ROUNDTABLE ON BARRIERS TO ENTRY

-- Note by the European Commission --

This note is submitted by the Delegation of the European Commission to the Competition Committee FOR DISCUSSION at its forthcoming meeting to be held on 19-20 October 2005.

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1. Entry is a source of competitive discipline on incumbents. It can upset traditional patterns of market conduct, dethrone dominant firms, introduce new technology and fresh approaches to product design and marketing. New entry often leads to more competitive prices to the benefit of consumers.

2. Entry analysis plays an important role in assessing the competitive effects of mergers and agreements as well as exclusionary practices by firms enjoying a position of economic strength. Where entry conditions are easy, incumbent firms may be unable to exercise market power without attracting new entry. Conversely, where a potential entrant imposes an actual or future competitive threat on an incumbent, cooperation or integration between them can harm consumer welfare.

1. The definition of entry barriers

3. Joe Bain approached entry from a long-run perspective, arguing that the conditions of entry should be “evaluated roughly by the advantages of established sellers in an industry over potential entrants, these advantages being reflected in the extent to which established sellers can persistently raise their prices above a competitive level without attracting new firms to enter the industry”\(^1\). Bain stressed three factors that could prevent entry:

- **Economies of scale**: as an entrant must either enter at a suboptimal scale with a cost disadvantage, or at an efficient scale with a depressing effect on prices.

- **Product differentiation**: by allowing incumbents to charge higher prices than entrants and thus to sell profitably when potential entrants could not.

- **Absolute cost advantages**: by allowing incumbents to sell profitably at prices below the costs of potential entrants.

4. An alternative definition was proposed by George Stigler. He defines entry barriers “... as a cost of producing (at some or every rate of output). . . which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry”\(^2\). This definition leads to a much shorter list of entry barriers:

- Economies of scale are not barriers to entry. If an entrant incurs a higher cost because it must produce at a lower level of output, the cost disadvantage is a consequence of overall demand being small relative to minimum efficiency scale.

- Product differentiation is a barrier to entry only if the costs of differentiation (design, advertising, etc.) are higher for a new firm than an existing firm.

- Cost advantages arising from scarce factors of production, such as patents and natural resources are not entry barriers. Scarce factors generate "economic rents," i.e., returns in excess of those necessary to attract them away from other uses\(^3\). These rents should be properly understood as opportunity costs. Thus, owners of scarce factors have no cost advantage over entrants\(^4\).

5. Interestingly both definitions strike at the heart of asymmetries that might favour an incumbent firm over a potential entrant. Yet Bain’s definition is broader. It speaks generically of advantages of incumbents over potential entrants. In contrast, Stigler focuses on cost disadvantages of new entrants relative to incumbents. This is unnecessarily confining. Suppose an established firm could commit itself to
producing the monopoly output, and this being the case, no other firm can enter at a profit. Entry would be excluded in this market, but it is difficult to see why the incumbent has a cost advantage over a new firm.

6. Additionally, Stigler’s definition “does not respond to the primary reason why competition law concerns itself with them”5. Rather than focusing on whether "entry barriers" exist according to some definition, competition authorities should explain how the industry will behave over the next several years and how rapidly and to what extent entry could enhance competition. This means competition authorities should assess the likelihood of entry, not whether entry barriers are high or low in any given case. This implies that factors such as economies of scale, product differentiation or access to scarce resources may all be entry barriers if their presence implies entry will be unprofitable and thus unlikely. For example, in the presence of significant scale economies entrants may doubt their ability to win enough sales to justify entry, even at the high pre-entry prices, and if the scale of its entry is necessarily large it may fear that it will have a serious negative impact on prices. Both of these effects will deter entry if there are sunk costs and switching costs or brand loyalty deter some buyers to switch from the incumbent firm to the new entrant.

7. Entry is also affected by entry impediments, which delay the process of entry into a market without necessarily increasing the sunk costs of entry. Such delays offer temporary advantages to incumbents over entrants which competition authorities must take into account. Entry impediments may be important to allow a merger, for example, because they influence the amount of time that incumbents may exercise market power before entry occurs6.

8. The Commission guidelines and case practice are closer to Bain’s definition. For example, the Commission Guidelines on Vertical Restraints states that:

“Entry barriers are measured by the extent to which incumbent companies can increase their price above the competitive level and make supra-normal profits without attracting entry”§126).

