7. Mergers and Acquisitions

"Whether one looks at the texts of the antitrust statutes, the legislative intent behind them, or the requirements of proper judicial behaviour ... the case is overwhelming for judicial adherence to the single goal of consumer welfare in the interpretation of the antitrust laws. Only that goal is consistent with congressional intent, and equally important, only that goal permits courts to behave responsibly and to achieve the virtues appropriate to law." — Robert Bork, *The Antitrust Paradox*, 1978.

How can cooperation among rivals by merging harm competition?

7.1 Types of Mergers

7.1.1 Horizontal Mergers

Mergers in which rivals in the same market merge.

Not all horizontal mergers harm competition.

But since the result is to reduce the number of rivals, the potential to harm competition is clear.

But mergers involve the integration of the firms' facilities, → the possibility of reduced costs, which may offset the increased concentration in the market to some extent.

∴ In the U.S. mergers are categorised as "rule of reason", not "per se" offences.

7.1.2 Vertical Mergers

Mergers between two firms with potential or actual buyer–seller relationships.

7.1.3 Conglomerate Mergers

All others — neither horizontal nor vertical.

The U.S. FTC subdivides them into:

- *product extension*, occurs when firms merge who sell non-competing products but use related marketing channels or production processes.

e.g. Pepsico's purchase of Pizza Hut.

- *marketing/geographical extension*, the joining of two firms selling the same product but in separate geographical markets.
- *pure conglomerate merger*, between firms with no obvious relationships of any kind.

The most obvious way for conglomerate mergers potentially to harm competition is through agreements to remove potential competitors.

e.g. the government's claim in the Proctor & Gamble–Chlorox merger: P&G alleged to have been eliminated as a potential entrant into the bleach market when it acquired Chlorox.

So horizontal and conglomerate mergers similar: elimination of rivals (actual or potential).

Vertical mergers less obvious threats: e.g. merger of an iron-ore supplier and a steel manufacturer does not change the number of competitors in either market.

But such a merger may "foreclose" markets to rivals: rival ore suppliers no longer have the purchased steel manufacturer as a potential buyer: may harm competition.

7.2 U.S. History and the Law

Five major merger waves, followed by changes in the U.S. law.

7.2.1 Merger for Monopoly

In 1890–1904 the conversion of 71 important oligopolistic or near-competitive industries into near-monopolies.

From 200 iron and steel makers to 20 in the 1880s; then 12 → J.P. Morgan's U.S. Steel in 1901.

Result: 65% of the market and a sharp rise in price, and $62.5 m to Morgan.

Other mergers formed: G.E., American Can, DuPont, Kodak, American Tobacco.

The 1890 Sherman Act did not contain specific antitrust provisions, but combinations in restraint of trade, and monopolisation.

Successfully used to block the merger of two railroads (Northern Pacific and Great Northern) and to break up S.O. and American Tobacco.

The 1914 Clayton Act attempted to prohibit mergers which substantially lessened competition between the two firms or restrained commerce or tend to create a monopoly.

But a loophole: by purchasing a rival's assets, mergers could escape the reach of the Clayton Act.

7.2.2 Mergers to Oligopoly

In 1916–1929, the laws began to bit.

Bethlehem Steel formed as the number two from several smaller firms.

Ended with the Great Depression.

7.2.3 The Third Wave 1945–1968

In 1950 the Clayton Act was amended so that acquisition of the whole or part of the assets of another firm which might substantially lessen competition or tend to create a monopoly was outlawed.

The proportion of horizontal mergers fell from 37% to 19%, and of vertical mergers from 13% to 8%. Conglomerate mergers have risen proportionately.

7.2.4 The 1980s

Included Philip Morris' purchase of Kraft, Kodak's purchase of Sterling Drug, Campeau's purchase of Federal Department Stores, and the leveraged buyout (LBO) of RJR-Nabisco by KKR.

Although LBOs have attracted much attention, they do not appear to represent antitrust issues, unless units of the acquired company are sold to rivals.

After the stock-market crash of October 1987 and the excesses which followed, as central banks eased liquidity to prevent strong adverse impacts on the real economy, this phase ended.

7.2.5 The 1990s

At least in the U.S., 1997 has seen a rapid growth in mergers, predicted to be worth up to US$90 billion in financial institutions alone.

The Mercer Management Consulting group was reported (*AFR*, p. 29, 27–28/9/97) as finding that

- almost half the 1990s mergers are failing to create shareholder wealth;
- more than the '80s mergers, they are likely to promote the acquirer's core strategies (suggesting vertical or horizontal mergers); and
- they involve higher share-price premiums.

The first wave the largest proportionately.

7.3 Reasons for Mergers

Not all mergers occur for anti-competitive reasons or to gain economies.

7.3.1 Monopoly

The nineteenth-century wave of mergers are not possible with today's laws, but mergers leading to lesser degrees of market power still possible.

