**

Why?- is there a legitimate economic rationale?

Loss in *Consumer Surplus*



$$A = \frac{1}{2}(p^* - MC^*)(q^s - q^*)$$

$$A = \frac{1}{2}L^*.(p^*.q^*).K$$

Suppose L (Lerner index or price cost margin) is 0.25, K $= (q^s - q^*)/q^*$ is 0.2 and revenue is £10 billion per year.

Then A is £0.25bn pa. An agency that shaves L to 0.15 (say) reduces A to £0.15bn, reducing consumer surplus loss by £100m per year.

If the agency costs £16m a year to run, the (social) returns are over 6 times the costs, less if company required to spend a lot. These figures are, in round numbers, roughly accurate for OFTEL (immediate predecessor to OFCOM in telecoms).

In addition, the agency may force the firm into cost reductions.

Hence the (economist's) case for a dedicated agency.

Some industries do not have, or need dedicated regulators, but may require attention from time to time- maybe too small or only occasionally a problem (e.g. buses?).

Idea: to promote Effective Competition.

-Market Power is a fundamental market failure (as seen above).

Also, competitive pressures means less likely to get inefficiency in cost structures, except where "natural monopoly"- again a distinction between regulated areas and those subject to general competition policy measures.

<u>Plan</u>- to cover Competition Policy (general) this term, regulation next term.

Forms of Market Power

Most obvious manifestation of market power is monopoly, but it takes many other forms (mostly horizontal). For example:

- **Horizontal restrictions amongst competitors (cartels)**
- **Vertical restraints (distribution agreements)**
- **Mergers (horizontal and, perhaps, vertical)**
- **Regulations preventing entry or price rivalry**
- **Consumer switching costs, inertia, etc (lack of information/ biased info)**
- **Product tying to extend market power**

We will cover issues relating to most of these.

Private v state action

Why not leave people who are overcharged to claim through the legal system?

- **May be many people affected to a small extent; difficulty of "class actions"**
- **May be more costly than setting up an agency**
- **Likely to get too much activity in some area, not enough in others (e.g. firms' competitors; people in the vertical chain)**

However, some regimes do allow or encourage private action; US a leading example.

State action

Most countries have competition (antitrust) policy- starting with US, over 100 years ago; many also have (economic) regulatory agencies, associated with privatisation/ liberalisation, to tackle these issues.

Main areas of competition policy:

Restrictive agreements (Article 81 EU, Chapter I UK Competition Act 1998)

Abuse of a Dominant Position (Article 82 EU; Chapter II, UK CA1998)

Merger Legislation- Enterprise Act 2002 in UK replaces earlier legislation (as from June 2003).

EC326 Industrial Economics 2- Lecture 2

Plan of lecture:

1. **UK legislation (very brief outline)**
2. **Market definition (1):**
   - **Need to define markets**
   - **Dimensions of market definition**
   - **The SSNIP test**

Market Definition in competition policy

- **Do we need to define markets?**
- **If so, why?**
- **How do we do it in practice?**
- **What information do we need?**

First perceived need to define market was in relation to mergers. If two firms merge, how significant is that? How are consumers affected? Depends on what the market is.

Depends on whether products have a competitive impact on each other (impose restraint on each other, not whether the products resemble each other).

Markets have a product dimension, a spatial or geographic dimension and a time dimension: "The market for PCs in the UK in 2003"

Product dimension clearly important- is it the market for bananas, or all fruit? (Demand side substitutability.) One firm could be dominant in bananas but not in fruit generally.

Geographical dimension is important- Merger of book chains v Funeral chains.
Market for funerals quite localised, for book purchases may be global.

Time dimension- market for "memory". Supply side substitutability may be quite high- how easy and quick is it for other firms to move into the market?

Need to define markets for dominance cases?

OFT arguments (OFT paper 403- Market Definition):

"Market definition is important because, first, market shares can be calculated only after the boundaries of a market have been defined. Secondly, it is important … because it sets the stage on which competition analysis takes place. For example, when considering the potential for new entry it is necessary to identify the market being entered.
"Thirdly, market definition is important for establishing whether or not particular undertakings fall within the scope of the prohibitions."

Largely circular.

However, the basic assumption is that market dominance is a *necessary* condition for having (unilateral) market power.

How do we decide what the relevant market is?

The method that has now become standard is the SSNIP Test:

A market is defined as a product or a *group of products* and a *geographic area* in which it is produced or sold such that a *hypothetical* profit-maximising firm, not subject to price regulation, that was the *only* present and future producer or *seller* of those products in that area likely would impose at least a *small but significant and non-transitory increase in price* [above the competitive level], assuming the terms of sale of all other products are held constant. A relevant market is a group of products and a geographic area that is *no bigger than necessary* to satisfy this test.

Comes from US Merger guidelines since 1982, plus EC guidelines and more recently UK competition policy.

Need to unpack this.

1. **Defining market, not measuring market power**
2. **Note the product and geography dimensions, plus time**

3. **Idea of "hypothetical monopolist" in the product- not an *actual* monopolist**
4. **Logic of test- see below**
5. **What is Small but Significant? - normally 5-10% (Arbitrary)**
6. **Non-uniqueness- minimum market size is relevant.**
7. **"Cellophane fallacy"- implicit. Later**

Logic of Test

Petrol station example- suppose single station increases price by 5%. Likely to lose most of sales. So not a market.
Suppose all stations in Coventry raise prices by 5%. Will lose sales, but more than 5%?
All stations in UK- will hardly lose sales at all.
Conclusion: Market somewhere between city-level and national in geographic terms.

Product terms: Are petrol and diesel separate markets? If all stations raised price of unleaded by 5%, keeping diesel the same, what would happen?

Methods of gathering information

SSNIP Test relates implicitly to elasticity of demand for a good (amongst other things)

Is the elasticity smaller than a critical value?

$\Pi_i = (p_i - c)q_i; i = 1, 2$

$\Pi_2 - \Pi_1 \geq 0$ if $(p_2 - c)q_2 \geq (p_1 - c)q_1$

i.e. $\left(\frac{p_2 - c}{p_1}\right) q_2 \geq m q_1$

where $m \equiv (p_1 - c) / p_1$

Let $t \equiv \Delta p / p$ where $\Delta p \equiv (p_2 - p_1)$

Then condition becomes

$(m + t)(\Delta q + q_1) \geq m q_1$ or

$$m \frac{\Delta q}{q_1} + t\left(1 + \frac{\Delta q}{q_1}\right) \geq 0$$

i.e. $-\left(\frac{m + t}{t}\right)\frac{\Delta q}{q_1} \leq 1$

But by definition, elasticity of demand

$$E \cong -\frac{p_1}{\Delta p}\frac{\Delta q}{q_1} = -\frac{1}{t}\frac{\Delta q}{q_1}$$

Therefore, substituting in, we have a conditio

$$E \leq \frac{1}{m + t}$$

Thus the critical demand elasticity must satisf

Note the somewhat arbitrary nature of the *t* value, 5% makes some difference.

(This demonstration is a variant of those in Church and Ware)

If we have an estimate for the margin, and we have (or can conjecture) values for the elasticity of demand at various levels of aggregation, we can see whether the SSNIP test is satisfied.

Note that with a more general cost function, e.g. one exhibiting economies of scale, costs would come into the picture as well as demand.

Note also that for a monopolist, $m = 1/E$. Hence the test *cannot* be satisfied at monopoly prices. This is one way of seeing the "Cellophane fallacy". At a competitive price level, cellophane may be a product by itself. However, at inflated (monopoly) prices, other substitutes will come into play. The test, by definition, would not be satisfied. If the actual monopolist could raise price profitably, it would have done it. This is more of a consideration in Dominance cases than in merger cases.

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Plan of lecture:

Market Definition (2)

1. **The SSNIP test and Elasticity of Demand**
2. **(Brief) The "Cellophane fallacy"- dominance**
3. **Methods of obtaining information relevant to market definition**

(Additional sources- Lexecon: Quantitative techniques in competition analysis, 1991 and Market Definition, 2001)

Methods of evaluating the extent of the market

1. **Elasticity estimates**

Clearly the most directly connected to the SSNIP test- relevance of own price elasticities.

Involves estimating demand functions; may not be easy in some cases.
Historical experience by definition

Difficulty with differentiated products- may involve many parameters- various techniques are used to reduce these (Hedonic pricing

methods etc). Perhaps most useful is an approach which nests estimation into several levels of decision (Hausman).

2. Price trend / correlation analysis

Relies on the idea that products with high cross elasticities (and therefore likely to be in the same market) are likely to trend closely together in prices. (Or, the other way round, if their price movements diverge, they are unlikely to be in the same market- perhaps better at ruling out cases).
May suggest the direction in which the market definition should be expanded if the test is not passed with a narrow definition.

For example, price divergence, or different price patterns, between different countries (e.g.cars).

Measured as correlation- but how high is high? What about speed of adjustment? What about difficulty of identifying trends from random walks/ common factors across markets?

3. Consumer surveys

How many buyers would actually switch?- Direct method, but does involve a hypothetical.

Can be targeted at specific issues under contention.

4. **Corroborative evidence**

Is there evidence from the firms themselves that suggests something about the relevant market?

What about shipment data, board minutes, trade barriers etc?
Time is a relevant factor in an investigation.
After-markets.

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Plan:

Assessment of Market Power

- **Traditional- Measuring concentration**
- **Measuring/ evaluating market shares**
- **Econometric analysis of residual demand**

Concentration

Questions:

- **How can we measure it?**
- **Why is it important?**

General Motivation:

More concentrated industries are likely to have more market power.

So, once a market has been defined, it is important to evaluate the degree of concentration in a market.

(We will examine both these issues in more detail.)

Measuring concentration

If all firms were the same size, concentration would simply be the inverse of number of firms. But they are not.

Concentration takes into account both numbers (inversely) and size inequalities (directly). To some extent, how this is done is arbitrary.

Two main measures in wide use (many others have been developed):

Concentration Ratio

$$CR_i = \sum_{i=1}^{n} s_i \quad \text{so} \quad 0 < CR_i < 1$$

Hirshman-Herfindahl Index

$$HHI = \sum_{i=1}^{n} s_i^2 \quad \text{so } 0 < HHI < 1 \text{ if } s_i \text{ is a share}$$

between 0 and 10,000 if s_i is a percent.

Example using Car market (assuming cars in the UK are a legitimate market) for 2003.

Merger of two firms definitely increases HHI, will not decrease CR.

[$(a+b)^2 = a^2 + b^2 + 2ab$ **]**

Exit of one firm, followed by proportional reallocation, will increase both measures.

Fiat merger with GM raises HHI by almost 100 points. Collapse of Fiat raises HHI by around 62 points (*assuming proportional reallocation*).

US antitrust authorities have a set of guidelines (1992 Guidelines) relating to antitrust markets. These refer explicitly to particular levels of HHI and increases in those levels as a result of a merger. Below these levels, mergers are OK. The hypothetical GM/ Fiat merger would not quite be caught under these guidelines (but would under a narrower definition of the market).

Question is why this might be relevant to anything.

Relates to influence of concentration on

- **Non-collusive market power- Link between concentration and Lerner index, e.g. under Cournot**

  $$L = H/E$$

- **Likelihood of collusion**

Market shares

Once market has been defined, evaluating market share is commonly very easy.

How large a share is needed to mean a firm is dominant?

Largely ad hoc- OFT reckons beyond 50% it can be presumed, below 40% unlikely.

Note also that $L_i = s_i/E$

But high market share may not be important if

- **Entry is easy, or**
- **There is significant buyer power.**

Estimating market power directly

Essentially, comes from estimates of demand, to establish price elasticities, etc.

Straightforward method- estimate residual elasticity of demand.
(There are also other methods, e.g. logit based approaches.)

Demand facing this firm is:

$$q_i = D_i(p_i, p_{-i}, y)$$

and its best reply function can be written as

$$p_i = R_i(p_{-i}, y, w, c_i)$$

(assuming price is the strategic variable).

From the set of best reply functions, by substituting in to the demand function for firm i, we obtain the residual demand facing firm i as:

$$q_i^R = D_i^R(p_i, w, c_{-i}, y)$$

This can be estimated as, for example:

$$\ln q_i^R = \alpha_i + \beta_i \ln p_i + \sum \gamma_i y + \sum \chi_i w + \sum_{j \neq i} \delta_i c + u_i$$

where we instrument for p_i using c_i.

The coefficient β_i is an estimate of residual demand elasticity, and so (an inverse measure) of this firm's market power.

Logit approach involves estimating demands in a hedonic demand-type manner.

Why are some industries concentrated, others not?

Economies of scale; product proliferation; barriers to entry; differential efficiency; chance.

1. Economies of scale:

Some markets have greater scale economies, or rather greater scale economies *relative to market size*.

Steel production takes place best in large plants, as a result of scale economies. Similarly, brewing of keg/ bottled beers (but not necessarily cask ales).

There will be fewer brewers in Guernsey than in England.

Bresnahan and Reiss demonstration of the importance of market size.

So some industries will be more concentrated than others. In small economies, most industries will be more concentrated than in large ones.

There may also be *economies of scope*- economies in producing or marketing a range of products.

For example, economies in marketing a range of cars, rather than just one- production and sales side.

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Determinants of Concentration

Why are some industries concentrated, others not?

