# Barriers to Entry in Antitrust Analysis

# (Barrières à l'Entrée dans l'Analyze Antitrust)

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October 20, 2004

The existence of barriers to entry is a central subject of contention in most antitrust court cases involving charges of monopolization or anti-competitive merger. A firm with large market share cannot earn monopoly profits, and a merger cannot permanently reduce competition, if sufficiently many new firms could easily and quickly begin producing the same product. Thus there are typically no grounds for antitrust sanctions in such cases if there are no barriers to entry.

The question of what is a barrier to entry is therefore an important one for public policy. Unfortunately, economists have failed to achieve consensus over the definition of the concept, which has caused confusion in the courts. The origin of the confusion is a celebrated disagreement between Bain and Stigler. Bain (1956) defined an entry barrier as "an advantage of established sellers in an industry over potential entrant sellers, which is reflected in the extent to which established sellers can persistently raise their prices above competitive levels without attracting new firms to enter the industry" (p.3). Finding empirical evidence that scale economies and capital requirements are positively correlated with high profits, Bain concluded that these structural market characteristics are entry barriers according to his definition.

Stigler (1968) later rejected the idea that scale economies and capital

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requirements can create entry barriers. He defined a barrier to entry as "a cost of producing (at some or every rate of output) which must be borne by firms which seek to enter an industry but is not borne by firms already in the industry" (p.67). If entrants and incumbents have equal access to technology, then scale economies and capital requirements are not barriers to entry according to Stigler's definition. Thus, the two definitions generate conflicting conclusions about the entry deterrent effects of scale economies and capital requirements.

Several other definitions have been proposed since the pioneering ones of Bain and Stigler.[2] However, most of these definitions have either a Stiglerian or a Bainian flavor. For example, Ferguson (1974) defines a barrier to entry as "a factor that makes entry unprofitable while permitting established firms to set prices above marginal cost, and to persistently earn monopoly return" (p.10). This definition follows Bain's, but with the additional requirement that incumbents earn monopoly profits. Von Weisacker (1980) defines a barrier to entry as "a cost of producing that must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry and that implies a distortion in the allocation of resources from the social point of view" (p. 400). This definition follows Stigler's, but with the additional requirement that the cost differential reduce welfare. The continuing divide between Bainian and Stiglerian approaches is reflected in modern industrial organization textbooks. Tirole (1988) is among those adopting the Bainian definition., while Carlton and Perloff (1994) are among those adopting the Stiglerian one.

The divide among economists has caused considerable confusion in the courts. A

[2] Each of the existing definitions are analyzed in detail in McAfee, Mialon, and Williams (May 2004) and McAfee, Mialon, and Williams (October 2004).

sample of important antitrust court cases illustrates the point.[3] In *Southern Pacific Communications* C. v. *AT&T (740 F.2d 980, 1001-02, D.c. Cir.* 1984), the court employed the Bainian approach to argue that the need for large capital outlay is an important barrier to entry. But in *Ball Mem. Hosp.* v. *Mutual Hosp. Ins. Co.* (784 *F.3d* 1325, 1335, *7th Cir.* 1986), the court explicitly used Stigler's definition to determine that there are no barriers to entry in the insurance industry.

In *Echlin Mfg. Co. (J* 05 *F. T.* C. *410,* 1985), the Federal Trade Commission (FTC) also employed the Stiglerian approach to determine that there are no entry barriers in the carburetor repair market. The FTC argued that, absent a Stiglerian barrier, new firms would enter and drive down prices to competitive levels eventually. However, they also recognized that, from the public's standpoint, it makes a difference whether this occurs sooner rather than later. The Stiglerian approach is concerned only with entry in the long run. The FTC officially acknowledged that the short run matters too.

The U.S. Department of Justice (DOJ) adopted a Bainian approach in its 1984 Horizontal Merger Guidelines. Under the Guidelines, entry barriers are measured by "the likelihood and probable magnitude of entry in response to a small but significant nontransitory increase in price." Nevertheless, in *United States* v. *Waste Management, Inc.* (743 *F.2d* 976, *2d Cir.* 1984), the court again adopted the Stiglerian approach to determine that there are no entry barriers in the trash collection business. Only once it had made this determination did it refer to the Guidelines, where the government had written that it will usually not challenge a merger if entry is easy, regardless of the other evidence. On appeal, the DOJ argued that ease of entry is but one of a number of factors

[3] These important antitrust cases, and others that hinged on the presence of entry barriers, are analyzed in detail in McAfee, Mialon, and Williams (October 2004).

relevant to an anti-competitive inference, seemingly contradicting its own guidelines.

The government eventually revised its guidelines to qualify the statement that ease of entry trumps other evidence in an anti-competitive inference.[4] The 1992 Merger Guidelines distinguish between committed and uncommitted entry. They acknowledge that ease of uncommitted entry trumps other evidence, but emphasize that committed entry is a trump only if it would be likely. Just because entry is feasible does not mean that it is profitable, and hence likely, if it entails significant sunk expenditures.