7.3.2 Economies

Combining two firms may produce cost savings, or economies:

- pecuniary saving, buying goods or services more cheaply, perhaps through greater bargaining strength. Merely redistribution of income.
- real economies, true resource savings because of increased specialisation or economies of scale (EOS) or economies of scope. (Lecture 2-16,20) Can be production or marketing or finance or R&D etc. Socially beneficial.

7.3.3 Other Motives

Financial, distress, retirement, income-tax advantages, diversification, empire-building.

7.3.4 Reducing Management Inefficiencies

By replacing an inefficient management with an efficient management, savings may occur.

Conflict between managers' goals (profits, salaries, security, underlings, perks, size) and shareholders' interests (profits, net worth).

The principal–agent problem is another example of asymmetry of information: the managers know more about the firm, but the owners may not have enough information to accurately monitor managers' decisions.

Perhaps an important reason for the large number of acquisitions in the 1980s:

Large cash flows in excess of the funds required for investment projects with positive NPV led to the need to reduce investments in exploration and development (otherwise negative NPV), but management did not want reductions in these activities, or large dividend payouts, since these would reduce the size of the company.

Management's negative-NPV investments reduced the net worth the company, which was then ripe for purchase $\rightarrow$ large gains in shareholder wealth.

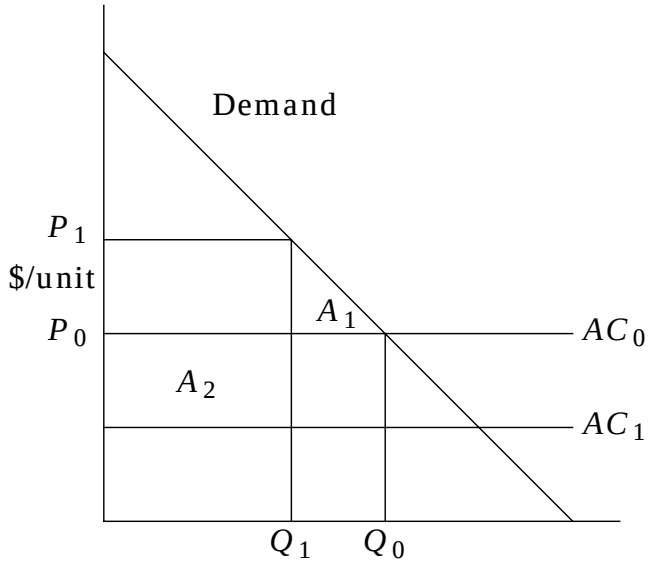
Examples: Gulf/Chevron, Getty/Texaco, DuPont/Conoco

7.4 Horizontal Mergers

The clearest case of possible anti-competitive effects: numbers of rivals fall and possible market power.

But integration of two firms can result in socially beneficial cost savings.

7.4.1 Benefits and Costs



The merger reduces the average costs from AC_0 to AC_1, but the increased market power results in a rise of price from P_0 to P_1.

The merger (and exercise of market power) results in a deadweight loss (DWL) (Lecture 1-31) equal to area A_1.

The merger (and the subsequent real economies) result in a cost saving of area A_2 of producing Q_1 at the lower average cost.

A relatively small % cost reduction will offset a relatively large ΔP, so making society indifferent to the merger (at least on efficiency grounds).

$\frac{\Delta P}{P}$%	η			
	3	2	1	½
5	0.44	0.27	0.13	0.06
10	2.00	1.21	0.55	0.26
20	10.38	5.76	2.40	0.95

Percentage Cost Reductions Sufficient to Offset Percentage Price Increases

So if a merger is expected to increase P by 20%, a cost reduction of only 2.4% will offset the DWL, with unitary price elasticity of demand (η =1).

Market power together with cost savings may not be typical of mergers. The numbers may not be easily calculated.

And firms' incentives would be to overstate the future savings from the proposed merger.

"Not only is the measurement of efficiency ... an intractable subject for litigation; but an estimate of a challenged merger's cost savings could not be utilized in determining the total economic effect of the merger unless an estimate was also made of the monopoly costs of the merger—and we simply do not know enough about the effects of marginal increases in the concentration ratio ... to predict the price effects." — Richard Posner *Antitrust Law: An Economic Perspective* (1976).

But Williamson has argued:

- at a minimum, courts should explicitly recognise the merits of an economies defence in principle;
- sensitivity to economies in antitrust policy formulation is very important, and should be pursued, even if the specific trade-off apparatus is not available.