Economies of scale; product proliferation; barriers to entry; differential efficiency; chance.

Plan:
Policy-relevant aspects of these determinants include:

- **Barriers to entry**
- **Differential efficiency**

Barriers to Entry

A market may be concentrated because firms find it difficult to enter. This may be because there are Barriers to Entry into the market.

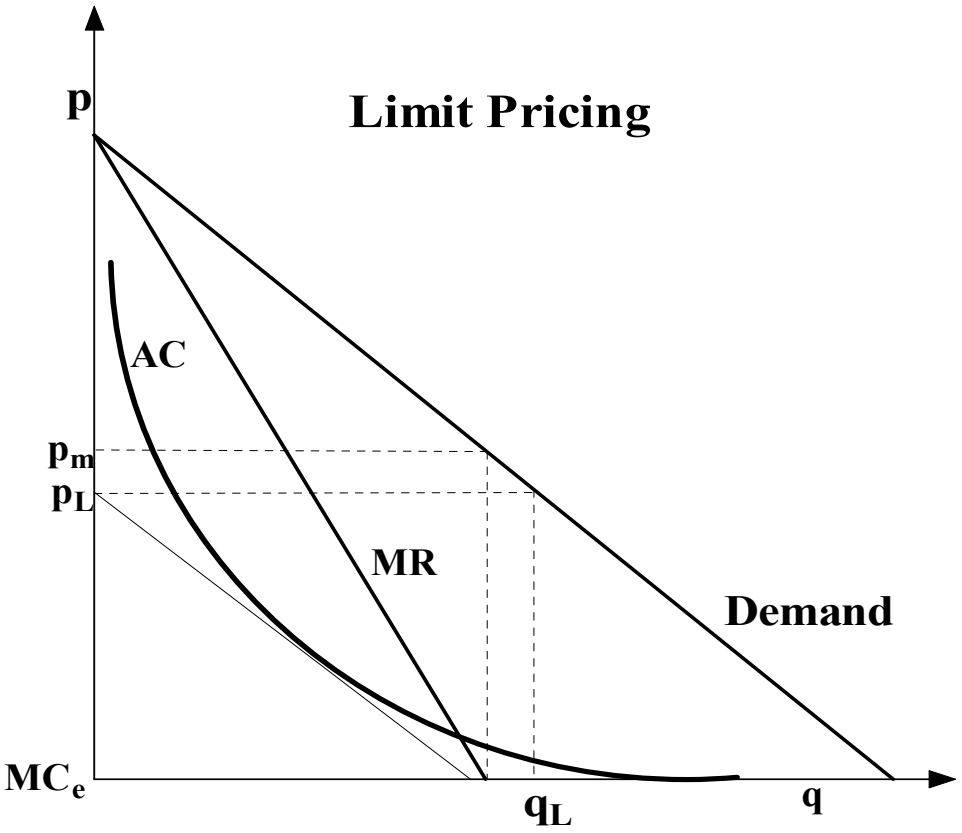
Gilbert: A barrier to entry is a rent derived from incumbency; the additional profit that a firm can earn as a sole consequence of being established in an industry.

(not the only definition)

List of barriers (mainly Bain):

Absolute cost advantage- will return to this
Product differentiation advantages
Economies of scale/ experience/ scope
Legal barriers

Economies of scale and limit pricing


p
Limit Pricing
AC
p_m
p_L
MR
Demand
MC_e
q_L
q

Assumes incumbent is in a superior position to a potential entrant, as a result of being an incumbent. A firm may want to put itself in such a position- see "Consequences of concentration". But why should an entrant assume the incumbent keeps output fixed in response to entry?- usually non-optimal. (Relates also to actions such as predatory pricing, to be discussed later).

The other non-legal barriers relate to
<u>Differential Efficiency</u>

Some firms may be more efficient than others. As a result, they may grow/be larger.

One plausible mechanism- Cournot with differential costs. (there are others)

$$\Pi_i = P(Q).q_i - c_i.q_i; \qquad p \equiv P(Q); \quad Q \equiv \Sigma q_i \quad (1)$$

FOC:

$$\partial\Pi_i/\partial q_i = P'.q_i + p - c_i = 0 \qquad (2)$$

(Cournot assumption)

From (2):

$$L_i \equiv (p - c_i)/p = - P'.q_i/p = - (P'.Q/p).q_i/Q$$

$$L_i = s_i/\varepsilon \qquad (3)$$

(L_i is commonly called the price-cost margin)

Note that the larger firms have higher margins, due to lower costs- so firms are large *because* they are efficient.

If there is a degree of co-ordination:

$$\partial\Pi_i/\partial q_i = P'.\theta_i q_i + p - c_i = 0$$

– effect on other firms' outputs through θ_i.
Hence instead of (3) we get:

$$L_i = s_i\theta/\varepsilon$$

where $1/s_i > \theta > 1$.

So two *alternative predictions*, leading to the same aggregate result, that more concentrated industries are more profitable:

1. **Actions of the firms in the industry- all may be profitable (maybe by co-ordination).**
2. **Differential efficiency (Demsetz)- the larger ones have the larger margins. As a result, the industry is more concentrated (firms more unequal in size).**

Can test between these predictions by looking at intra-industry data. If Demsetz is right, slope of intra-industry relationship between margins and size is very steep. If it is relatively flat, there is a degree of co-ordination.

Clarke, Davies and Waterson (J Ind Econ, 1984) did this. They first examined intra-industry relationships, using the form:

$$\frac{p - c_i}{p} = a + bs_i + cs_i^2$$

then (for that subset of the cases where *b* was positive) related the estimate of θ cross-sectionally to concentration, getting positive results.

Conclusion: Differential efficiency is not the whole explanation, and concentration is of some importance for behaviour in the industry.

Consequences of Concentration

Concentration of itself is not a bad thing- newsagent example

May have some positive impacts- e.g. standardisation, particularly when "open standards" prevail (IBM and the PC)

But concentration may have adverse impacts-

(a) Unilateral effects (one firm's actions by itself)- relates to Chapter 2 of Competition Act 1998 and

(b) Coordinated effects (several firms colluding together)- relates to Chapter 1 of CC 1998

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Consequences of Concentration

Unilateral effects- framework

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May have some positive impacts- e.g. standardisation, particularly when "open standards" prevail (IBM and the PC)

But concentration may have adverse impacts-

(a) Unilateral effects (one firm's actions by itself)- relates to Chapter 2 of Competition Act 1998 and

(b) Coordinated effects (several firms colluding together)- relates to Chapter 1 of CC 1998

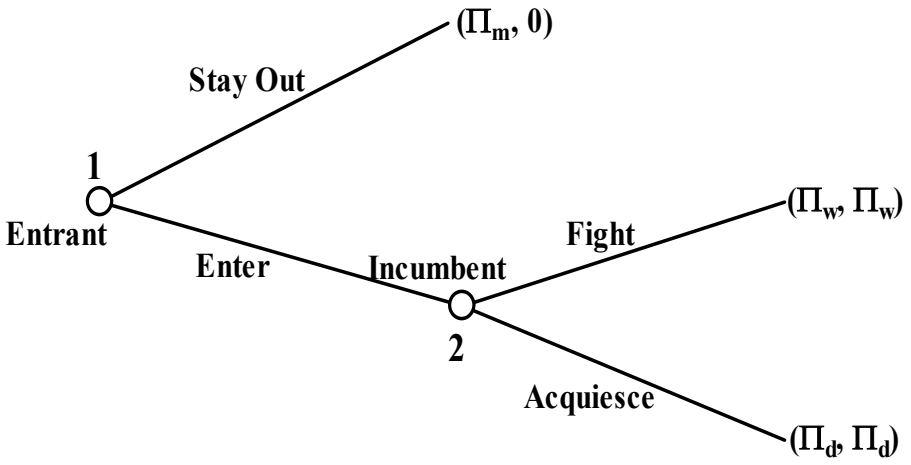
Will consider both these (may be some overlap with Ind Ec 1) over next couple of lectures

Common example of unilateral effect: Exclusionary behaviour- attempt to keep firms out of an area

Basic two stage game:

1. **Entrant makes move**
2. **Incumbent reacts.**

An Entry Game



Assume $\Pi_m > \Pi_d > \Pi_w$

Situation 1: $\Pi_d < 0$ Nash equilibrium is $(\Pi_m, 0)$. Entry is blockaded

Situation 2: $\Pi_d > 0 > \Pi_w$ Two Nash equilibria

(a) (fight if entry, stay out)

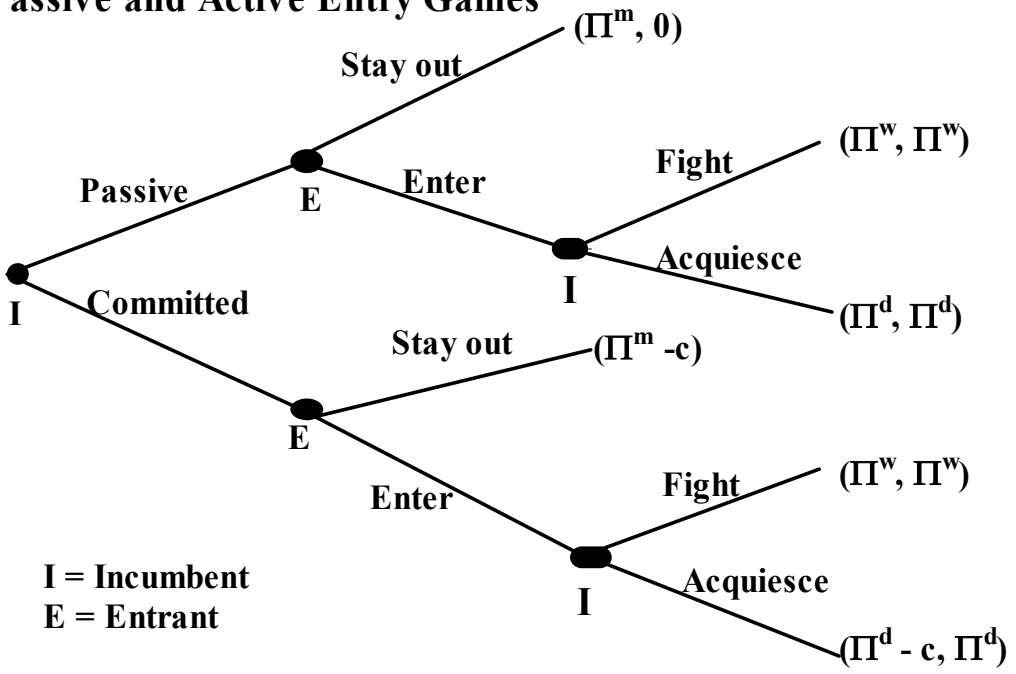
(b) (acquiesce, enter)

One subgame perfect equilibrium- (b)

The other equilibrium is not <u>credible</u> (though see later)

Two ways a powerful incumbent firm might tackle this- pre-commitment or predation.

Passive and Active Entry Games



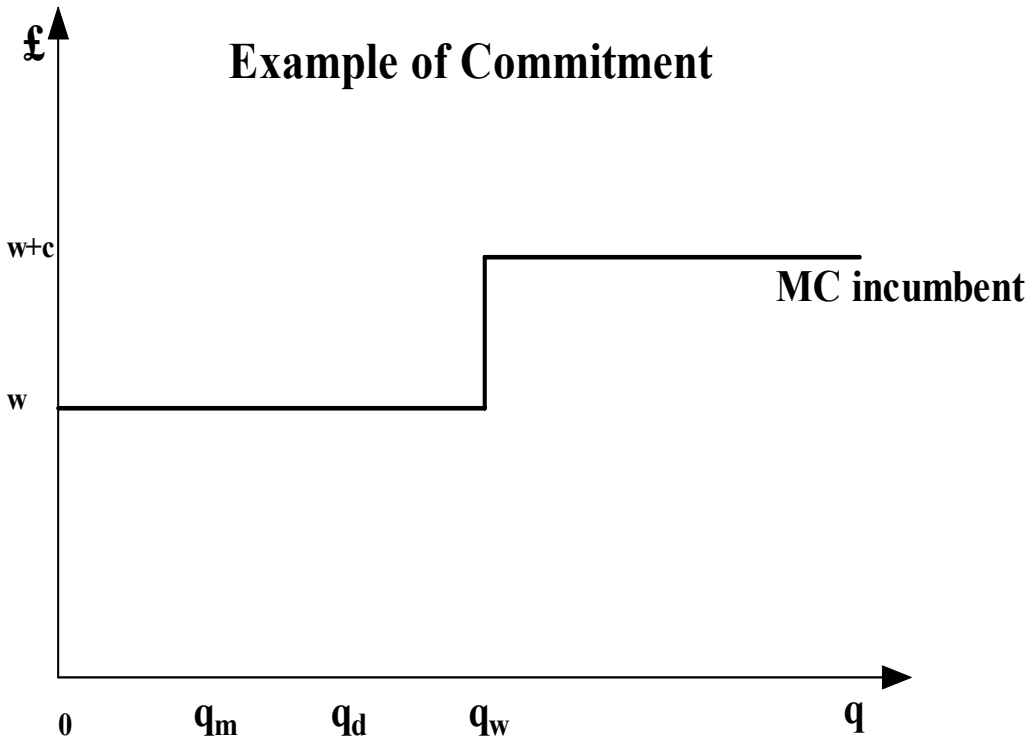
Commitment in Entry Deterrence

if $\Pi^m - \Pi^d > c > \Pi^d - \Pi^w$

Dixit, 1992 American Econ Rev

Strategic Behaviour: acting so as to put the other player in a worse position- influencing the other person's choice. In this case, to exclude other firms, so exclusionary behaviour.