2. Firm conduct influences entry

9. Bain’s definition is, however, inadequate in one important respect. It implicitly assumes all barriers are exogenous to market participants. It presumes that structure is largely determined by technological factors and there is a causative chain from structure (the level of concentration) to conduct (the degree of collusion) to performance (profitability). Since the early 80s, industrial economists emphasise the effect of conduct (i.e., strategic interaction) on industry structure. In brief, how firms compete partly determines how concentrated industries will be.

10. What is important for entry decisions is the nature of competition post-entry. The number of firms is typically determined by a decision to enter based on profitability. The Horizontal Merger Guidelines whilst also adopting a definition of entry barriers close to Bain’s, reflects the view that entry barriers are relevant not because they allow an incumbent to enjoy excess profits but because they reduce the profitability of entry, thus reducing the degree of effective competition in the market:

“Potential entrants may encounter barriers to entry which determine entry risks and costs and thus have an impact on the profitability of entry. Barriers to entry are specific features of the market, which give incumbent firms advantages over potential competitors”.§70)

11. Post-entry profitability is critically affected by two factors, the intensity of competition post-entry, as reflected for example in price levels, and the extent to which entry costs are sunk.
Post-entry price: Entry occurs up to the point at which the profits of the last entrant cover the entry costs incurred. But a tough competitive regime post-entry leads entrants to anticipate lower prices, reducing the profitability of entry thus making it less attractive.

Sunk costs: High fixed entry costs can deter entry, even if the expenditures were previously borne by incumbents. This might occur if fixed entry costs are also sunk, i.e. investments that cannot be recovered upon exit and hence serve to commit a firm or firms to staying in the market. Sunk costs interact with post-entry competition to create a first-mover or incumbency advantage, even in the absence of strategic pre-emptive behaviour. For some ranges of fixed cost, entry that would be profitable if incumbents’ costs were not sunk and post-entry competition was not vigorous may be rendered unprofitable.

12. Several sunk costs are themselves not exogenous. John Sutton observes that advertising and R&D, for example, can both be thought as sunk costs incurred with a view to enhancing consumers’ willingness to pay for the firm’s product. Since advertising and R&D are choice variables to the firms their levels are determined endogenously, as part of the specification of the industry equilibrium. Under these circumstances an increase in demand may not lead to more entry. Rather a competitive escalation in investments raises the equilibrium level of sunk costs incurred by incumbent firms.

13. If sunk costs are endogenous, a first-entrant can monopolise the market by setting a value of investment so high that no latter firm will find it profitable to enter. Even if a second firm is not pre-empted, the size disparity with the first will remain as demand increases.

14. This last point is more general. All sunk costs create an important asymmetry between incumbents and potential entrants. Once costs are sunk, they are no longer a portion of the opportunity costs of production. Thus, sunk costs allow an incumbent firm to commit to respond aggressively to new entry. For example, building a plant with a large capacity in advance of others may be a way to make a credible commitment to produce large outputs, and this investment may advantage the firm making the investment.

3. Categorisation of entry barriers

15. As discussed above, the Horizontal Merger Guidelines adopt a definition of entry barriers that reflects advantages of incumbents over entrants but places the focus on assessing whether such disadvantages in terms of higher costs or risks makes entry unprofitable. Consistent with this approach entry barriers are categorised as follows (§71):

1. legal advantages that encompass situations where regulatory barriers limit the number of market participants;

2. technical advantages that may result, for example, from preferential access to essential facilities, natural resources, innovation and R&D, or from the existence of economies of scale and scope;

3. entry barriers may also result from (a) established position of the incumbent firms (e.g. experience or reputation) or (b) strategic behaviour intended to reduce the profitability of entry (e.g. “where the incumbents have already committed to building large excess capacity”).

16. The Horizontal Merger Guidelines also point out that a merger can increase the risk of strategic entry deterrence and examples are given in §36. For instance, “the merged entity may have such a degree
of control, or influence over, the supply of inputs or distribution possibilities that expansion or entry by rival firms may be more costly”. It should be noted that the Horizontal Merger Guidelines deals only with horizontal mergers. Non-horizontal mergers raise such foreclosure concerns more directly.

