

Chapter  
6

BARRIERS TO ENTRY,  
ECONOMIES OF SCALE,  
AND FIRM SIZE

Let us begin with definitions of the three concepts whose interrelations are the subject of this chapter:

1. Barriers to entry. A barrier to entry may be defined 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. Economies of scale. The economies of scale constitute the relationship between the size of a firm (or plant) and its costs of production in the broadest sense. The relationship may be symbolized by a long-run average cost curve representing the least possible cost of every output.
3. Firm size. Firm size can be measured by output. Multiple products are irrelevant to the subject of this note, so we shall assume that each firm has the identical product. Nevertheless, there may be product "differentiation" due to location, advertising, etc. Output is long-run equilibrium output.

Our problem is simply: on what does firm size depend—economies of scale, barriers to entry, or something else?

Two simple cases will suffice to demonstrate that the language of economists has been lax. The first case is a monopoly whose existence arises simply because only one firm can exist with the given industry demand (Fig. 6-1). Some economists will say that the economies of scale are a barrier to entry, meaning that such economies explain why no additional firms enter. It would be equally possible to say that inadequate demand is a barrier to entry. If we define a barrier as a differentially higher cost of new firms, there is no barrier and the firm size is governed by economies of scale and demand conditions.

Next, consider an industry with many independent firms but an absolute barrier to the entry of new firms. The New York City taxi business, with its limited license medallions, is an example. Let there also be diseconomies of scale beyond a given output (Fig. 6-2). With licensing,

FIGURE 6-1

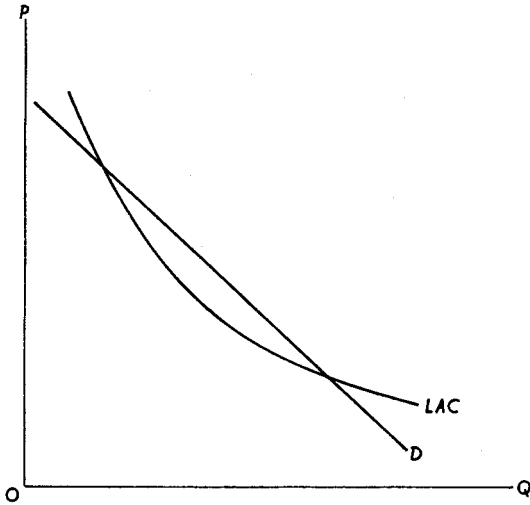
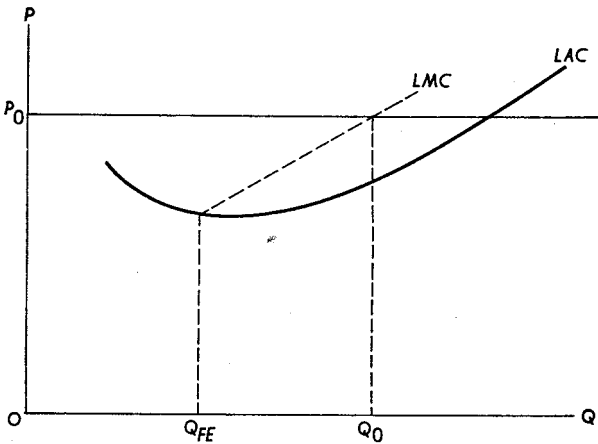


FIGURE 6-2



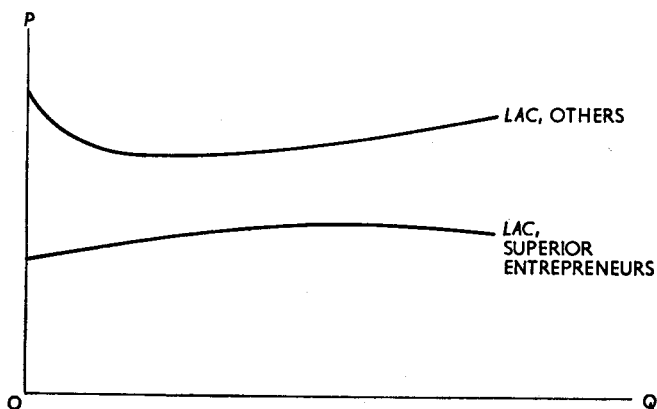
each firm operates at output  $Q_0$ , given the demand which yields a price  $P_0$ . With free entry, each firm would operate at output  $Q_{FE}$ .<sup>1</sup> The license-governed output of  $Q_0$  is set by (dis) economies of scale *and* demand conditions *and* barriers to entry. In our unceasing search for more elegant formulations, however, we can get rid of barriers by stating that the firm

<sup>1</sup> If there are external economies or diseconomies (different costs for industry-wide output changes), the cost curve will shift, and its minimum at the simultaneously determined industry output will fix firm size.

size will be governed by economies of scale and the demand conditions of the firm (as well as of the industry)—which are influenced by barriers as well as by incomes, prices of other goods, etc.<sup>2</sup>

These examples suggest that we say that demand and cost (economies of scale) conditions govern the sizes of firms. The barriers to entry would then be restricted to differentially higher costs of new firms, which act as one force—others are location and advertising and product characteristics—which affects the demands of individual firms. This choice of language is consistent within itself, does no violence to our general understanding of these concepts, and begs no substantive issues.

FIGURE 6-3



Several implications of this terminology may be commented upon briefly:

1. Entrepreneurs differ in abilities, so “the” long-run cost curve may differ among men. A superior entrepreneur operating with diseconomies of scale may monopolize an industry because his costs are below those of all potential rivals (Fig. 6-3). This offers no problems to our terminology because firm size is still governed by economies of scale (height and slope of cost curves) and demand, but it emphasizes the fact that the conventional language is directed to a situation in which curves depend only on factors (such as size) common to all firms. Of course, if the superior entrepreneur is also equally superior elsewhere, his alternative costs will be as high as those of other firms.

<sup>2</sup> If in this license case there were no diseconomies of scale, there might be only one firm (economies of scale) or an indeterminate number (constant returns to scale).

2. Capital requirements are often listed as a barrier to entry. Since existing firms also have to meet these requirements, they are not a barrier in our terminology. They are a determinant (if they are relevant at all) of the economies of scale—the shape of the long-run average cost curve.

3. Suppose, in an industry without economies of scale, a merger of firms lends to temporary monopoly profits. We would say that the (short-run) demand curve facing individual firms has been changed.

4. A firm sells its product at a higher price than rivals obtain. Again we say the size of the firm is governed by economies of scale and its demand curve. However, suppose that a given size of firm systematically gets higher prices because (for example) its product is more attractive to buyers. A small shoe manufacturer adapts to new fashions more quickly, or a large manufacturer of engines has a superior network of repair facilities. If the demand conditions of the firm vary with a characteristic associated with firm size, our language permits us to say that the characteristic is an element of demand or of economies of scale. In keeping with the general tradition of keeping out of demand as much of producer-controlled factors as one can, we would call these selling advantages economies of scale but no important principle is at stake.

5. "Free" entry, in our language, is entry by firms suffering no cost differentials relative to existing firms. Free entry is compatible with huge capital requirements (which are a source, perhaps, of economies of scale).

6. Product differentiation is often treated as a barrier to entry.<sup>3</sup> This is correct usage, on our approach, only if the costs of differentiation (design, advertising, etc.) are higher for a new firm than an existing firm. Otherwise differentiation is a (possible) source of economies of scale.

<sup>3</sup> See J. S. Bain, *Barriers to Entry* (Harvard University Press, 1956), chap. iv.