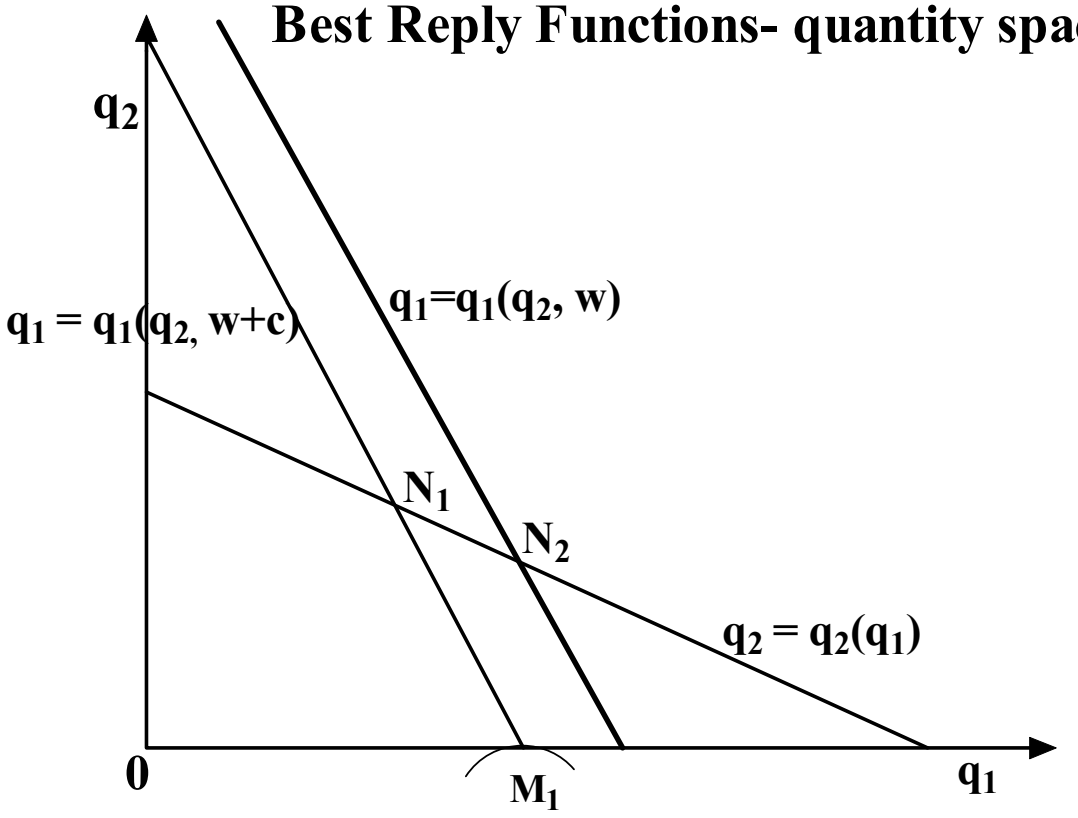
Schelling: A strategic move is "one that influences the other person's choice in a manner favourable to oneself by affecting the other person's expectations on how one's self will behave."



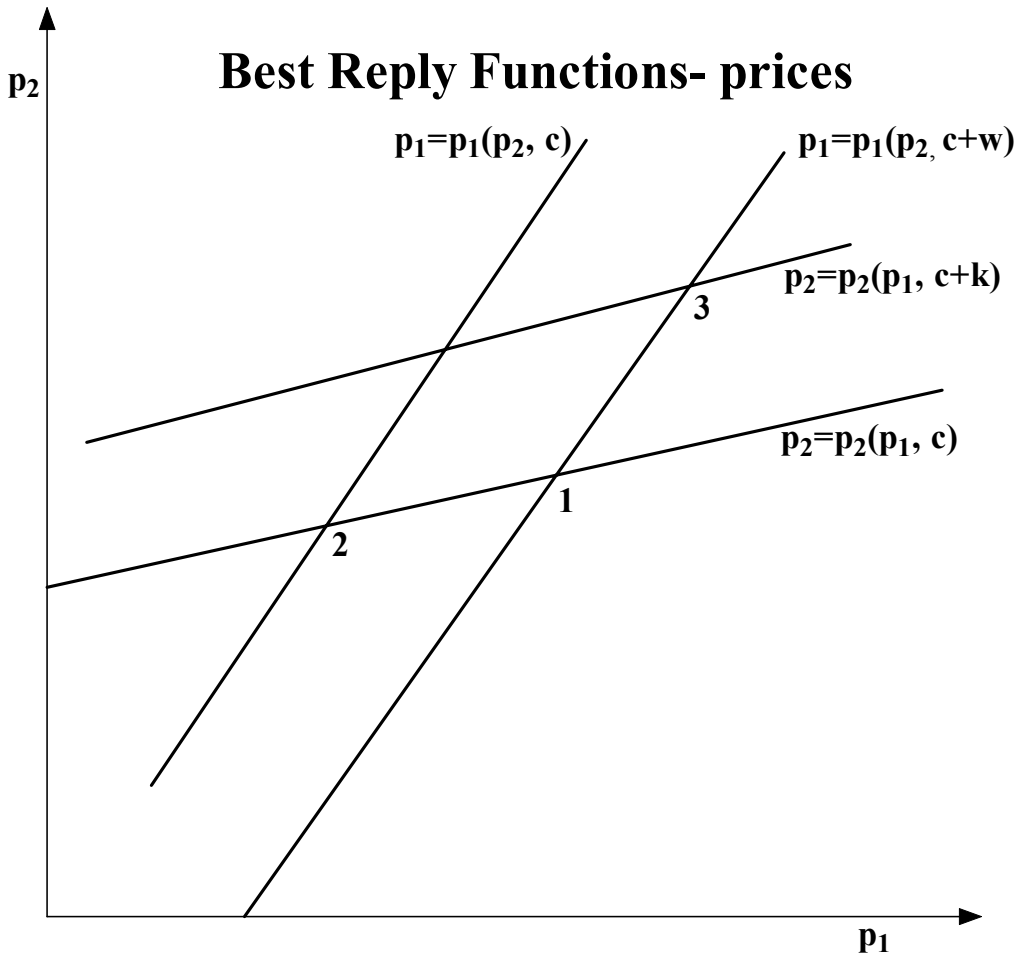
Examples of instruments here: Advertising, creation of capacity, R&D activity etc. To either exclude or weaken opponent

Effect of reducing own costs, assuming competition is in quantities:

Best Reply Functions- quantity space



Your output rises, rival's falls; maybe not enough demand to satisfy rival.



The benefit of raising rival's costs rather than reducing own costs

Reducing own costs makes you worse off in this form of competition (strategic complements). Need to raise rival's costs.

Predatory Pricing

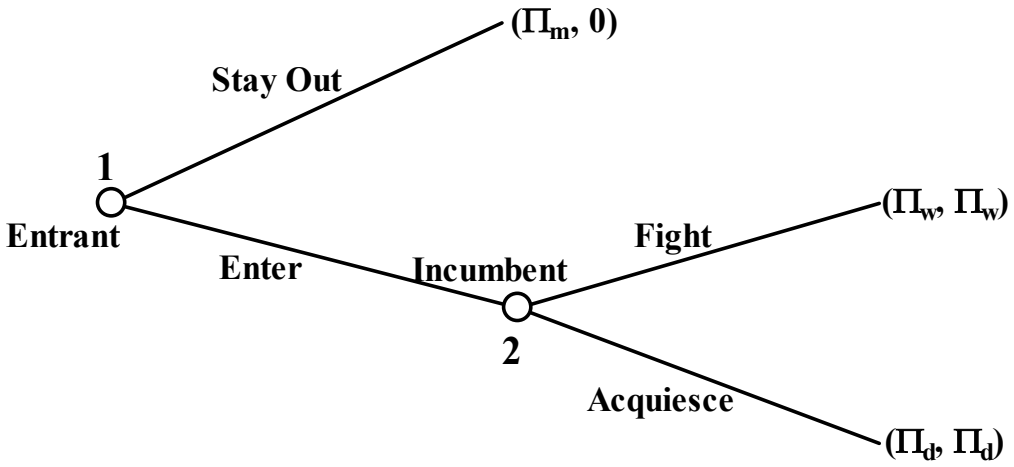
Set price below costs, in a deliberate attempt to show strength to drive an entrant out.

You make losses, but entrants are driven out anyway, so long term gain.

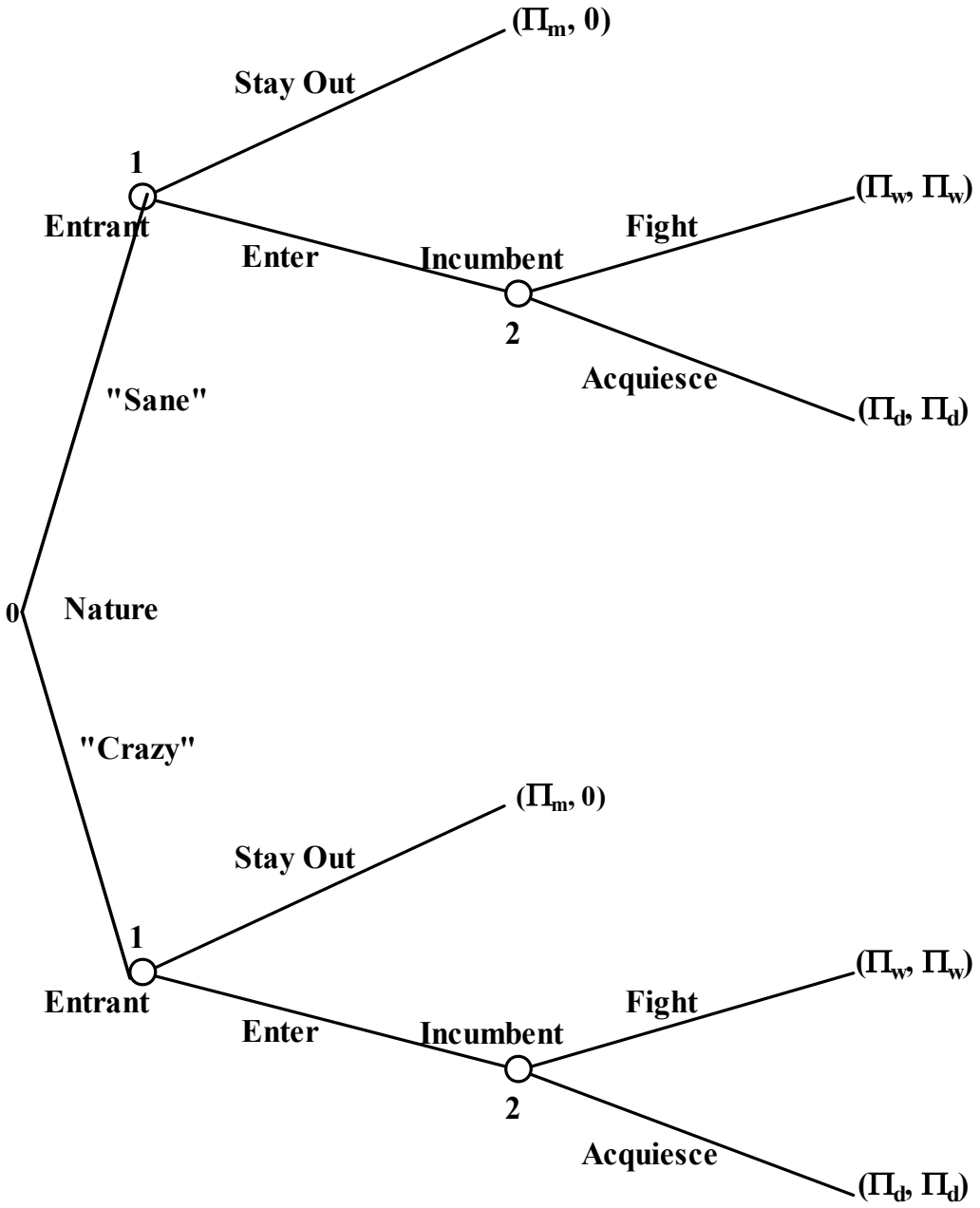
Back to basic entry diagram:

Chainstore game, and Selten's chainstore paradox

Entry Game



Implies need for imperfect information or irrationality on part of incumbent- importance of *Reputation*.



Examples: Cabral- Easyjet v KLM; Buses.

Predatory pricing- works by setting a lower price to compete aggressively, then raising price later, once opposition has been seen off.

Highlights problem for policy (in all these areas)- how to distinguish between competitive response and anti-competitive action. Policy-maker has no desire to stifle competition.

Method normally used (in case of predatory pricing): A price is predatory if it is below average variable cost (or average avoidable cost). Marginal cost and multiproduct problems.
(Called Areeda Turner rules in US)

A price of zero will normally be considered predatory.

Examples- buses; Aberdeen papers.

Important problem- cannot identify the *intent* through pricing levels; need additional evidence (eg timing).