7.4.1.1 Preexisting Market Power

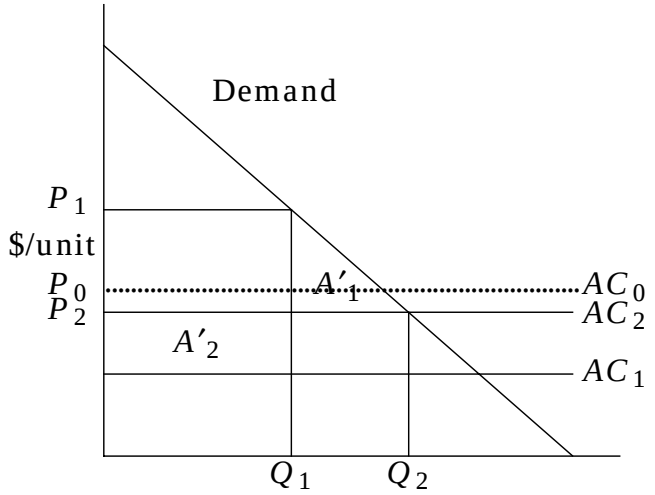
If $P > AC$ premerger, and not $P = AC$ as in the diagram, then somewhat greater economies are necessary to offset the welfare losses of a post-merger P increase.

7.4.1.2 Timing

What if the economies could be realised through internal expansion and growth?

So blocking the merger will merely delay the cost savings, especially if the market is growing.

That is, the areas A_1 and A_2 in the figure above are no longer to be viewed as constants.



AC_2 is the average cost that would occur after two years without the merger, through internal expansion.

Comparing the two areas A'_1 with A_1 and A'_2 with A_2, we see that benefits are falling and costs growing over time.

Perhaps use an NPV of costs and benefits.

Assumed that competition without merger sufficient to keep P = (falling) AC.

7.4.1.3 Industry-Wide Effects

The economies from the merger are limited to the two combining firms, but the market-power effects may lead to price increases by other firms as well. Hence the DWL costs may be understated.

How might other firms in the industry react to a merger? Two cases:

- merger → efficiencies only; likely to be opposed by rivals; their share prices down?
- merger → market-power effects only; likely to be welcomed by rivals; their share prices up?

7.4.1.4 Technological Progress

If the merger is likely to affect R&D and technological progress, then this should be included in any analysis.

7.4.1.5 Income Distribution

Any transfers from consumers to the firm with market power are irrelevant in efficiency terms, but may have political impact.

7.4.2 Cases

The U.S. (and Australian) have not followed Williamson's cost-benefit analysis framework.

7.4.2.1 The Brown Shoe Case of 1962

Brown, fourth largest manufacturer with 4% of the market and Kinney, twelfth largest, with ½% share. both also shoe retailers.

Both also retailers: Brown 2.1%, Kinney 1.6%.

Consider only the horizontal dimensions here.

Market definition? Total retail shoes sold in the U.S. or separate cities' men's and women's shoe markets?

The court decided in favour of the narrower markets: men's, women's, and children's shoes.

The court decided on a definition of a narrower geographical basis too: cities above 10,000 in which both companies sold shoes at retail level.

In 118 separate cities, the combined share of one of the three product lines exceeded 5%. The court feared opening the floodgates to further mergers and said no.

Possible economies? Although the court acknowledged the possibility of cost savings, not as important as maintaining a decentralised industry.

Why?

- measurement problems?
- protection of small, inefficient retailers?
- economic efficiency only one of several objectives of the U.S. law?

7.4.2.2 Tin cans & glass bottles; aluminium & copper cables

The first relevant market: tin cans and glass bottles combined; the firms had 22% and 3% shares, found to be too high.

The second relevant market: aluminium cable; the firms had 27.8% and 1.3% shares, again too high.

In one case, tin cans and glass bottles considered close substitutes; but in the other case, aluminium and copper cable were not considered substitutes.

7.4.2.3 Von's supermarket chain, 1966

Von's, third largest grocery chain in L.A., acquired the sixth largest chain, Shopping Bag Food Stores; together, second largest (to Safeway), with 7.5%.

But illegal.

Again, to prevent economic concentration and to maintain a large number of small competitors in business.

7.4.2.4 Coal

Should the market be defined as coal production or uncommitted coal reserves?

The court ruled that market shares based on coal reserves were not significant enough to block the merger.

7.4.3 1992 Merger Guidelines — DoJ and FTC

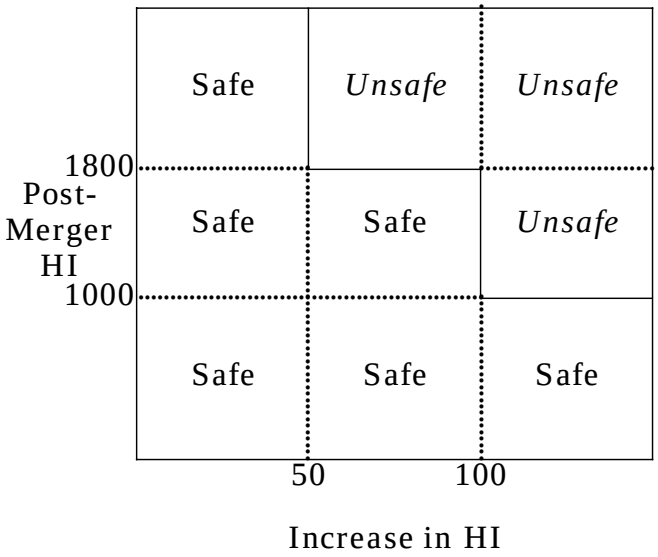
Defining the market:

- Contains all suppliers who would need to be part of a hypothetical cartel such that the price in the location could be raised by, say, 5% indefinitely.