17. There can be various types of strategic behaviour that advantage one firm over another such as, for example: (i) investments to lower the incumbent's costs relative to those of potential entrants (capacity, patents, R&D, take or pay contracts with input suppliers, learning-by-doing, etc.), (ii) investments to alter the cost structure of rivals (take or pay contracts, sleeping patents, monopolisation of inputs, vertical control, etc.), and (iii) investments to favourably alter demand conditions (advertising, brand proliferation, long-term contracts with buyers, etc.). In all of these examples commitment is essential, and hence the importance of sunk costs.

18. Note that most strategic behaviour involves sacrifice by incumbents in order to inflict losses on entrants. Thus strategic behaviour is never a barrier to entry according to any definition that is inspired from Stigler's. Yet, what really matters in antitrust and merger cases is not whether entry barriers are high or low. Instead, the emphasis is on whether actual entry will take place, when and to what degree.

4. Role of entry considerations in practice

19. The role of entry can be best illustrated with respect to merger control. This is also the policy area where the Commission has published a more elaborate analytical framework. In mergers entry considerations are of relevance at different stages of the analysis:

1. When delineating the relevant market
2. When assessing the relevant comparison to determine the effects of the merger
3. When assessing the competitive effects of the merger:
   a. Uncommitted expansion and product repositioning
   b. Merger-induced and committed entry
   c. A merger involving a potential entrant can harm consumers
   d. A merger that increases the risk of strategic entry deterrence can harm consumers

4.1 Entry considerations when defining markets

20. Immediate and costless entry may render unprofitable a small but permanent increase in price thus leading to broader markets or undermining the relevance of market shares as indicative of market power. The relevant market is typically defined as the set of all substitute products and regions that represent a significant competitive constraint on the products of interest. The Commission’s Notice on definition of the relevant market (the Notice) identifies three main sources of competitive constraints: demand substitution, supply-side substitution and potential competition. Of these three, only the first two are taken into account at the market definition stage.

21. The Notice attributes a prominent role to demand substitutability in the definition of the relevant product market. This comprises products that are interchangeable from the viewpoint of consumers. Yet, there are cases where a strict demand analysis would produce unreasonable results. The obvious example is one in which demand substitution only would lead to define separate markets for size 40 shoes and for size 42 shoes. According to the Notice, supply-side substitution may also be taken into account if suppliers are able “to switch production to the relevant products and market them in the short term.”

22. Supply-side substitutes include firms which are currently producing other products, but which have all the assets needed to produce, market and distribute the relevant products, as well as those new
entrants that are able to move into the relevant market rapidly and without incurring significant sunk costs of entry and exit.\textsuperscript{14}

23. As to potential competition, the Notice states that “it is not taken into account when defining markets, since the conditions under which potential competition will actually represent an effective competitive constraint depend on the analysis of specific factors and circumstances related to the conditions of entry.”\textsuperscript{15}

24. Supply-side substitution and potential entry can be distinguished along two dimensions. First supply-side substitution responds promptly to price increases, while potential entrants may take longer than a year or so to commence supplying the market with their products. Secondly, supply-side substitution involves entry at a low cost and without incurring in irreversible investment. In contrast, potential entry refers to entry at a substantial sunk cost. For example, product repositioning may require fundamental changes in the nature of the product or it may mean the establishment of a new brand or the modification of an existing brand through changes in advertising and marketing strategy.\textsuperscript{16}

25. According to the Notice, supply-side substitution translates into market aggregation, that is, a broadening of market boundaries to include a larger group of products or geographical area. However, the Notice warns that aggregation makes sense only when production substitution among a group of products is found to be technologically feasible and economically viable for most, if not all, firms selling one or more of those products. To illustrate this point, suppose that products A and B are not interchangeable from a demand viewpoint. Suppose further that some, but not a majority, of manufacturers of product B can readily switch production to manufacture product A. If, as a result, the markets for products A and B were aggregated, the market shares of the manufacturers of product A would be clearly underestimated. This is because by aggregating these two markets, the output of all manufacturers of product B would be taken into consideration for the calculation of market shares, thus ignoring that only some producers of B could switch to produce A.\textsuperscript{17} For similar reasons market aggregation is not meaningful when suppliers have the ability and incentive to switch only part of their production capacity from B to A.

26. Note also, a “de novo” entrant, even if can enter quickly and at little sunk cost will not be included in the list of active market suppliers and assigned market shares. Hit-and-run entry, or where supply-side substitution is partial or not nearly universal are all taken into account only at the competitive assessment stage.