Aberdeen Herald and Post:

March 96 To Sept 98 To Sept 99 To April 00

Ad price cut Further cut Dist reduced
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Consequences of Concentration (continued)

Plan:

- **Unilateral effects- policy considerations**
- **Co-ordinated effects- introduction**

A. Unilateral Effects (last time)

Actions taken by individual powerful firms in order to reduce, weaken, or eliminate competition e.g. strategic actions to deter entry.

- **Reducing own costs by pre-emptive move- examples: advertising/ R&D activity**

- **Raising rivals' costs- examples: Virgin Atlantic**

- **Predatory pricing**

General difficulty for policy: When are such actions a part of the normal competitive process and when are they designed unfairly to remove rivals?

To determine this requires competition agencies to judge a difficult tradeoff.

Examples relating to costs:

1. **Extended warranties offered by electrical retailers.**
2. **Information for the use of diagnostic equipment by independent garages (n.b. intellectual property)**

Predatory pricing examples:

1. **Robert Wiseman dairies**
2. **Aberdeen newspapers**

Particular difficulties in predatory pricing cases:

Predatory Pricing

Set price below costs, in a deliberate attempt to show strength to drive an entrant out.

You make losses, but entrants are driven out anyway, so long term gain.

Highlights problem for policy (in all these areas)- how to distinguish between competitive response and anti-competitive action. Policy-maker has no desire to stifle competition.

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A price of zero will normally be considered predatory.

Examples- buses; Aberdeen papers.

Intent?/ Timing?

Aberdeen Herald and Post:

March 96 To Sept 98 To Sept 99 To April 00

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Aberdeen Herald and Post fined £1.3m, reduced on appeal to £1m.

B. Co-ordinated Effects

Actions taken by a group of firms to benefit themselves at the expense of others

If firms coordinate their pricing across an industry, they can benefit as a group

Alternatively, they may agree to share a market (for example, by agreeing mutually exclusive territories) with the same effect.

Difficulties in the way of doing this:

1. **Predict and discourage production by non-members**
2. **Locate the points providing maximum profits**
3. **Choose an outcome from the above**
4. **Detect breaches of the agreement**
5. **Deter such breaches**

Collusion can be explicit or tacit. If it is illegal, then the agreement has either to be secret or tacit.

In most jurisdictions, discussing prices with competitors, or engaging in actions with the same effect, are illegal. (UK, Competition Act 1998, Chapter1; Enterprise Act 2002 adds

criminal penalties). Much tougher than unilateral actions.

So legal difficulties also.

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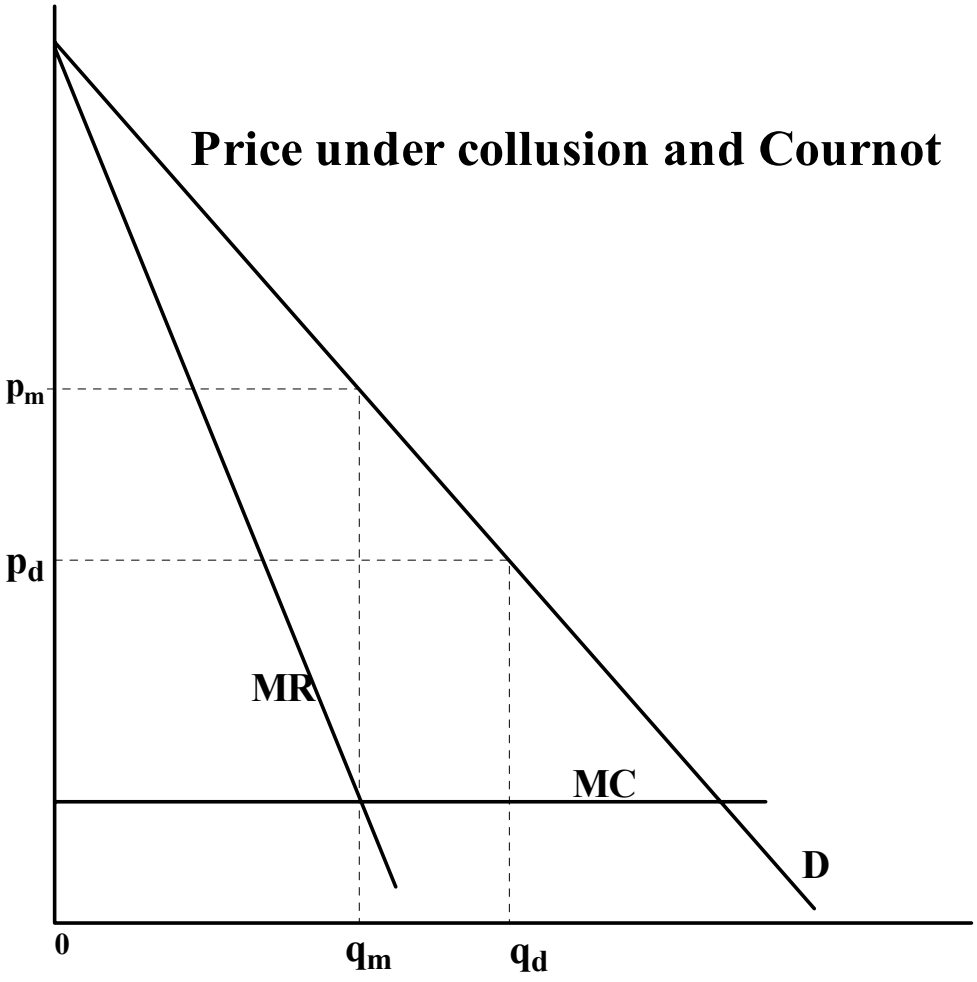
Plan:

- **Why are competition authorities tough on cartel or collusive behaviour?**
- **Under what circumstances are cartels most likely?**
- **What effects do penalties have?**
- **Examples.**

Reasons for competition authorities being tough on collusive behaviour



Increased monopoly welfare loss. No obvious offsetting benefits (e.g. scale economies). Firms benefit but consumers lose out to greater extent.

(Note however the difference between tacit and explicit collusion- important legally but not made explicit in many economics models.)

When do firms have least difficulty in reaching an agreement?

<u>Conceptual framework</u> (from IE1):

Very simple 2 firm collusion model:

		2	
		C	D
1	C	(c, c)	(-l, d)
	D	(d, -l)	(0, 0)

Collude if better off, i.e. if c forever better than d for one period, or:

$$\frac{c}{1-\delta} > d \quad \textbf{i.e.} \quad \delta > \frac{d-c}{d}$$

More generally, collude if:

$$\pi_i^c + \delta V_i^c \geq \pi_i^d + \delta V_i^p$$

or

$$\delta \geq \frac{\pi_i^d - \pi_i^c}{V_i^c - V_i^p}$$

where

V_i^c is pdv of my profit if everyone colludes

V_i^p is pdv of my profit in punishment phase.

The lower is the necessary value of δ, the more likely is collusion.

So anything that raises the numerator, reduces the likelihood of collusion and anything that raises the denominator increases the likelihood of collusion.

1. **Where firm numbers are small and known (hence the link with concentration)**

So it is easier to assess what others are doing and benefits from collusion are high

2. **When the people involved naturally meet to discuss matters of common interest, or can easily understand how other firms think.**

Example: Many professional associations

3. When the products are homogeneous and costs are similar

Less ability to add to quality in order to capture a greater share of the market. Less asymmetry in the industry, so smaller need for "side-payments" which may be difficult.

4. Where pricing is transparent

An example is in auctions for rights to something. If all bids are reported, they may be seen to contain signals to other players. Examples from Klemperer. Also construction contracts.

Also, advanced notification of price changes (See Church, ch 10 for Danish Cement and Airline cases)

5. Where retaliation is swift and tough (for reasons above or others, eg consumer policing of price changes)

6. Where everyone is doing badly (cyclical industry?)-

Examples: cement; fertiliser; bulk chemicals.

Impact of policy that cartels are illegal

Attempt to reduce/ eliminate power of cartels.

1. **Even if there is no penalty, illegality makes cartel agreements unenforceable and side payments very difficult.**
2. **If there is a penalty, this reduces the present value of the *collusive* profit stream by the expected value of the fine.**
3. **Leniency for whistleblowing- reduces cost of reneging on agreement.**
4. **Criminal penalties.**

<u>Examples:</u>

Replica football kit.

Roofing contractors in West Midlands.

Cartels in vitamins, etc.

- **Cartel examples- some more detail**

Mergers 1

- **Motives for merger**
- **Types of merger/ takeover**
- **Horizontal mergers and profitability**

Note for later: Policy here concerns something in prospect, not something that is going on now.

Do horizontal mergers raise profitability?

Certainly, they increase market power, but not necessarily profit.

Types of Merger/ Takeover

Vertical; Horizontal; Conglomerate

Vertical- example BskyB/ Manchester United (disallowed)

For reasons connected with vertical integration. May increase horizontal market power in some cases as a result.

Horizontal- examples Astra/ Zeneca and P&O Princess Cruises and Royal Caribbean Cruises.

For reasons connected with oligopoly or efficiency?- see later

Conglomerate/ Diversified- examples British Match/ Wilkinson Sword and Suez (Lyonnais des Eaux)/ Tractebel

For efficiency reasons??

EC326 Industrial Economics 2- Lecture 10

Mergers 2

- **Modelling what we may expect in a merger- profitability etc.**

Assessing the effects of a merger-

- **Procedure (Enterprise Act 2002, came into force June 2003).**
- **Analysis (UK)**

Horizontal mergers and profitability

Salant, Switzer, Reynolds- type model.

Predictions: In the absence of efficiencies, merged parties worse off, other parties better off.

Differentiated product Bertrand models: Merged parties can become better off and non-merged parties do. (see eg Church and Ware, pp722-4).

Implication: Industry players not party to the merger may be quite happy about it.

Procedure in assessing effects:

More on procedure from OFT website (search for mergers).

Actors: Office of Fair Trading (OFT), Competition Commission (CC), Competition Appeal Tribunal (CAT), European Commission (EC).

OFT has a duty to obtain information relating to merger situations and to refer to CC any such where the merger may result in "a substantial lessening of competition [SLC] in a UK market".

CC's role is to investigate mergers referred to it, to see whether there has been (or would be) an SLC. If so, the CC has to determine an appropriate remedy.
Once remedy (e.g. merger not allowed) is imposed, the only recourse of aggrieved parties is to the CAT.

Under the EC Merger Regulation, large mergers that have a "Community Dimension" are handled by the EC.

1. **How does the OFT find out about mergers?**
   Answer: Usually, it will be in the interest of the companies involved to inform the OFT.

2. **What can companies do if they want to merge? A: Obtain advice/ guidance from OFT. Or pre-notify the OFT. If pre-notified, OFT should give a response within 20/ 40 working days, or merger allowed.**
3. **Is there a size below which merger is not considered? A: Yes, <£70m turnover or <25% of a market.**
4. **What does the OFT do? A: (i) Develops a market definition (SSNIP test etc, as discussed before), (ii) Assesses the nature and extent of competition in the market. (Mainly relevant to horizontal mergers).**
5. **How does OFT assess competition? A: A key element is the HHI, but not the only element. Also, extent/ ease of entry, extent of likely efficiencies, etc.**

	HHI		
ΔHHI	Low conc	Concentrated	Highly concentrated
	<1000	1000<HHI<1800	>1800
<50	OK	OK	OK
100>Δ>50	OK	OK	N
>100	OK	N	N

6. **What factors may lead to a negative assessment? A: Significant unilateral or co-ordinated effects likely.**

7. **What happens then? A: Either the merging parties provide "undertakings", e.g. to divest aspects of the operations, or behavioural undertakings (less common), or the merger is referred to the CC.**
8. **What happens at the CC? A: CC investigates whether a merger situation has been created and, if so, whether it is likely to result in a SLC. If it does find SLC, it determines what action should be taken. It provides a report on this. The action would be something like proposing that the merger is prohibited, that some break up or sell-off of assets is required, or whatever. So OFT is a screening device, CC makes detailed investigation and determines what will happen following that.**
9. **When are mergers subject to EC Merger Regulation? A: If the combined worldwide turnover of all undertakings concerned is more than €5 billion and Community turnover more than €250 million, or combined more than €2.5 billion and more than three member states >€100m, unless operates more than 2/3 within one state. So, purely domestic cases not covered, but 2 US firms merging could be!**
10. **What are the main differences? A: The test in the EC is whether a merger creates or strengthens a Dominant Position. Some**

mergers may not do this, yet would be caught by the SLC test.

Main changes from previous legislation:

1. **The CC is now a determinative body.**
2. **SLC has replaced the "public interest".**

<u>Method of Analysis</u>:

CC considers the definition of the market, using SSNIP etc. It then determines the degree of competition in the market and how much that will be affected by the merger. In doing so, it takes into account the views of the parties and the views of third parties. It is concerned in general with impact on rivalry, specifically non-coordinated (unilateral) and co-ordinated effects, also efficiencies and potential for entry and role of buyer power.

Normally, it does not model these things explicitly. Nor does it carry out "back of the envelope" calculations; more generally, it shies away from quantitative analysis at the "front end". In these senses, this is different from the US procedure.

Example: Supermarkets report (500+pp)- some GIS analysis, though.

Example of UK approach

Knauf- Superglass proposed merger (the story continued)

Three players in glass fibre loft insulation: Knauf, Superglass, BGI.