  The % price increase precedes market boundaries.

  A higher % (say 10%) widens the market and so permits more mergers to succeed.

- Uses the HI (Herfindahl Index, aka HHI = Hirschman-Herfindahl Index), which measures shares as well as numbers of firms (Lecture 3-15).



In 1986 Coca-Cola wanted to merger with Dr Pepper, but the merger would have increased the HI for the carbonated soft-drink industry by 341 to 2646. ∴ illegal.

What of efficiencies? (EOS, better integration of production facilities, plant specialisation, lower transport costs, plus possibly selling, administrative, and overhead expenses)

But not if the economies could be achieved by other means.

7.5 Conglomerate Mergers

7.5.1 Potential Benefits

ITT, in 1960 a large manufacturer of telecommunications equipment and an operator of telephone systems, then diversified through mergers.

Bought Hartford Fire Insurance, Continental Baking, Sheraton Hotels, Avis Rent-A-Car, Canteen vending machines, and 100 more. In 1980 the 13th largest industrial firm in the U.S.[1]

Socially beneficial or harmful?

Difficult to generalise: many internal organisational structures, but certain structures are superior to capital markets in allocating investment funds: *miniature capital markets*.

Rationale is that the informational asymmetries are reduced and the top management also has power to change the division's operations.

1. In 1997, to fend off a $8.3-billion hostile bid by Hilton Hotels, ITT proposed on July 16 to split into three companies: a telephone directories company; an education services company; and ITT Destinations, which would include the Sheraton and Caesars brands that Hilton covets. A federal court judge in Nevada on Monday, Sept. 29, granted Hilton's request to block the proposed, three-way break-up of ITT, ruling the matter must be put before a shareholder vote.

Not always so: BHP's merger with Magma Copper.

Moreover, although the threat of horizontal or vertical mergers may be reduced by antitrust laws, conglomerate mergers, or their threat, can produce the incentives for management to perform, lest the firm be taken over and more efficient management introduced.

7.5.2 Anti-Competitive Effects and Cases

7.5.2.1 Reciprocal Dealing

When one firm buys from a supplier only on condition that the supplier buys from the first firm.

e.g. Consolidated Foods tried to get its suppliers to buy their onion and garlic needs from its newly acquired Gentry division.

Some argue that reciprocity may inhibit competitive pricing, others that it can invigorate competition.

7.5.2.2 Predatory Pricing

See Lecture 6-27. Not confined to Conglomerate Mergers.

7.5.2.3 Eliminating Potential Competition

How to distinguish between an actual and a potential competitor?

The U.S. Guidelines define *actual competitors* as firms that can easily and economically use existing production and distribution facilities to produce and sell the product with twelve months in response to a non-transitory price rise.

Potential competitors, however, are those that must built significant new production or distribution facilities in order to make and sell the product.

P&G in 1967 acquired Chlorox, the leading manufacturer of household bleach, with 49% of the U.S. market. But illegal:

- the merger eliminated P&G as a potential competitor
- evidence clearly showed that P&G was the most likely entrant — vigorously diversifying into product lines related to soaps and detergents
- bleach a natural complement: same customers, channels, advertising, merchandising
- indeed P&G had considered entering, but had bought Chlorox instead: a more commanding market share

- P&G as a potential entrant exercised considerable effect on the market:
  - — the behaviour of the liquid bleach market was influenced by each firm's predictions of the market behaviour of its actual and potential rivals (including P&G)
  - — no significant barriers to entry for P&G, hence no reason to believe that P&G would have had to charge above the *P* that would maximise the profits of the incumbents
  - — few other potential entrants against Chlorox

Authorities would have preferred a more pro-competitive alternative:

- new entry, or
- a so-called "toe-hold" acquisition of a small rival

Several Guidelines criteria before a potential competition merger will be challenged:

1. the HI > 1800
2. difficult entry
3. the eliminated potential rival must have been one of the top three firms with comparable advantages in entering
4. the acquired firm's share > 5%

7.6 Vertical Mergers and Restrictions

Vertical restrictions include:

- excluding rivals from selling to customer-firms that one owns or controls through merger (*foreclosure*);
- requiring customers to buy other products with the ones they want (*tying*)

What are the possible benefits and costs of vertical mergers, which link firms in buyer–seller relationships?

7.6.1 Benefits

Vertical integration—through internal growth or merger—may produce the efficient organisational form.

Related to the "make or buy" decision of the firm (Lecture 2-11).

e.g. Ford's decision to acquire spark-plug manufacturer Autolite in order to make spark plugs in-house, instead of buying them on the market.