27. In other jurisdictions, notably the US the concept of an uncommitted entrant generalises the idea of "supply-side substitution". Uncommitted entry includes traditional production substitutors and hit-and-run entrants. Uncommitted entrants are treated as market participants because they constrain current industry pricing. Once these firms are identified, they are assigned market shares based upon the capacity they can profitably devote to the relevant market were price to increase by a SSNIP.

28. Because uncommitted entrants are assigned market shares, their competitive significance is taken into account in the first instance through their effect on market concentration. This approach has the advantage that market shares do not overestimate the existence of market power. This can be useful in those cases where market share thresholds are, implicitly or explicitly, applied (e.g. in phase I merger cases when the decision to move to phase II is being considered) or where certain specified behaviour (for example, the adoption of vertical restraints) is prohibited depending exclusively on market share criteria.

29. But adjusting market shares to account for uncommitted entry creates difficulties of its own. It is potentially time consuming to perform calculations called for by "uncommitted entry" analysis such as (i) extent of an uncommitted entrant's sunk costs, (ii) the likelihood that consumers will purchase the uncommitted entrant's product, and (iii) the profitability of alternative uses of the uncommitted entrant's
assets in different markets. It is for this reason the Commission reserves the analysis of non-universal and partial “uncommitted entry” to the competitive assessment stage.

4.2 Identifying the counterfactual

30. In assessing the competitive effects of a merger, the Commission acknowledges that the conditions of competition are likely to evolve over time irrespective of the merger. In general, it is necessary to identify the most likely competitive environment that would prevail in the absence of the merger and compare it with the scenario that results if the merger is authorised. The Horizontal Merger Guidelines state that:

“In most cases the competitive conditions existing at the time of the merger constitute the relevant comparison for evaluating the effects of a merger. However, in some circumstances, the Commission may take into account future changes to the market that can reasonably be predicted. It may, in particular, take account of the likely entry or exit of firms if the merger did not take place when considering what constitutes the relevant comparison.” (§9)

31. The condition that “future changes must be reasonably predicted” implies in general identifying the firms that are expected to enter or exit the market in the absence of the merger. This calls for an assessment of the entry or exit barriers that such individual firms face. In fact the Guidelines also state “that current market shares may be adjusted to reflect reasonably certain future changes, for instance in the light of exit, entry or expansion”.(§15)

32. If entry is likely and imminent but integration allows the merged entity to deter entry, but not otherwise, such “entry deterrence” can be said to be anti-competitive and merger-specific. Conversely, let entry be likely irrespective of the merger. Then future prices are expected to be lower than current prices. A merger between direct competitors may lead to higher prices than expected (even if still below pre-merger levels). But then future entry may not count as offsetting such anti-competitive effect unless the merger induces more entry than expected in its absence.

4.3 Uncommitted expansion and product repositioning

33. As explained above the Commission reserves the analysis of “uncommitted entry” to the competitive assessment stage. However, this does not imply that the market shares in the relevant market are taken at face value:

“the Commission interprets market shares in the light of likely market conditions, for instance, if the market is highly dynamic in character and if the market structure is unstable due to innovation or growth”.(§15)

34. Immediate and costless entry through product repositioning and capacity expansion is fully considered at the competitive assessment stage. For instance concerns with non-coordinated effects are lessened if consumers have the ability to switch suppliers without costs or if competitors are not capacity constrained.

35. Many scholars believe that the mere anticipation of entry will induce incumbents to lower their prices toward more competitive levels, and thus that entry need not necessarily occur to have an effect on market performance. A benchmark in this respect has been established by Baumol et al who have applied the label “perfectly contestable” to markets in which incumbent firms and potential entrants share the same technology and potential competitors can enter and exit without capital loss during the time taken by
incumbent firms to change prices\(^8\). There would be no need in such cases to conduct a detailed investigation of possible coordinated or non-coordinated effects.

36. However, contestability theory and its empirical relevance are open to question. A key assumption is the absence of barriers to entry of any kind. Yet reversible entry without costs, by itself, is insufficient to produce the results of long-run equilibrium in a perfectly contestable market. Capital must move with little risk of loss into and out of an industry over a period of time that is short compared to the time required for existing firms to respond with competitive price changes. Thus entrants must make decisions on the assumption that price will not change after entry, or it must be possible for entrants to negotiate contracts, before entry, that insulate them from post-entry responses by incumbents. Furthermore, incumbents must believe that an entrant could capture the entire market with a slight price cut, which implies that products cannot be differentiated.