Knauf and Superglass together have around 80% share of the loft roll market in UK, about 2/3 of the blowing wool market. In mineral wool in total (inc slabs), 50-60%.

There is significant price evidence that when capacity is reached, realised prices start to rise- around 30% increase so far this year.

Modelling- is it beneficial for the merged entity artificially to restrict output in the presence of excess capacity?

Answer, broadly, yes. See tables.

Conclusion: There is likely to be a substantial lessening of competition.

Note: BGI happy about merger.

EC 326 Industrial Economics 2- Lecture 11

Mergers 3: Benefits and costs of mergers- Quantification

Benefits to firm- higher profits as a result of: higher prices, lower costs, more efficient operation.

Benefits to consumers- more efficient operation?
Costs to customers- higher prices (SLC)

Costs to firm- cost of notifying and time taken in investigation.

Costs of investigation may be socially wasteful.

OFT Economic Discussion Paper 4: The development of targets for consumer savings arising from competition policy (OFT 386)- discusses many of these issues.

"Back of the envelope" calculations of price increases from merger.

1. Take the homogeneous product model already considered:

Demand: $p = 1-Q$
Costs: $C_i = c_i q_i$

$$\Pi_i = pq_i - c_i q_i$$

so that

$$\frac{\partial \Pi_i}{\partial q_i} = p + q_i \frac{dp}{dQ} - c_i = p - q_i - c_i = 0 \qquad \textbf{(2)}$$

for all i. Hence, summing across all the firms:

$$Np - Q - \sum c_i = 0$$

then substituting for *Q*

$$(N+1)p - 1 - \sum c_i = 0 \qquad \textbf{(3)}$$

If one firm, marginal cost c_x leaves through merger, then (3) becomes:

$$Np_A - 1 - (\sum c_i - c_x) = 0 \qquad \textbf{(4)}$$

Subtracting (4) from (3) and rearranging yields the proportional price increase as a result of merger, assuming only unilateral effects:

$$\frac{p_A - p}{p} = \left(\frac{p - c_x}{p} \right) . \frac{1}{N}$$

(This formula actually works for *any* linear demand curve).

Example:
Brintel and Bond (helicopters). Market shares in North Sea Northern sector:
Brintel, 22%, Bond, 23%, Bristow, 55%.
Brintel's margin is 10%. Implied price rise: 3.3%.

2. Differentiated products:

When two products (or product lines) are combined, the firm will take account of interdependencies between them. But how much will one impact on the other? Suppose firm raises price of A by 10%. Then quantity sold falls by 10ε%. Some demand (a fraction D) diverted to product B.

But if firm owns product B and raises its price by 10% also, that demand is not lost. Hence demand only falls by 10ε(1-D)%- demand less elastic in effect (ignoring demand lost altogether).

Pre-merger margin of exiting firm:

$$m = (p - mc)/p = 1/\varepsilon \qquad \textbf{(5)}$$

Post-merger margin of combined firm:

$$m_A = (p_A - mc)/p_A = 1/(1-D)\varepsilon \qquad \textbf{(6)}$$

Combining (5) and (6), substituting out for mc and rearranging using (5) yields:

$$\frac{p_A - p}{p} = \frac{Dm}{1 - D - m} \qquad \textbf{(7)}$$

This is an expression for proportionate increase in price following merger, assuming no cost efficiencies.

Example:
Littlewoods and Freemans

Firm	**Market share**	**Margin, %**
GUS	40.6	8.2
Littlewoods	27.9	4.8
Freemans	13.1	4.4
Grattan	10.4	3.8
Empire	8.1	6
Total	100	

Here D=13.1/72.1= 0.182; m=0.044
Hence, from (7), $(p_A-p)/p$ = 0.01

More sophisticated analysis

US approach in Staples/ Office Depot (see Church and Ware, ch 23).

Nevo (RAND J, 2000) on mergers in breakfast cereals in US

Estimated demand relationships and supply behaviour using scanner data on 24 brands, 45 cities, 20 quarters. Then replaces supply relationships with ones assuming firms run combined operations when merged (unilateral)

Results (in part)

	Predicted percent price change		MC % reduction for no change	
	Merger		Merger	
Brand	**Post Nabisco**	**GM Chex**	**Post Nabisco**	**GM Chex**
GM Cheerios	0	1.1	0	3.4
GM Honey Nut Ch	0	0.8	0	2.3
GM Wheaties	0	0.1	0	0.2
GM Total	0	0.2	0	0.4
GM Lucky Charms	0	0.7	0	1.6
GM Trix	0	0.7	0	1.5
GM Raisin Nut	0	0.5	0	0.8
Post Raisin Bran	0.9	0	1.7	0
Post Grape Nuts	1.5	0	2.6	0
Ralston Chex	0	12.2	0	22.1
Nabisco Shredded Wheat	3.1	0	5.1	0

GM/ Ralston unlikely to be beneficial on this basis.

Costs to firm of investigation

PWC report: A tax on mergers? (June 2003)

Attempts to measure cost to business of multi-jurisdictional merger reviews

External costs- costs incurred by advisors

Internal costs- costs of management time etc.

Based on a small sample:

External costs: €1.86m
Internal costs: €0.33m average

Costs incurred highest in the US on average; EU also quite high. Most incurred if merger subject to detailed review. Legal fees the biggest element.
Costs <1% of transaction value.

Note: Many studies have shown that a large proportion of mergers (maybe 50%) do not give rise to the benefits the firms expect. See e.g. Mueller paper.

What about the quality of analysis of the Competition Authorities?

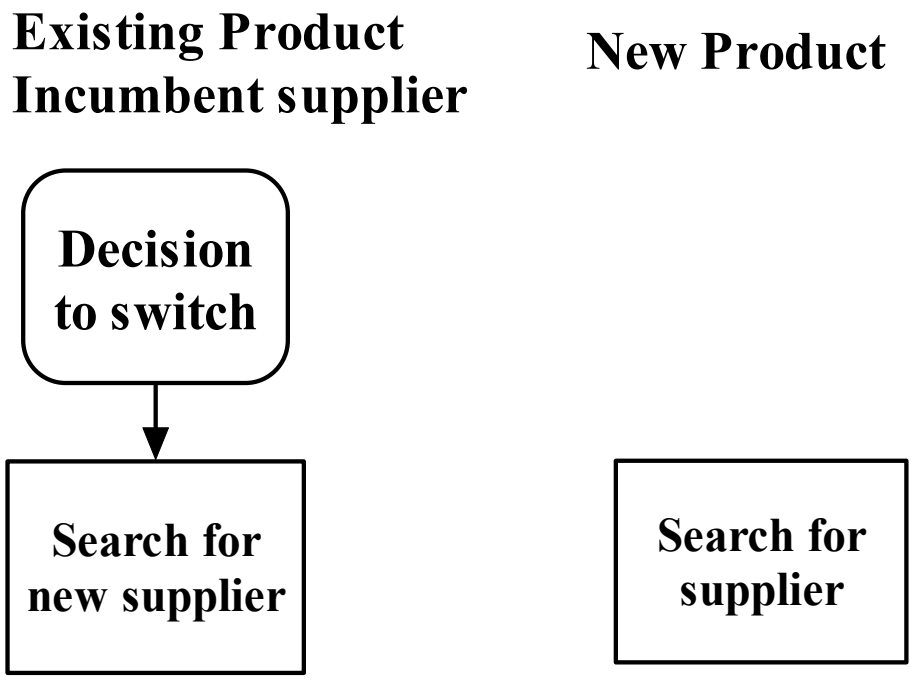
EC 326: Industrial Economics 2: 12th Lecture

Consumers and Competition Policy

Why do consumers have a role to play?

Can policy relating to consumers have an impact?

Example: Domestic Electricity



<u>Two features of consumers</u> which impact directly on competition:

(i) The nature of their search behaviour- how much do they search and how many players do they search amongst.

(ii) How they respond to differences in prices between players in the industry.

<u>Two public policy questions</u>:

(i) Can/ should policy influence search behaviour?

(ii) Is there a policy role for the emphasis of similarities between products?

<u>A paradox about competition</u>:

If everyone thinks the competitive process works well, it doesn't work

Theoretical propositions

P1. Subject to some mild restrictions, if each consumer searches only one firm prior to the purchase decision, the pricing outcome is at the monopoly level, regardless of the number of firms in the market.

(Diamond variant)

P2. The higher the proportion of active searchers ($1-\rho$), all other things equal, the greater the proportion of low cost firms (β). The high cost firms charge monopoly price, the low cost firms charge a breakeven price equal to average cost at their full capacity.

(Carlton and Perloff variant of Salop/Stiglitz)

P2a. With asymmetric search costs, price dispersion can occur in (mixed) equilibrium, but as the proportion of well-informed consumers rises, prices fall. (Stahl)

P3. In markets where consumers' search costs are significant, the monopoly price can be the Nash equilibrium outcome. In some circumstances, this is the more likely, the *larger* the number of firms in the industry.
(Various- prediction regarding numbers differs)

P4. In markets where firms can discriminate between old and new customers, and switching costs are significant, prices are lower in the first (new) period and higher in the second (old) period than if there were no switching costs in the second period.

(Klemperer)

P5. In markets where no discrimination between new and old customers is feasible then, subject to certain parameter configurations, firms' prices are higher with switching costs than in their absence. In steady state, given switching costs, prices increase as turnover of customers falls and as customers become more particular about which product they buy.
(Klemperer)

DTI Survey

Percent switched/ considering switching across markets five year period

Product	Switched	Considered it	Neither
Gas	37	15	48
Electricity	26 (now 36%)	13	61
Fixed-line telecom	11	18	71
Home insurance	30	23	47
Car insurance	53	21	26
Bank current acc.	6	15	79
Mortgage	12	32	56

Source: DTI (2000)

- **Do consumers shop around for important purchases?**

OFT survey results on recent important purchase (2004 report)

Did not shop around	**40%**
Went to a couple of shops	**31%**
Went to a number of shops	**16%**
Shopped around/ did lot of research	**11%**

Competition in Electricity

- **Awareness**
- **Homogeneous product?**
- **Savings to be made**
- **Number of suppliers- no "race to the bottom"**
- **No evidence of rapid convergence in prices**
- **Little evidence of randomised prices (as in many search models)**
- **Consumer perception of high search and switching costs**
- **A potentially competitive market**

Showing the benefits versus costs of keeping price above competitors

Monthly Saving, £	Would switch away	Additional switchers	Gain from raising price	loss from raising price	Net gain from rais price above previ level
1	22				
2	57	35	806	35	771
4	175	118	1376	236	1140
6	325	150	1076	600	476
8	376	51	974	306	668
10	580	204	566	1632	-1066
12	597	17	532	170	362
14	617	20	492	240	252
16	645	28	436	392	44
20	679	34	736	544	192

Role for Policy

Focus on role of keeping consumers informed, enabling them to search suppliers

Some switching/ search costs may be desirable, but if too great, they can impact heavily on competition

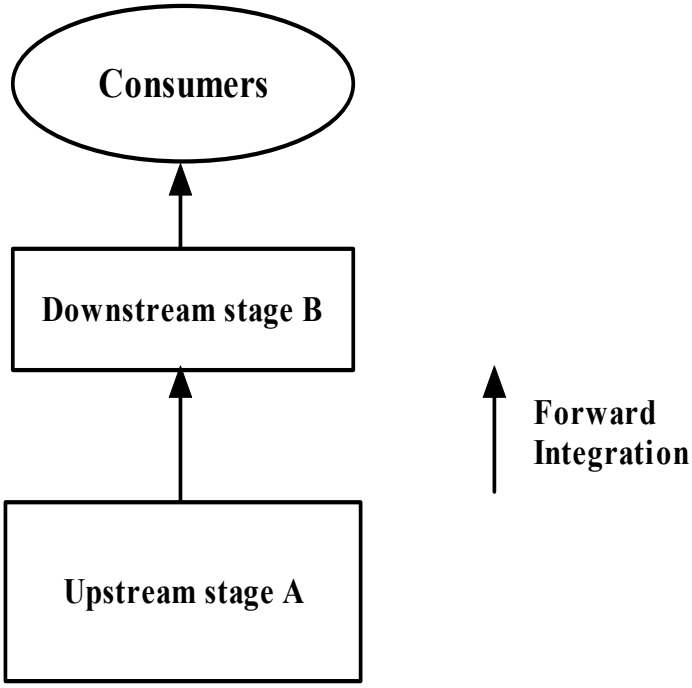
Role of advertising/ internet

Vertical Control I

Vertical Integration- Definitions and Approaches (revision)