7.6.1.1 Technological Economies

e.g. Integration of iron-making and steel-making — don't have to reheat the iron before transforming it to steel.

7.6.1.2 Reducing Transaction Costs

Transaction costs: the costs of using the market:

- search costs, contract negotiation costs
- the cost of reduced flexibility: in-house more flexible than long-term contract in the light of: technical advances, changes in demand.
- but pro-market are the high costs of in-house coordination and management; and the lower *AC* that may come from EOS for manufacturers selling in the market: the in-house demand may be too small for EOS.

e.g. Consider a pharmaceutical company, Pfizer. Why is it vertically integrated into R&D, manufacturing, and marketing of new drugs?

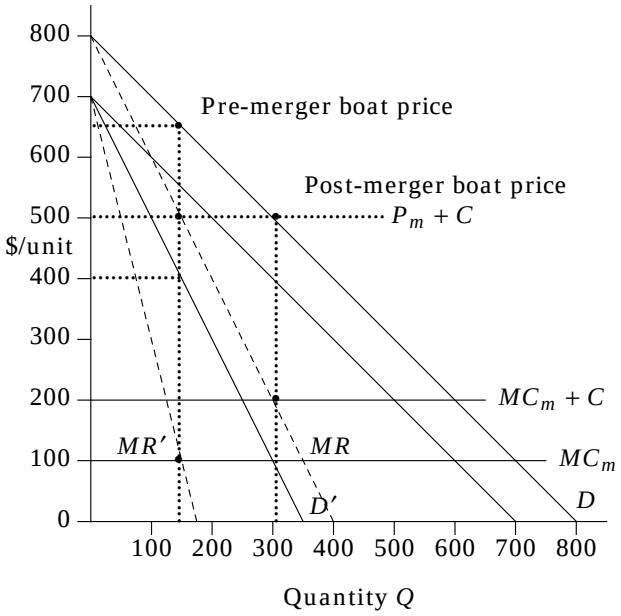
- in principle, could contract with an independent lab for R&D
- but great uncertainty: a large risk premium, with contingencies negotiated for partial success and any unanticipated adverse side effects.
- or a "cost-plus" contract, in which Pfizer bears the risk, but a poor incentive for keeping costs down (a principal–agent problem, see p. 7-8 above).

7.6.1.3 Eliminating Successive Monopolies

Eliminating successive monopolies, or dissolving bilateral bargaining stalemates: merging can be shown to be socially preferable to the "double" monopolies", even if the merged firm is a monopoly.

Assume that an "upstream" motor monopolist sells to a "downstream" boat monopolist.

Each boat requires exactly one motor and C dollars worth of other inputs: fixed proportions production. ∴ let Q refer to the number of boats and the number of motors.



Assume that the boat monopolist has no monopsony power — accepts whatever price is set for the motor.

(The opposite — the boat monopolist does have monopsony power — is the case of bilateral monopoly.)

How to determine the pre-merger derived demand for motors, $D'D'$:

- the boat monopolist maximises profit by setting $MR = MC = P_m + C$, where P_m is the price of a motor; so the derived demand for motors D':

$$P_m = MR - C$$

- The derived demand for motors D' is the MR minus the conversion cost C (= \$100).
- The boatbuilder's input demand $D'D'$ is the motormaker's product demand curve: the motormaker sets its MR' = its MC = \$100, to find its Q^* = 140 and P_m = \$400.
- The boatbuilder's MR = \$400 + \$100 = \$500, at Q^* = 140 and P_b = \$650, pre-merger.

If the two firms merged, the integrated firm would maximise profit by setting $MR = MC' = MC_m + C$ = \$200, at Q^* = 300 at P^* = \$500, post-merger.

∴ Consumers clearly gain (lower price, more sales), but total profit is also higher, by the triangle: all gain.

7.6.2 Anti-Competitive Effects

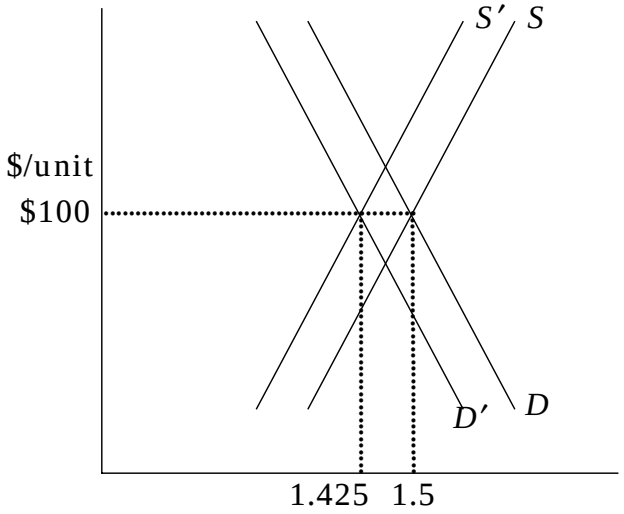
7.6.2.1 Foreclosure with No Market Power

In Brown Shoe: "the diminution of the vigour of competition which may stem from a vertical arrangement results mainly from a foreclosure of a share of the market otherwise open to competitors".