Although the courts and economists have recognized that time and sunkeness are important dimensions of barriers to entry, they are still deeply divided over the definition of the concept. To facilitate consensus, and to take account of recent developments, McAfee, Mialon, and Williams (May 2004) propose a new taxonomy of barriers to entry. An "economic" barrier to entry is defined in Stiglerian terms as a cost that must be incurred by a new entrant and that incumbents do not or have not had to incur. An "antitrust" barrier to entry is a cost that delays entry, and thereby reduces social welfare relative to immediate but equally costly entry. While most economic entry barriers are antitrust, many antitrust entry barriers are not economic. A "primary" barrier to entry is a cost that constitutes a barrier to entry on its own. An "ancillary" barrier to entry is a cost that does not constitute a barrier to entry by itself, but reinforces other primary barriers to entry if they are present. In some cases, large ancillary barriers can combine, and reinforce each other, to form a large primary entry barrier. This taxonomy is useful for policy-makers in assessing the seriousness of the barriers posed by various structural market characteristics, including scale economies and sunk costs.

[4] Baker (2003) discusses in more detail the events that led the government to revise its 1984 guidelines.

*Scale Economies and Switching Costs*. Bain (1956) argued that scale economies are a barrier to entry because the added output of the entrant's efficient plant may be too large relative to industry demand and the incumbent's existing output, depressing price enough to make entry unprofitable. But once entry has occurred, the incumbent may find it profitable to reduce its output, so that entry might be profitable after all—provided some fraction of customers switch to the entrant. Scale economies deter entry only if switching costs are high, that is, they are ancillary entry barriers that reinforce primary, economic entry barriers such as switching costs. Moreover, Bain's argument is not valid in the long run as existing plants are replaced. Thus, scale economies are antitrust, but not economic, barriers to entry.

***Sunk Costs and Uncertainty*. Most firms can pay large capital costs if entry is profitable. However, capital costs can nevertheless indirectly discourage entry by magnifying risks (Carlton and Perloff, 1994, p. 79-80). If entry requires large sunk costs and it turns out to be unsuccessful, the entrant's losses are large. Therefore, sunk costs are ancillary barriers that reinforce the deterrent effects of uncertainty, which is itself an ancillary barrier that in turn reinforces the deterrent effects of sunk costs. On the other hand, sunk costs are generally not economic barriers since incumbents had to pay them too when they entered the market. Uncertainty is not an economic barrier either since it eventually disappears as firms learn about market conditions. However, sunk costs and uncertainty can combine to cause firms to delay entry. If entry requires significant sunk costs, the option of entering is lost once the firm enters, and with temporary uncertainty about market conditions, this option has value. That is, the firm finds it valuable to retain the option of entering**

**because when the uncertainty is realized, it will gain useful information about market conditions and the profitability of entry. Thus, sunk costs and uncertainty are ancillary, antitrust barriers to entry that combine and reinforce each other to delay entry until the realization of the uncertainty, thereby producing a primary, antitrust barrier to entry.**

**Economists employ the concept of entry barriers to study industry competition in the long run, while policy-makers and consumers are often more concerned with the short run. These different purposes demand distinct concepts—hence the proposed distinction between economic and antitrust barriers to entry, the latter of which is the useful concept for public policy. The distinction between primary and ancillary barriers to entry may also be useful for public policy since a potential barrier to entry may only warrant scrutiny from antitrust authorities in the presence of a specific set of other barriers.**

REFERENCES

J. S. Bain, *Barriers to New Competition*, Harvard University Press, Cambridge, MA, 1956.

J. B. Baker, "Responding to Developments in Economics and the Courts: Entry in the Merger Guidelines," *Antitrust Law Journal*, Vol. 71, 2003, 189-206.

D. Carlton and J. Perloff, *Modern Industrial Organization*, Harper Collins College Publishers, New York, NY, 1994.

J. M. Ferguson, *Advertising and Competition: Theory, Measurement, Fact*, Ballinger, Cambridge, 1974.

R. P. McAfee, H. M. Mialon, and M. Williams, “What is a Barrier to Entry?”, *American Economic Review*, Vol. 94 , No. 2, May 2004, 461-465.

R. P. McAfee, H. M. Mialon, and M. Williams, “Economic and Antitrust Barriers to Entry,” Working Paper, October 2004.

G. Stigler, *The Organization of Industry*, University of Chicago Press, Chicago, IL, 1968.

J. Tirole, *The Theory of Industrial Organization*, The MIT Press, Cambridge, MA, 1988.

C. C. Von Weizsacker, “A Welfare Analysis of Barriers to Entry,” *Bell Journal of Economics*, Vol. 11, No. 2, Autumn 1980, 399-420.