Market power issues- Double marginalisation

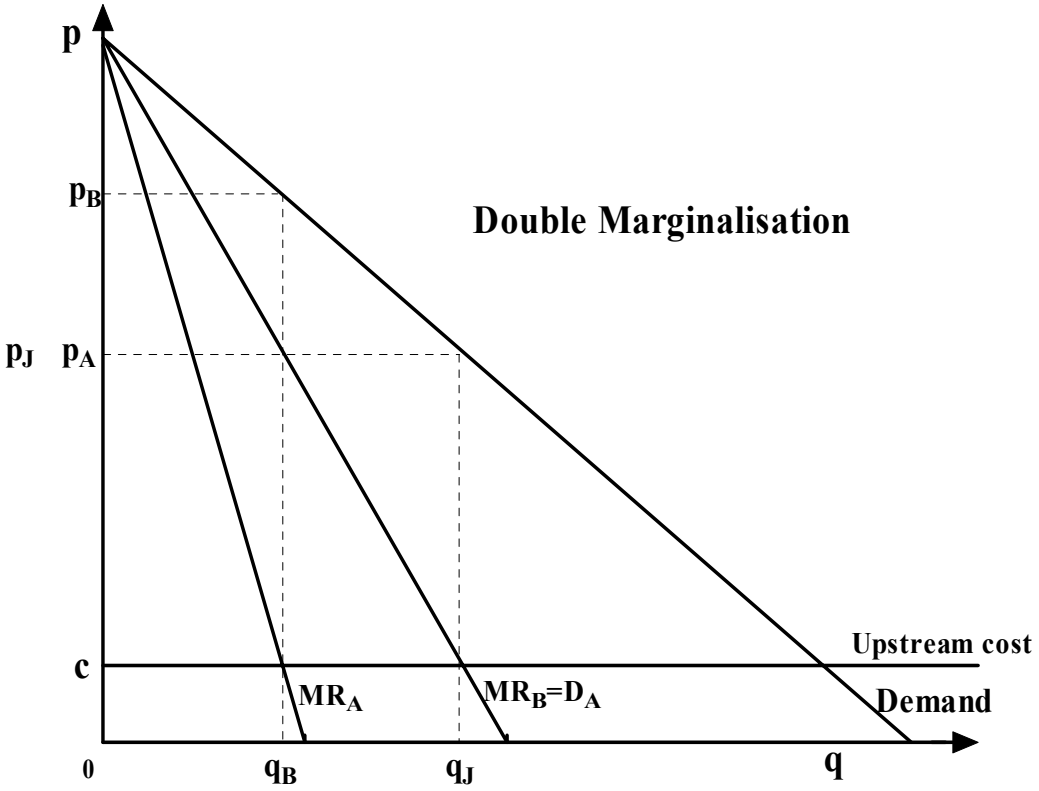
Definitions of Vertical Relationships



Approaches:

Transactions costs/ Contractual rights
Coase; Williamson/ Grossman-Hart-Moore

Market power/ Strategic



$\Pi_B = p_B q_B - p_A q_A$

$MR_B = p_A$

$\Pi_A = MR_B q_A - c q_A$

$MR_A = c$

$\Pi_J = p_B q_B - c q_A$

Incentive to integrate/ engage in non-linear pricing

Numerical example:

$$p_B = 1 - q_B$$

$$\pi_B = (1 - q_B)q_B - p_A q_B$$

$$\frac{\partial \pi_B}{\partial q_B} = 1 - 2q_B - p_A = 0 \Rightarrow p_A = 1 - 2q_B$$

$$q_A = q_B$$

$$\pi_A = (1 - 2q_A)q_A - cq_A$$

$$\frac{\partial \pi_A}{\partial q_A} = 1 - 4q_A - c = 0$$

$$\Rightarrow q_A = q_B = (1 - c)/4$$

$$p_A = (1 + c)/2$$

$$p_B = (3 + c)/4$$

If integrated:

$$q_B = (1 - c)/2$$

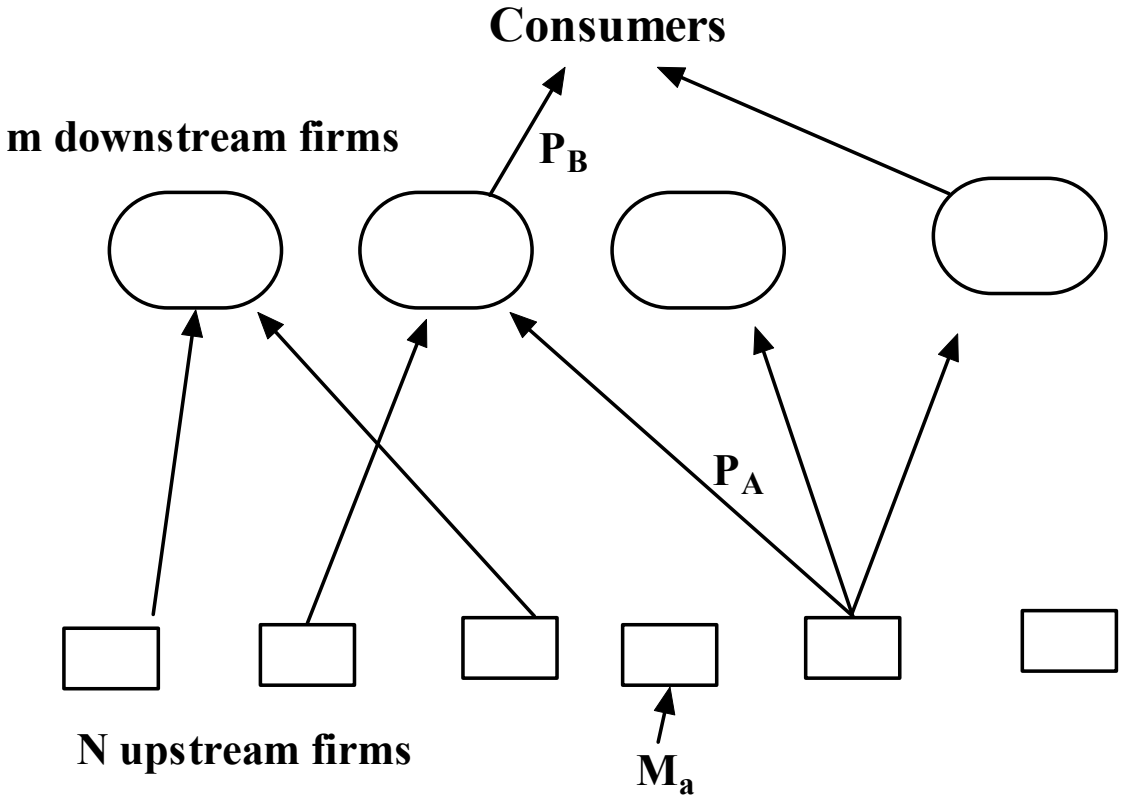
$$p_B = (1 + c)/2$$

Simplified version but contains main issues.

So far, VI a "good thing"

Vertical mergers in oligopoly

(Abiru et al) setup:

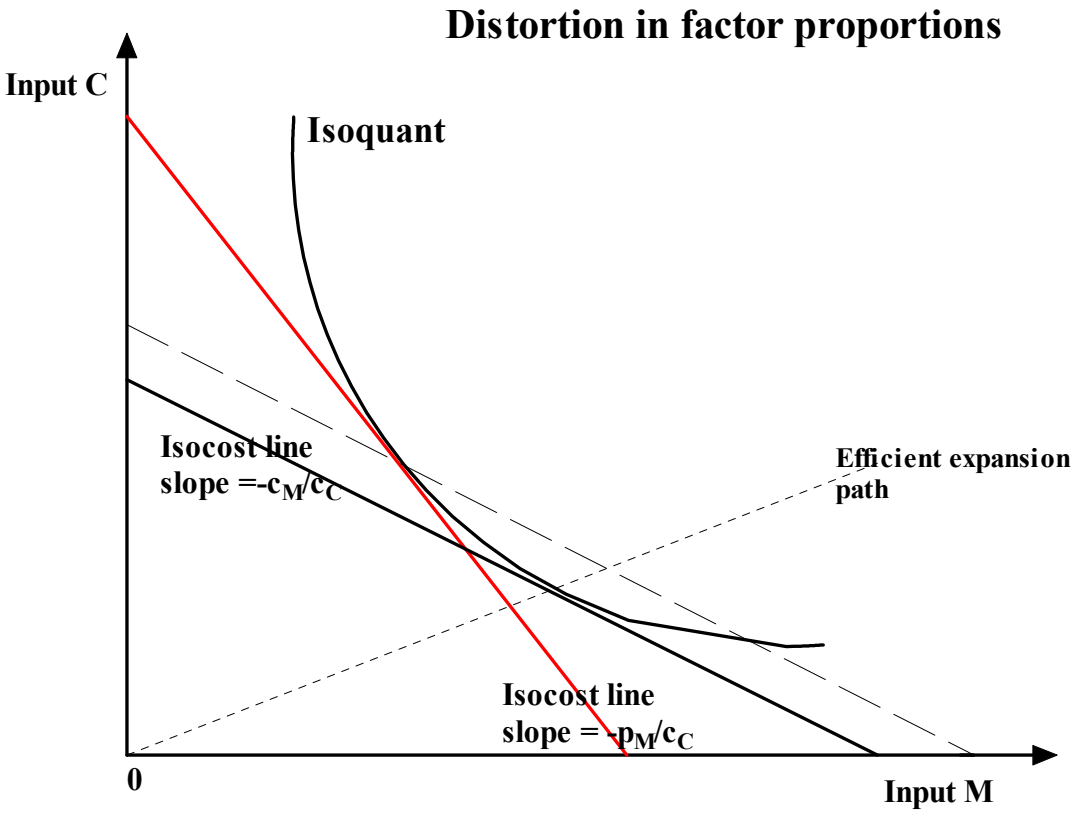


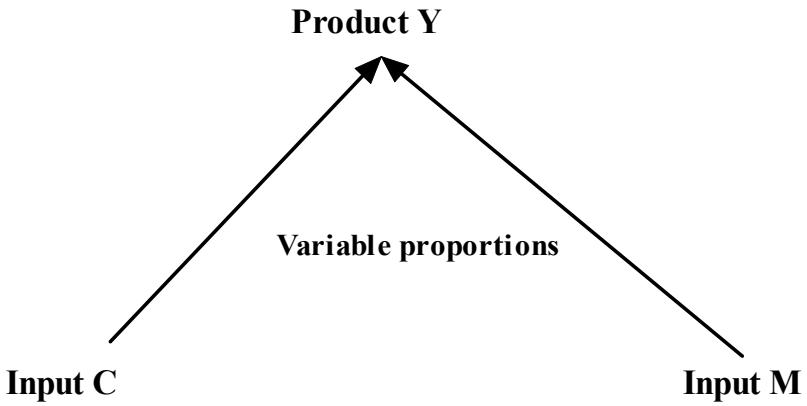
$(N, m) \geq 2$.

Here, a number of possibilities. Firms may or may not want to merge; even if it is collectively profitable.

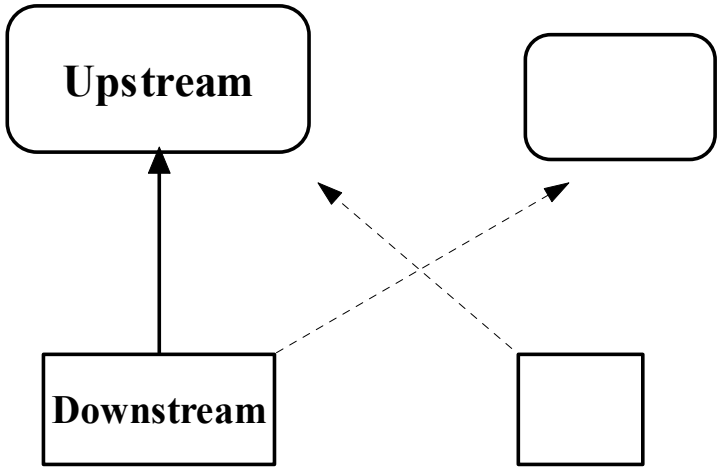
However, all integration that takes place lowers price, so increases welfare, although firm numbers may shrink slightly.

Variable proportions





Extension of monopoly to other areas. May raise prices, through increased power over final price. So a possible concern of policy.
Entry:
Integration can make entry more difficult, by removing possible market outlets.



Argued in the case of Beer, for example (discussed later)

EC326- Industrial Economics 2- 14th Lecture

Vertical Control 2

- **Vertical restraints (introduction)**

Methods of control short of integration

Table - Types of Vertical Restraints

Form	Examples
Non-linear Pricing	Two-part tariff with a franchise fee plus a constant per-unit charge. Aggregated rebate scheme with discounts for taking full product range
Quantity Forcing	A specified minimum quantity the retailer is required to distribute; e.g. beer sales in tenanted public houses
Service Requirements	A specified level of pre- and post-sales service or promotional effort. Using trademarked equipment; e.g. fast-food franchises
Resale Price Maintenance	Retail price fixed by the producer; e.g. the book market. A price floor or price ceiling
Refusal to Supply	Selective distribution limiting the number or distributors; e.g. fine fragrances
Exclusive Distribution	Distributors assigned exclusivity within a geographic area or over a particular class of consumer or goods; e.g. newspaper distribution
Exclusive Dealing	The retailer is prohibited from stocking competing products; e.g. petrol retailing
Tie-in Sales	Distributors contractually required to take other products, or even, with full-line forcing, an entire product range

Back to simple numerical example

1. *Maximum* RPM

Upstream firm sets $\overline{p}_B = (1+c)/2$

Then set p_A at some intermediate value between that and *c*. (bargaining). The downstream firm implements $\overline{p}_B$ **and profit area is shared between the players. Manufacturers often do this by one means or another.**

2. Quantity forcing

Set $\underline{q}_B = (1-c)/2$

Then downstream firm implements this quantity and wholesale price level determines the split of surplus.