But for foreclosure to create anti-competitive problems, one or both levels must have some market power.

- If neither side does, then vertical acquisitions are a method of non-price competition, since suppliers could secure markets by this method.
- This might hurt rivals slow to integrate.

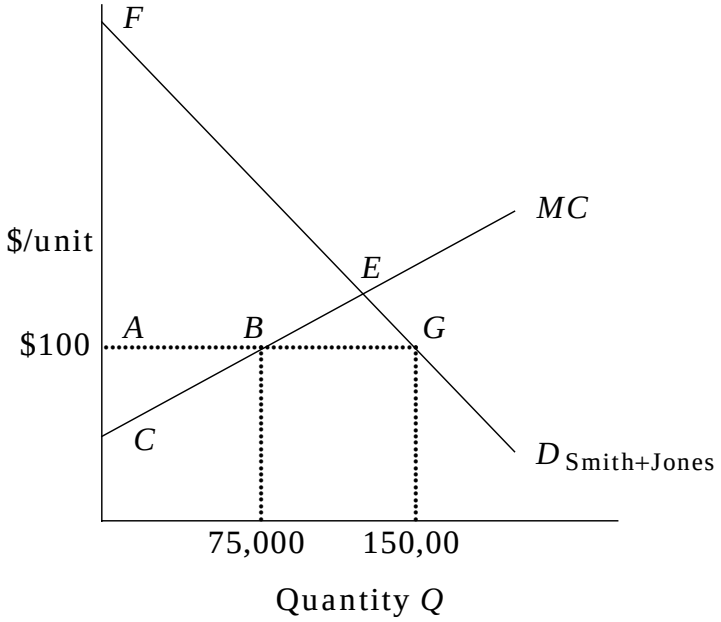
But foreclosure to increase market share may be costly:



Twenty equal-sized cement suppliers sell to twenty equal-sized ready-mixed concrete firms, at market-clearing price of \$100, and Q = 1.5 m t.

If Ace Cement acquires Jones Ready-Mixed Concrete, then the competitive price is unchanged, and the foreclosure of Jones as a buyer has not hurt the remaining cement suppliers.

But if Ace buys two sellers, Jones and Smith, increasing its ready-mix market at the expense of other cement suppliers, then P is higher and total post-merger profits are less than the three firms' pre-merger profits.



If Ace's strategy is to withdraw all of the purchases of Jones and Smith from the market, then the maximum profit can be obtained at point E, where D_{JS} and MC intersect: at a $P > \$100$.

TR = the area under the demand curve, and TVC = the area under MC;
$\therefore \Pi$ = area FEC.

But before the vertical acquisition, the sum of the three profits (Ace, Smith, Jones) was larger than FEC by the area EGB: at $P = \$100$, Π_{Ace} = area ABC, and $\Pi_{Smith+Jones}$ = area FGA.

But the cost (in terms of profits lost) is not a consequence of vertical acquisition: if the three divisions used the pre-merger P of \$100/t as an internal transfer price, then same outcome as pre-merger exchange.

If Ace bought all twenty buyers, then the real problem would be horizontal monopoly, not the vertical "foreclosure", however clear.

7.6.2.2 Foreclosure with Market Power at One or Both Levels

What if the supplier side is relatively concentrated?

Assume four equal-sized suppliers, two of whom are vertically integrated. A vertical merger would now reduce the "open" sector to only 25%.

Claimed that competition is harmed because of heightened entry barriers.

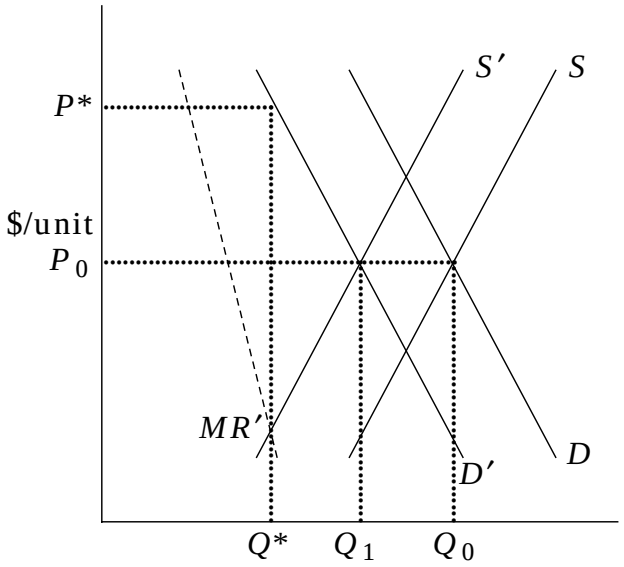
A potential entrant at the supply level faces a market of only half the previous size. EOS may cause entry problems (see Lecture 6-11), and if the entrant chooses to enter both levels at once, capital requirements will be greater and may delay or forestall entry.