37. If these assumptions are satisfied, a firm can base its entry decision on current prices, and 'hit and run' can be a rational entry strategy that will police the pricing decisions of incumbent firms. These assumptions are likely to fail in markets subject to antitrust scrutiny, if not almost everywhere in the economy. It is unlikely that entry into any industry is perfectly reversible; so any entry attempt will probably entail some risk of capital loss if the firm should subsequently exit the industry. The central question is whether contestability theory makes useful predictions about markets that are close to being perfectly contestable. Stiglitz\(^9\), among others, has argued that even if the sunk costs of entry are vanishingly small, the possibility of prompt, aggressive pricing by established firms can make entry unattractive and, by deterring 'hit and run' entry, permit existing firms to price at non-competitive levels.

4.4 Merger-induced entry

38. By reducing competition, a merger may increase the expected profitability of entry to overcome existing entry costs. Such merger-induced entry would tend mitigate the anti-competitive effects of the merger, in part or in full, thus allowing the merger to be authorised without or with lesser remedies, respectively.

39. In mergers raising fears of post-merger coordination, easy entry may be a factor which acts to deter collusion, or to ensure that the collusive price levels which emerge are lower than they might otherwise have been.

40. Non-coordinated effects often focus on the intensity of the mutual competitive constraints, which the merging firms are able to eliminate because of the merger and the incentive that this provides to raise prices. By restricting output or raising prices following an anticompetitive merger, incumbents increase the amount an entrant would earn and create an opportunity for entry.

41. Greg Werden and Luke Froeb question the need to assess merger-induced entry\(^20\). They rely on merger simulations to argue that in the absence of efficiency gains, future entry renders otherwise profitable Bertrand mergers unprofitable for the merging firms. Cournot mergers are normally unprofitable even without entry, and entry makes them much more unprofitable. To the extent these models are relevant, firms proposing to merge must expect to achieve significant efficiency gains or expect not to induce entry. Thus, entry collapses into efficiency considerations: if a proposed (and, hence, privately profitable) merger does not generate significant efficiency gains, it also cannot be expected to induce entry. Therefore, in many merger cases entry may have no role whatsoever\(^21\).

42. However, the opposite is also true. If entry is easy then a privately profitable merger, must create efficiencies. Indeed, it will often be easier for a competition authority to assess the easy of entry than to rely on the merging parties to determine scope and significance of claimed efficiencies. Willig\(^22\) argues
along this line. Ease of entry should lessen concerns over an otherwise anti-competitive merger, not because anti-competitive unilateral price rises will be deterred by fear of entry, but because easy entry will deter anti-competitive mergers from taking place.

43. In any event it is not enough that the merger creates an incentive for entry. Merger-induced entry must be “likely, timely, and sufficient to deter or defeat any potential anti-competitive effects of the merger” (§68). Potential competition is relevant to merger analysis only insofar as it will deter or counteract the competitive problem the merger would otherwise create.

4.5 Likelihood

44. Entry likelihood analysis asks whether an entry plan would be profitable to carry out in the post-merger environment:

   For entry to be likely, it must be sufficiently profitable taking into account the price effects of injecting additional output into the market and the potential responses of the incumbents. (§69)

45. Economies of scale can act as a barrier to entry, particularly if such economies are tied to sunk cost investments:

   Entry is thus less likely if it would only be economically viable on a large scale, thereby resulting in significantly depressed price levels [...] Furthermore, high risk and costs of failed entry may make entry less likely. The costs of failed entry will be higher, the higher is the level of sunk cost associated with entry. (§69)

46. Entry can be profitable at the pre-merger price in the post-entry economic environment even if it was not profitable at the same price in the pre-entry merger environment; this change in incentives is the focus of likelihood analysis. If the merger has the feared anticompetitive effect, industry output will decline, thereby creating additional potential sales for an entrant beyond what had previously been available. The result is to make entry more attractive than it had previously been. In short, the change in market structure resulting from the acquisition creates a gap in sales, raising the revenue potential for an entrant and softening the competitive environment facing the prospective new competitor.