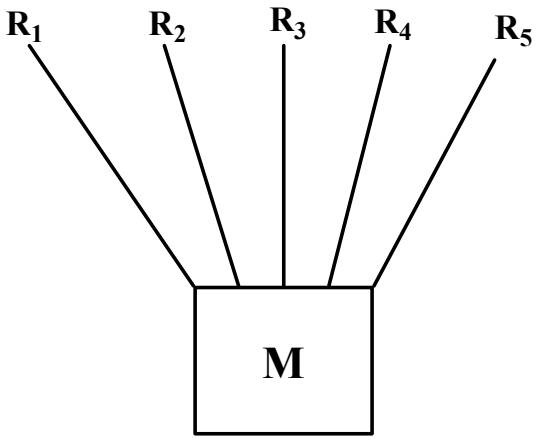
3. Franchise fee

Set a non-linear price for the good, along the lines: $R_A = F + cq_A$
So input transferred at marginal cost and upstream firm makes its profit through the fixed charge levied on B.

4. Service requirements

In cases where these are important, they can be imposed so long as there is enough "headroom" in the max RPM price, or whatever.

These methods can also be used in a "one to many" framework. Here, an "exclusive territory" will often be allocated in order to give an element of profit to the downstream firm that can be used to persuade it to (for example) adhere to particular service levels.



<u>Externalities approach</u> (Mathewson and Winter- discussed last year)

- **Retailers do not gain all of the benefits of an action taken to improve sales; some goes to manufacturer.**

- **Retailers when raising price confer benefits on neighbouring retailers**
- **Each retailer conveys a positive externality on other retailers and on the manufacturer by engaging in promotion of the product such as advertising.**

Vertical restraints, sometimes in combination, can in principle tackle all these "problems".

5. Note that if power resides at the upper level (e.g. supermarkets) then some of the restraints can operate the other way round. Most commonly discussed is *shelf-space charges*. Manufacturer is paid

$$R_A = p_A q_A - S$$

Effectively, the manufacturer is paying part of the retailer's fixed costs.

Another example is retrospective discounts, where manufacturer reduces price once a certain volume sold. Manufacturers also commonly are forced to participate in "two for one" type offers.

Policy:

Horizontal agreements generally amount to some form of collusion and are therefore disallowed.

These *vertical* agreements may well have the effect of reducing prices/ providing a more socially-optimal level of services and therefore should be treated quite differently.

Presumption that vertical agreements that do not contain horizontal elements should be allowed.

How can they contain horizontal elements?- discussed later.

EC326- Industrial Economics 2- 14th Lecture

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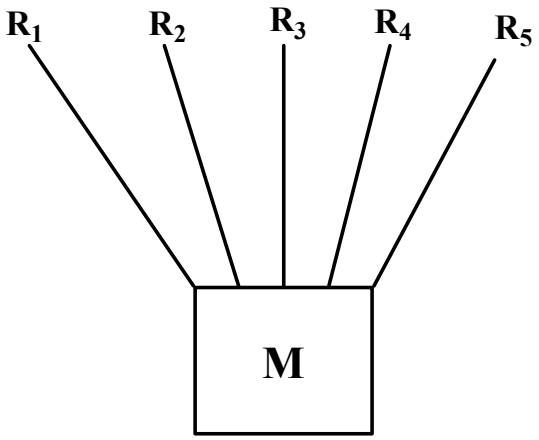
In cases where these are important, they can be imposed so long as there is enough "headroom" in the max RPM price, or whatever.

These methods can also be used in a "one to many" framework. Here, an "exclusive territory" will often be allocated in order to give an element of profit to the downstream firm that can be used to persuade it to (for example) adhere to particular service levels.



<u>Externalities approach</u> (Mathewson and Winter- discussed last year)

- **Retailers do not gain all of the benefits of an action taken to improve sales; some goes to manufacturer.**

- **Retailers when raising price confer benefits on neighbouring retailers**
- **Each retailer conveys a positive externality on other retailers and on the manufacturer by engaging in promotion of the product such as advertising.**

Vertical restraints, sometimes in combination, can in principle tackle all these "problems".

5. Note that if power resides at the upper level (e.g. supermarkets) then some of the restraints can operate the other way round. Most commonly discussed is *shelf-space charges*. Manufacturer is paid

$$R_A = p_A q_A - S$$

Effectively, the manufacturer is paying part of the retailer's fixed costs.

Another example is retrospective discounts, where manufacturer reduces price once a certain volume sold. Manufacturers also commonly are forced to participate in "two for one" type offers.

Policy:

Horizontal agreements generally amount to some form of collusion and are therefore disallowed.

These *vertical* agreements may well have the effect of reducing prices/ providing a more socially-optimal level of services and therefore should be treated quite differently.

Presumption that vertical agreements that do not contain horizontal elements should be allowed.

How can they contain horizontal elements?- discussed later.

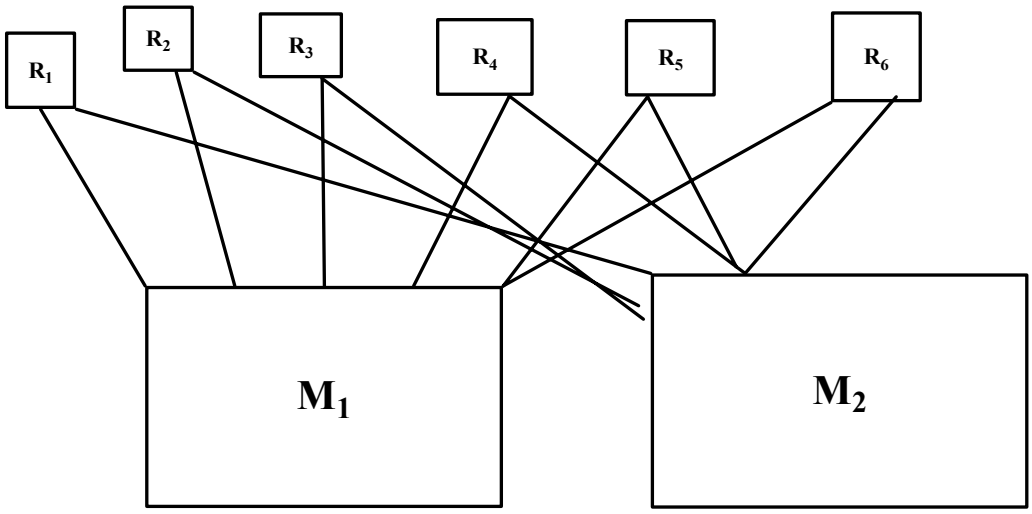
Industrial Economics 2- 15th Lecture

Vertical Control 3

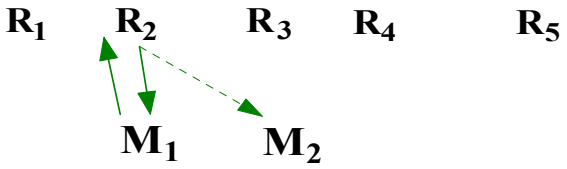
Vertical Restraints with competition effects

- **Intra and inter-brand competition**
- **A two-to-many framework**

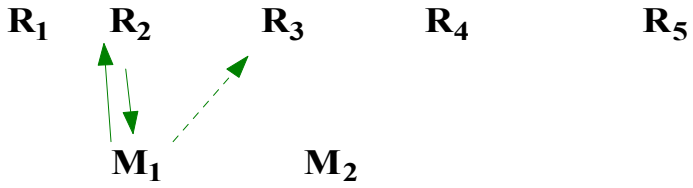
Two to many



Exclusive purchasing agreement



Exclusive distribution agreement



Inter and Intra brand competition- exclusive purchasing reduces interbrand competition, exclusive distribution reduces intrabrand comp.

Territorial protection enhances latter effect.

A "two to many" model

Rey and Stiglitz (RAND 1995)

Notation: Upper case = Upstream values, lower case = downstream.

Final demand : $D^i(p_1, p_2)$; complete symmetry assumed (e.g. $D^1{}_2 = D^2{}_1$)

Benchmark:

1. **Direct producer competition: Max**

$$\Pi_1 = (p_1 - c).D^1(p_1, p_2)$$

$$\frac{p^c - c}{p^c} = 1 \Big/ \varepsilon_1(p^c, p^c)$$

Two-stage games:

1. **No vertical arrangements- intra-brand price competition leads to zero markups in the second (retail) stage, so that $P^c = p^c$.**

2. **Exclusive contract:**

Each retailer has monopolistic power over some fraction, say θ, of the final demand for each

product. As a result, it can charge a markup over input price. This will lead to second-stage retail prices:

$$p_i^E(P_1, P_2)$$

Where

$$\frac{p_1^E - P_1^E}{p_1^E} = \frac{1}{\varepsilon_1}$$

At the first stage, price P_1 is chosen to maximise:

$$\Pi_1 = (P_1 - c).D^1(p_1^E(P_1, P_2), p_2^E(P_1, P_2))$$

And similarly for 2. Thus:

$$D^1 + (P_1 - c)\left[D_1^1 . \frac{dp_1^E}{dP_1} + D_2^1 . \frac{dp_2^E}{dP_1} \right] = 0$$

Hence, after simplification and symmetry:

$$\frac{(P^E - c)}{P^E} = 1 \Big/ \left[\varepsilon_1(p^E, p^E).\rho_1(p^E, p^E) + \varepsilon_2(p^E, p^E).\rho_2(p^E, p^E) \right]$$

Here, ρ_1 and ρ_2 are the elasticities of a given retailer's price to its producer's and the other producer's wholesale prices. We may expect that

$$1 > \rho_1 > \rho_2 > 0$$

3. Tenancy arrangement with fee transfer.

Now the manufacturer wants to set the optimal final price, so maximises:

$$\Pi_1 = (p_1 - c).D^1(p_1(P_1, P_2), p_2(P_1, P_2))$$

Thus:

$$D^1 \frac{dp_1}{dP_1} + (p_1 - c)\left[D_1^1 \frac{dp_1}{dP_1} + D_2^1 \frac{dp_2}{dP_1} \right] = 0$$

Therefore:

$$\frac{p^T - c}{p^T} = \frac{1}{[\varepsilon_1 + \varepsilon_2 . \rho_2 / \rho_1]}$$

Therefore,

$$p^T \succ p^E \succ p^c$$

Double marginalisation raises price above p^T.

Slade on Beer in the UK

$$p^{chain} \approx p^{leased} \succ p^{tenanted} \succ p^{free} ? p^{managed} \succ c$$

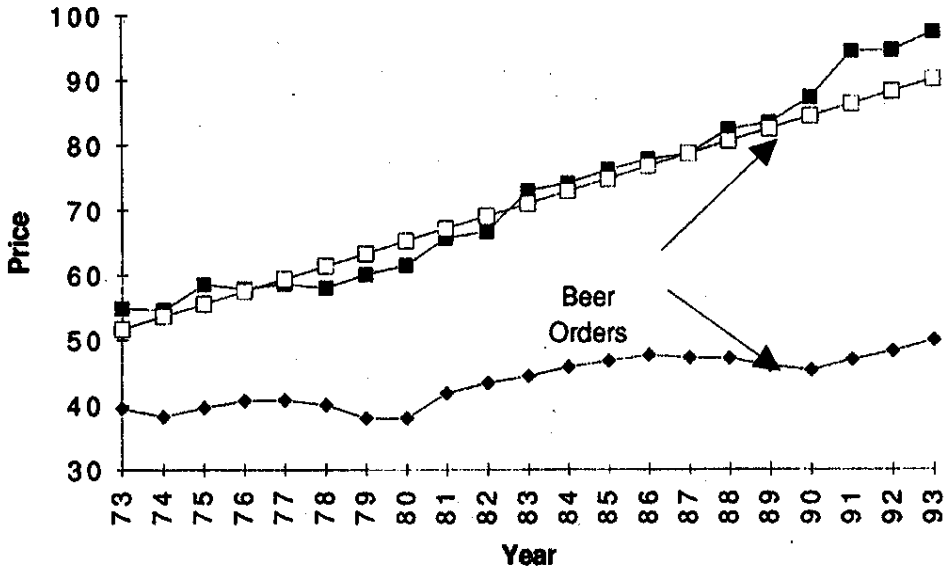


Fig. 1. *Real Draft and Wholesale Prices*

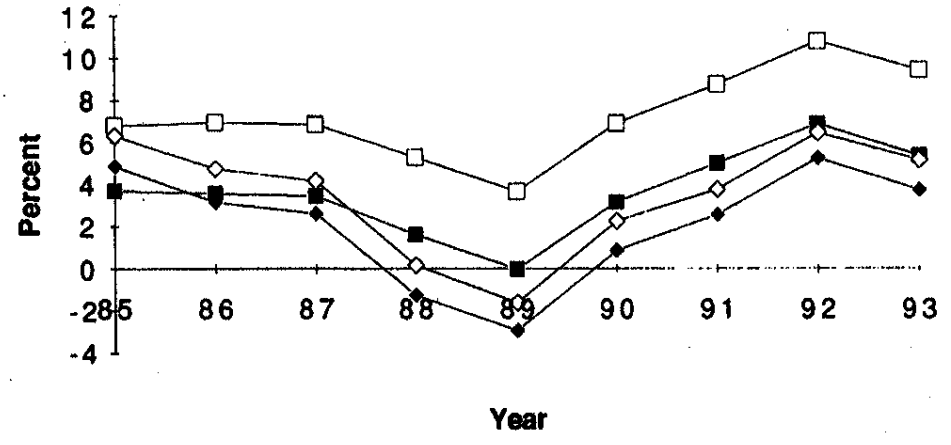


Fig. 2. *Real Profitability Measures*

Author of this section- Peter Lukacs. This is purely a personal view

What does the Office of Fair Trading (OFT) do?