More capital is not in itself a barrier to entry to the primary market, given their availability at a cost commensurate with the level of risk in the secondary market.

"In some cases, however, lenders may doubt that would-be entrants to the primary market have the necessary skills and knowledge to succeed in the secondary market and, therefore, in the primary market." — Merger Guidelines (p. 17)

In which case, lenders may charge a higher rate of the necessary capital.

7.6.2.2.1 Raising Rivals' Costs



The demand D and supply S curves of an input of the Hi-Tec Co. intersect at P_0 and Q_0, the competitive equilibrium, and Hi-Tec and its rivals pay equal input prices P_0.

Assume that Hi-Tec merges with an input supplier. Now it transfers its input needs internally at P_0, the input's MC.

If the input market remains competitive post-merger, the P remains P_0, although the quantity traded falls to Q_1

But if the input supplier market structure is altered by the loss of Hi-Tec's merger partner, then the remaining sellers in the more highly concentrated market exercise market power by equating MR' to S' at Q^*, leading to higher price P^*.

Hi-Tec's vertical merger has led to its paying the lower P_0 for its inputs while its rivals pay the higher P^*: to its advantage.

So horizontal concentration in the input market results in anti-competitive behaviour, as a consequence of the vertical merger.

7.6.2.3 Extension of Market Power to the Other Level

Some have argued that vertical integration, combined with high market concentration at one level, may permit an extension of that market power to the other level, through e.g. a price squeeze.

e.g. Alcoa had a monopoly over aluminium ingot production and was integrated downstream into fabrication.

- alleged to have squeezed independent fabricators by charging a high price for ingot and low prices for fabricated products.
- Some has explained this as an attempt to protect its fabrication market from competition from steel, a close substitute, rather than an attempt to squeeze independent fabricators.
- None the less, their economic viability was jeopardised.

e.g. Telstra has a near-monopoly on the "local loop" phone line to subscribers, and it is in competition with many other firms as an Internet Service Provider (ISP) with its Big Pond ISP.

- alleged that its connect charges to other ISPs are higher than it charges its Big Pond, thus squeezing them.

7.6.2.4 Facilitating Collusion in High-Concentration Markets

Since retail prices are generally more visible than wholesale prices etc, a high level of vertical integration by upstream firms into the retail market may facilitate collusion by making *price monitoring* easier.

The elimination through vertical merger of a particularly disruptive buyer in a downstream market may facilitate collusion in the upstream market, if the buyer has been leading to sellers deviating from their prior collusive agreement.

To summarise: the anti-competitive effects of vertical integration are unlikely to occur unless there is prior market power at one or both levels, which suggests that the real problem is horizontal market power.

Given the prior market power, to what extent does its extension to another level through vertical merger have harmful effects for economic efficiency?

If none, then the merger could be for other reasons, such as socially beneficial transaction-cost savings.

Economic efficiency might be better served by allowing such mergers.

7.6.3 Extension of Monopoly: Fixed Proportions

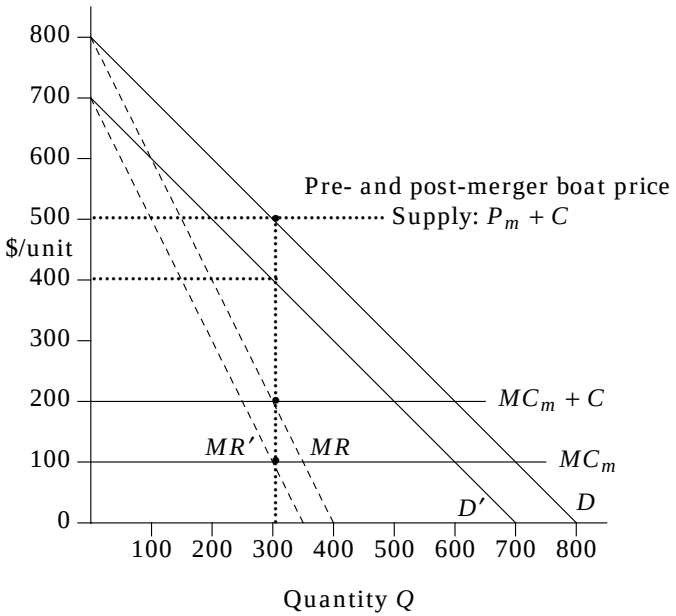
If a monopolist sells to a perfectly competitive industry, and then extends its monopoly downstream by a series of vertical mergers.

This monopolisation of a second level does not result in any additional efficiency losses, so long as the downstream industry uses fixed-proportion production.

Fixed-proportions production means that each unit of output requires inputs in fixed ratios. Some believe that this holds where a manufacturer sells to retailers, who combine the manufacturer's goods with other inputs in fixed proportions.

Fixed-proportions production was seen above in the boatbuilder's case — boats required one motor and C dollars' worth of all other inputs.