47. Historical evidence on entry must be analysed with care to ensure that it is probative. First, evidence of no significant entry can mean the market is competitive since large-scale entry does not happen because it is unattractive, since price is down around cost. Conversely the fact that entry has occurred in the past does not imply there are no barriers to entry or that entry is necessarily easy. In general, a clear signal of low barriers is provided only by effective, viable entry that takes a nontrivial market share.

4.6 Sufficiency

48. This element is stated separately to highlight the possibility that even rapid and profitable entry might not be sufficient “to deter or defeat any potential anti-competitive effects of the merger”.

49. New entry will successfully solve a competitive problem resulting from merger only if it returns the market price to the pre-merger level or below. The new entrant cares only about the long-run price likely to prevail. Accordingly, new entry is relevant to merger analysis only if it would be profitable in the post-merger economic environment assuming that the entrant would receive no more than the pre-merger price.
4.7 **Timeliness**

50. As regards timeliness what matters is how fast entry erodes any price increase caused by a merger, and not whether it eventually does so. Impediments to entry are most relevant in this respect. The longer it would take for entry to be effectively accomplished, regardless of its ultimate profitability, the longer the time would be that the parties to an anticompetitive merger could profit before experiencing the negative impact of the entrants’ arrival in the market; the longer consumers would be vulnerable to elevated prices; and the less likely potential entry would deter an anticompetitive merger.

4.8 **Elimination of potential entry**

51. According to the Horizontal Merger Guidelines two conditions are necessary for a merger with a potential competitor to have significant anti-competitive effect:

1. The potential competitor is a likely and significant entrant and would grow into an effective competitive force.
2. There must not be a sufficient number of other potential competitors, which could maintain sufficient competitive pressure after the merger

52. Both criteria are more difficult to prove than it may appear. First, empirical evidence suggests that whereas entry appears to be easy in many markets post-entry market penetration and, indeed, survival is not. Second, to meet the second condition it must be shown that the merging potential entrant had some advantage over other entrants allowing it to enter earlier or at greater scale, or to compete more aggressively post-merger. But this may not always be obvious and if entry was profitable pre-merger it will continue to attract new entrants.

4.9 **Increased ability and incentive to engage in strategic entry deterrence**

53. Certain mergers (in particular of a vertical or conglomerate nature) can lead to exclusionary effects by changing the ability and/or incentives of the merged entity to raise strategically barriers to entry. Such conduct is particularly problematic if entry could be reasonably anticipated but will be deterred. But even if no new entry was probable in the absence of the merger such exclusionary conduct is likely to reduce the ability of existing rivals to compete, thus allowing the merged entity to exercise increased market power. Moreover strategic entry deterrence reinforces any possible horizontal effects of the merger by ensuring that merger-induced entry is not possible. This possibility is directly recognised in the Horizontal Merger Guidelines:

“Some proposed mergers would, if allowed to proceed, significantly impede effective competition by leaving the merged firm in a position where it would have the ability and incentive to make the expansion of smaller firms and potential competitors more difficult or otherwise restrict the ability of rival firms to compete”. (§36)

5. **Final remarks**

54. Clearly, ease of entry in a market must receive an important weight when evaluating the possible anticompetitive effects of a given conduct. However, ease of entry is not a sufficient condition for allowing conduct substantially restricting competition among existing firms: given the limits of contestability theory and the often long time taken for entering a market, potential competition is not a perfect substitute for competition among incumbent firms.
55. Entry barriers traditionally play a role in assessing the existence of a dominant position pre-merger or whether such position can be inferred when the combined market shares of the merged entity are high. The EC Merger Regulation that entered into force in May 2004 places the emphasis on whether the merger *significantly impedes effective competition* not whether the merger creates or strengthens dominance, although the latter is seen as a sufficient condition for the former.

56. Under this modified substantive standard the goal is to assess whether entry would in fact take place and thus offset the anti-competitive effects of the merger. The Horizontal Merger Guidelines follow this approach and states that “*entry analysis constitutes an important element of the overall competitive assessment*”. 
NOTES