"Making markets work well for consumers"

- Consumer protection
- Market studies – e.g. pharmacies, taxis, store cards
- Mergers – first stage review with reference to Competition Commission
- Competition Act 1998 – came in to force March 2000

OFT competition decisions can be appealed to Competition Appeals Tribunal and thence to court of appeal.

Competition Act 1998

Chapter I (Article 81 EC Treaty)

Horizontal agreements – e.g. cartels
Vertical agreements – e.g. vertical restraints including resale price maintenance

OFT Chapter I cases include Hasbro/Argos/Littlewoods and Replica Football Kit

Chapter II (Article 82 EC Treaty)

Abuse of a dominant position

3 steps in approaching a potential case of abuse of a dominant position

Is the firm dominant?

1. Definition of the relevant market
2. Assessment of the extent of market power including both the strength of existing competition within the market and the presence of entry barriers

Being dominant is not an infringement. Abusing a dominant position is an infringement.

Examples of abuses: excessive pricing; price discrimination; predatory pricing; margin squeeze; discounts; tying or bundling; and refusal to supply.

Abuses can be exploitative or exclusionary – primary but not exclusive focus is on exclusionary abuses

3. Assessment whether the firm actions are anti-competitive

Two potential tests

Is the firm's action profitable but for the exclusionary effect?
Would the firm's action tend to eliminate, or deter entry by, equally efficient competitors?

Napp

Napp produce sustained release morphine, used to have a patent but that expired in 1991. By 2000 still had very large market share >90%. Entry barrier is created by the switching cost.

Two market segments - hospital and community

Elements of abuse – excessively low prices in hospital segment, excessively high prices in community segment.

Very low prices, below direct cost, to the hospital segment.

Very high prices, significantly above cost, and above export price, supplied to the community segment.

Profitable but for exclusionary effect? Hospital prescriptions lead to community prescriptions therefore potentially on balance profitable across both segments, but not if take hospital in isolation

Eliminate as efficient competitors? Switching costs ensured that an equally efficient competitor would need to undercut Napp, so price matching sufficient to deter entry.

American Airlines

Not UK case. A US Department of Justice case. Legal framework is different in US from EC and UK.

American Airlines (AA) is the major airline at Dallas Fort Worth airport. AA runs a hub network connecting flights around the country through Dallas.

Reaction to entry on one route by increasing capacity on that route and cutting fares on that route. Pricing above variable cost for the route as a whole. Court dismissed case.

Department of Justice case based upon profit sacrifice in that the additional capacity was not profitable. Price raised and capacity withdrawn after exit.

Profitable but for exclusionary effect? On the route the prices covered variable costs, the route wasn't necessarily contributing to fixed or common costs, there are additional revenue benefits from interconnecting flights from the hub.

Eliminate as efficient competitors? An equally efficient competitor on that route would not be able to offer the interconnecting benefits that AA could or cover its fixed costs of operation, price matching causes exit and potentially deters entry.

Genzyme

Genzyme make a drug Cerezyme which is used to treat an enzyme deficiency called Gaucher's disease. The drug costs approximately £100,000 per year, only 190 patients in the UK the majority of which are given the drug in home.

Until 2001 Cerezyme distributed exclusively through a homecare service provider. In 2001 Genzyme decided to end the exclusive contract and deliver the drug itself effectively creating a competitor to the existing homecare provider.

Genzyme provided the drug to homecare provider at the price it charged NHS for the delivered drug including homecare.

Two potential abuses: bundling and margin squeeze.

Margin squeeze gives no margin to the homecare provider

Profitable but for exclusionary effect? Depends upon the relative efficiency of Genzyme and its rival homecare service provider.

Eliminate as efficient competitors? An equally efficient competitor at the homecare level could make no money at all due to the margin squeeze, therefore yes.

CAT rejected bundling abuse due to lack of evidence of foreclosure but accepted margin squeeze.

BSkyB

Non-infringement decision by OFT

BSkyB supplies channels e.g Sky Sports and Sky Box Office to other broadcasters such as cable operators and (then) ITV Digital and also supplies direct to consumers through satellite broadcasting.

Three potential abuses considered. Margin squeeze, bundling and discounts.

Margin squeeze: assessed whether downstream distribution company was independently profitable given wholesale prices of sky channels. Difficult to assess as the period coincided with rollout of conversion from analogue to digital. Disco made losses for a short period but quickly returned to profitability. Not enough to show an infringement.

Bundling: Sky charges for packages and for premium channels according to a rate card with a diminishing marginal price per premium channel. This may have the effect of excluding rival premium channels but also potentially efficient form of price discrimination. Is incremental price less than incremental cost? Some evidence of incremental prices below incremental cost for film channels but no evidence of foreclosure.

Further materials

Abuse of Market Power, Speech by John Vickers Chairman of OFT at www.oft.gov.uk

All OFT decisions are also on the OFT website, but note some are long!

Industrial Economics 2

Lecture 19- Vertical restraints case study

Beer

Historically, breweries sold beer through pubs via a landlord-tenant relationship. This involved a "beer tie".

In 1989, the MMC (forerunner to CC) investigated the market. Six brewers accounted for 75% of beer and most pubs tied. Concern about high prices and limited choice. MMC proposed a number of radical changes to relax the vertical arrangements, seeing these as the root of the problem.

These were subsequently modified as a result of the "beer orders" published in 1989 and to take effect by 1992. They required significant divestiture from all 6 brewers. Tables show the picture- a diversity of approaches was tried by the brewers.

Pubcos acquired significant estates, often keeping tied leases (why did OFT allow this?).

TABLE 1

UK Beer Market by Channel of Trade

Per Cent Volume	1	2	3
	Pre-MMC (1985?)	Post-MMC	1994
Tied (managed)	20	18	15
Tied (tenanted)	26	21	9
Tied (loan)	19	20	16
Pub Co. (tied)			7
Pub Co. (managed)			3
Supply agreement	-	9	*
Free	17	11	25
Take Home	18	21	25
Total	100	100	100

TABLE 2

Operation of Retail Outlets

	Number of Pubs		
	1988	**End 1992**	**January 1996**
Owner			
Allied	6678	4339 (tied)	4065
Bass	7190	4595 (tied)	4156
Courage	5002	0 (tied)	0
S & N	2287	1850	2700
Greene King	766	851	900
Mansfield	306	459	468
Marstons	853	890	885
Frederic Robinson	378	378 (approx)	412
Thwaites	379	420	424
Vaux	577	769	700
Wolverhampton & Dudley	750	862	950
Grand Met	6419	1650 (managed, free after 1991)	
IEL		4350 (tied, reducing to 0 in 1998)	4330 (IEL/Phoeni›
Boddingtons	518	475	(taken over by GW below)
Pubmaster	466	2026 (including 734 leased from Allied)	1750
Devenish	332	550	(to GW)
Greenall Whitley	1626	1500	2431
Free Trade	34000 approx.	Unknown	Unknown

:

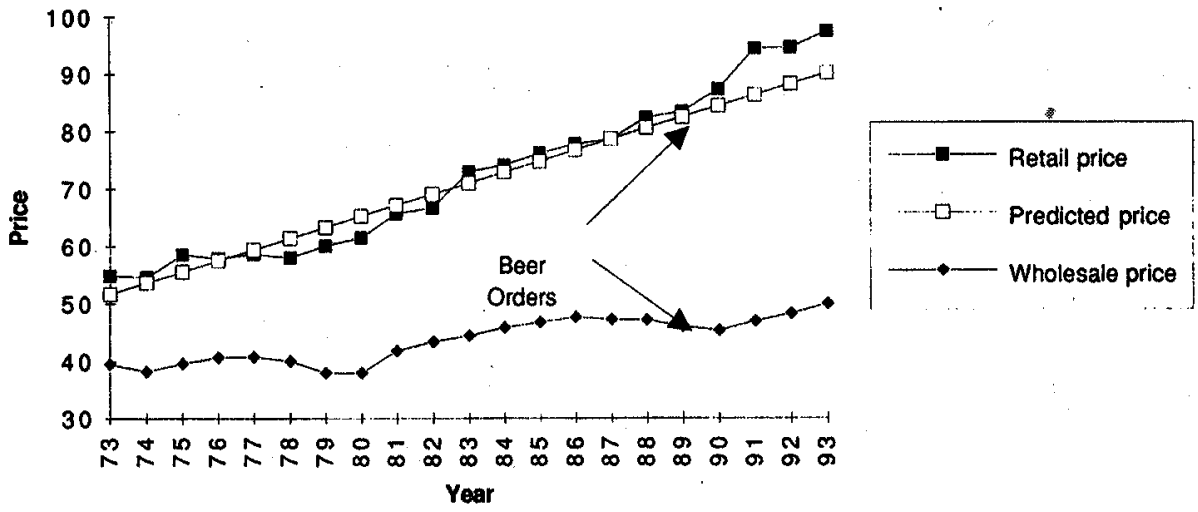
Slade on Beer in the UK (Econ J 1998)

$$p^{chain} \approx p^{leased} \succ p^{tenanted} \succ p^{free} ? p^{managed} \succ c$$

(follows from development of Rey and Stiglitz model, discussed earlier)

She finds this broadly to be true.

The MMC might have taken the view that what they were doing was moving the industry from tenanted to free, thereby reducing price. However, the impact was in practice to move the industry towards the (tied) chain structure, through the set of long term agreements entered into, thereby causing prices to rise.



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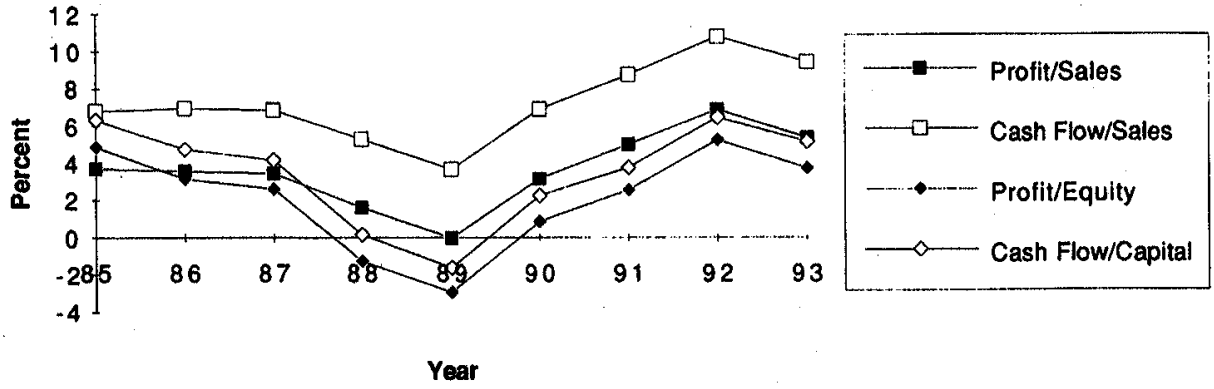

Fig. 2. *Real Profitability Measures*

Commission Decision (16/6/99) relating to Bass

The Commission view the Beer on-trade market as being foreclosed (*Decision*, paragraph 144). They see Bass's tied sales as contributing significantly to the foreclosure (their tied sales being 18% and their total sales 24% of the on-trade market) and the exclusive purchasing obligations and non-competition obligations in their tenancy agreements as having a restrictive effect on competition (155). They conclude that these have fallen foul of Article 81(1) since 1991 (164). The standard leases do not qualify for block exemption under 81(3) (167), because they contain some disallowed clauses.

Nevertheless:
The Commission has granted individual exemption to Bass from the provisions of Article 81 in respect of its agreements with tenants (retrospectively) from March 1991 to December 2002.
Individual exemption is allowed if there are significant benefits thereby obtained in distributing the product. The Commission view beer supply agreements as having the potential to lead to such improvements in distribution (168).

Logically, however, the benefits will not materialise if the typical tenant is forced into unfavourable terms of business so as to be placed at a competitive disadvantage. It is clear that tenants pay more than free market prices for their beer, which does place them at a disadvantage. Free market outlets receive a price discount of 20-25%.

However, tied tenants receive inducements as a result of signing a tenancy agreement.

Thus the question turns on whether the inducements suffice to place the tenant on a "level playing field" (176). The Commission engages in a quantification of these benefits (such as subsidised rent, discounts on other goods, and promotional assistance). They concluded that on average "the price differential is more than compensated by quantifiable countervailing benefits" (186) (I disagree).

Crehan and the "beer tie"

May 2004- Court of Appeal awarded damages of £131,336 to Crehan, a publican, after 11 years of litigation. This is the first time a UK court awarded damages in a competition claim.

The beer tie agreement between Crehan and Inntrepreneur (a pub chain) was held to breach Article 81. The lease obliged Crehan to buy "specified beers" from Courage at their list price. Inntrepreneur was not covered by a "block exemption" and had been refused individual exemption from Article 81. There were insufficient offsetting benefits for it to qualify.

Case may be appealed to House of Lords.

(NB The law has now changed, but still a problem for pubcos).