Assume that motors are monopolised and that boat-building is competitive. What are the consequences of vertical monopolisation of boats by the motor supplier?



First, pre-merger:

- Final demand for boats is D. Subtract cost C to obtain the derived demand for motors D'.
- The motor monopolist sets its MR' = its MC_m, and charges P_m = \$400 and sells 300 motors.
- The competitive boat industry has a horizontal supple schedule of \$400 plus the \$100 conversion costs, or \$500, and so sells 300 boats.
- The motor monopolist earn a profit of (\$400 – \$100) × 300 = \$90,000.

Now, assume a integrated monopoly selling motor-boats:

- Set MR for motor-boats = $MC = MC_m + C$ = \$200, at Q^* = 300 boats and P^* = \$500.
- Integrated profit of (\$500 – \$200) × 300 = \$90,000.

The monopolist gains nothing by monopolising downstream: by choosing its price of motors, the upstream monopolist was able to extract all potential profit.

Suggests that vertical monopolisation with fixed-proportion production must be for reasons other than monopoly profits.

7.6.4 Extension of Monopoly: Variable Proportions

Variable-proportions technology means that in response to changes in relative prices, the ratio of input factors necessary to produce a given level of output will change so that the firm minimises its cost of inputs.

For example, if wages rise, firms will seek to substitute labour with machinery, to the extent that this is possible.

It can be shown that vertical monopolisation will be profitable: the costs of production will fall (socially desirable) and prices may rise or fall.

The efficiency effects can be positive or negative, depending on the elasticities of demand, of substitution, etc.

But only if the regulatory authorities can do nothing about horizontal monopoly does the vertical monopolisation concern.

7.6.5 Cases

The 1962 Brown Shoe case had vertical dimensions.

The Court held that the relevant market was the whole U.S. and considered the "size of the share of the market foreclosed" by the proposed merger.

The size was only 1%: that is, shoe manufacturer Brown could be expected to force shoe retailer Kinney to take only a small volume of Brown shoes, to the exclusion of other manufacturers.

But the Court placed great weight to the trend, and stopped the merger.

In the 1972 Ford case, the Court also stopped the merger, which would have resulted in "the foreclosure of Ford as a purchaser of about 10% of total [spark-plug] industry output."

The Guidelines caution against vertical mergers that have anti-competitive horizontal effects, such as

- creating barriers to entry
- facilitating collusion
- enhancing the ability to evade rate regulation.

7.7 Vertical Restrictions

These are business practices that sometimes exist between suppliers and dealers, or manufacturers and retailers, that can be viewed as forms of vertical integration: they accomplish some of its outcomes by contractual means, not complete merging.

7.7.1 Resale Price Maintenance

Resale price maintenance (RPM) is a partial substitute for vertical integration. RPM is either a minimum or maximum resale price.

In the U.S., illegal per se.

As seen on pp. 25–26, if the supplier and the dealer both have market power, then the ability of the supplier to limit the dealer's price will increase its profitability.

A minimum-price RPM might be wise in cases where the supplier wants to ensure the provision of certain pre-sale information necessary for marketing technically complex products, without free-riding discount dealers.

RPM can be either efficiency increasing or reducing, depending on the demand effects of the information dissemination.

RPM might be used to foster a cartel of dealers or suppliers, but only for a product that didn't face substantial inter-brand competition.

7.7.2 Territorial Restraint

A *territorial restraint* is an agreement that the supplier will ensure an exclusive marketing territory to a dealer. Widespread in the car industry.

In the U.S., judged by a rule of reason.

May lower costs (socially desirable) through EOS.

But, as with RPM, may foster cartel behaviour among dealers or manufacturers.

7.7.3 Exclusive Dealing

Exclusive dealing is illustrated by an agreement between a brewery and a pub that the pub will buy all its beers from that brewery — vertical integration by contract.

In the U.S., judged by a rule of reason.

Similar to vertical integration:

- may have anti-competitive foreclosure of rivals, but
- may reduce transaction costs — lower supplier selling expenses, lower dealer search costs, investment in partner-specific assets, EOS in national advertising

7.7.4 Tying

Tying refers to the practice of a supplier agreeing to sell its customer one product (the tying good) only if the customer agrees to buy all of its needs for another product (the tied good) from the supplier.

Exemplified by de Beer's offering boxes of assorted raw diamonds to diamond cutters on a take-it-or-never-deal-with-us-again basis.

In the U.S., illegal per se, modified.

Variable proportions: salt to salt dispensers, ink to duplicating machines, cans to can-closing machines, staples to stapling machines: the customer owns the "machine" and is tied to a source of input, demand for which will vary with the customer's intensity of use of the machine.

Fixed proportions: de Beers' diamonds, movie distributor's block booking of bundles of movies.

Economists generally agreed that tying is a way of extracting higher profits through price discrimination. But courts have seen tying as a device for extending monopoly over the machine to its inputs.

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