4. An asset that is valued at opportunity cost may nonetheless constitute an absolute cost advantage barrier to entry if the value of the asset is specific to its owner, in which case the market value (which is its next best value in use) will understate its worth to the owner. For example, a patented technique may be more valuable to its owner because the patent is complementary to other activities of the firm.
6. Good examples of entry impediments are licensing, certification, or product registration requirements that involve little or no actual costs but take significant amounts of time to satisfy. Other examples include the time required to obtain contracts (i.e., where the market's products are sold via long-term contracts) or to gain a market share large enough to significantly influence the behaviour of incumbents.
7. The categories of fixed expenditures highlighted by Bain -- including the product design and advertising expenditures that often underlie product differentiation and the up-front costs of developing a large production facility -- often are irreversible to a significant extent. That is, much of the brand reputation and product development costs may not be transferable to another product were the first product not to succeed, and the plant and equipment used to produce a new product may have no other use, so would merely be sold as scrap in the event of exit. If so, the presence of these fixed (and sunk) expenditures may deter entry, as Bain supposed. But if the same fixed expenditures would not be sunk, entry would not be deterred, as those following Stigler suggested.
9. A lower bound exists to the equilibrium level of concentration in the industry, no matter how large the market becomes. This lower bound is higher the more responsive is demand to a firm’s increase in R&D or advertising. Sutton (ibid) shows that this result holds over an extremely wide class of oligopoly models.
10. For a model where an incumbents invests in capacity to deter entry see Dixit, A. (1981) The role of investment in entry deterrence, Economic Journal, vol. 90, pp. 95-106. Other possible commitment mechanisms include switching costs, product differentiation or pricing practices such as "take or pay" requirements.
11. As described in the Commission’s Horizontal Merger Guidelines. The Guidelines on Horizontal Agreements and the Guidelines on Vertical Restraints both follow similar principles as regards entry but predate the Horizontal Merger Guidelines and are somewhat less detailed.
14. The European Court of Justice clearly established the importance of incorporating supply-side substitutability considerations at the market definition stage in Continental Can. The Court rejected the definition held by the Commission in this case because the Commission had failed to consider substitutes on the supply-side.14 The Court reaffirmed its position on this issue in later cases (such as, for example, in Michelin14). The Commission’s Notice took account of the Court’s opinion on this matter and explicitly introduced consideration of supply-side substitutability as part of its approach to market definition.

15. Commission Notice §24

16. The US Merger Guidelines distinguish between “uncommitted” and “committed” entry. The EU Notice does not make this distinction explicitly but it is sometimes used in decisions. The concept of uncommitted entry generalises the idea of supply substitution. Uncommitted entry is hit-and-run. Uncommitted entrants are firms that can enter quickly, and with little sunk expenditure. They can take advantage of any short-run profit opportunities that anticompetitive behavior by incumbent firms might offer, and get out rapidly and cheaply if those opportunities disappear. Committed entrants, in contrast expect to stay, because to abandon the market would mean walking away from a substantial sunk investment. Thus, committed entrants must consider what competition will look like after they enter in deciding whether it is profitable for them to enter in the first place.

17. Of course, if the markets for products A and B were not aggregated, but in addition no account would be taken of the (limited) supply-side substitution possibilities, the market shares of the manufacturers of product A would be overestimated.

18. William J. Baumol, John C. Panzar & Robert D. Willig, *Contestable Markets and the Theory of Industry Structure* (1982). Formally these authors define a 'perfectly contestable market' as a market in which a necessary condition for an equilibrium outcome is that no firm can enter taking prices as given and earn strictly positive profits using the same technology as existing firms. In a perfectly competitive market, entrants can and will enter to take advantage of even transient profit opportunities at current prices. This behaviour is most reasonable when the costs of entry are completely reversible so that there are no capital losses in the event of exit. If these conditions are satisfied, a perfectly contestable market mirrors a competitive environment in which entry and exit are frictionless and barriers to entry and exit are non-existent. The assumption of identical costs insures that whenever incumbents can make profits, so can entrants, and, therefore, if a perfectly competitive market equilibrium exists, firms cannot sustain prices in excess of average cost.


21. Spector, David M., "Horizontal Mergers, Entry and Efficiency Defences" (May 2001). MIT Dept. of Economics Working Paper No. 01-18 [reference missing] in a complementary paper shows in the context of Cournot market that a merger may still be profitable while inducing entry, but this can happen only if post-entry price remains above the pre-merger level. This is because a merger may induce entry by a small, high-cost firm which finds it profitable to enter now that price has risen. If this firm’s output is small enough (because of its high costs), its entry does not bring price back to its pre-merger level and does not necessarily make the merger unprofitable. Thus merger-induced entry, while compatible with profitable mergers will not be sufficient to restore prices to pre-merger levels, thus harming consumers.