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IMPERFECT COMPETITION, THEN AND NOW

MARSHALL'S view of competition was not very precise. An unforeseen rise in the demand for a particular commodity would lead to a rise of output, higher marginal cost being accompanied by a higher price. When demand was low, "fear of spoiling the market" would prevent prices from being cut. As time goes by, firms grow in size and enjoy economies of scale. Economies internal to the firm reduce average cost of production (which includes profits at the normal rate on the capital invested) and the benefit is passed on to the public in lower prices. To meet the objection that the firm which first begins to grow can undersell the rest and gradually establish a monopoly, Marshall fell back on the analogy of trees in the forest. A firm is identified with a family. The sons of the founder are enervated by being brought up in the comfort that his money provides so that the expansion of the firm that he began will peter out. It is true that a joint-stock company is not bound to the life of a family but, says Marshall, joint-stock companies stagnate.[1]

Pigou transformed all this into a neat, logical system. Perfect competition means that the individual producer can sell as much or as little as he likes at the ruling price. Each firm continuously produces the amount of output of which the marginal cost is equal to price. There are internal economies of scale only up to a certain size, at which average cost (including a normal profit) is at a minimum. When demand is such as to call forth output beyond this size from a particular firm, marginal cost, and therefore price, exceeds average cost. Super-normal profits call in fresh competition which brings down the market price and pushes back the output of the firm. When price is below average cost, some firms are driven out of business, and those

[1] *Principles of Economics* (seventh edition), p. 316.

that remain expand. Thus the optimum size of firm, with minimum average cost, is always tending to be established.

Here we were, in 1930, in a deep slump, and this is what we were being asked to believe.

The first point in Pigou's scheme was patently absurd. Under perfect competition, any plant that was working at all must be working up to capacity. (Some, for which prime cost exceeded price, might be put out of operation altogether.) Imperfect competition came in to explain the fact, in the world around us, that more or less all plants were working part time.

The notion that every firm is facing a falling demand curve for its own product and that profits are maximised at the output for which marginal revenue is equal to marginal cost, provided an explanation for a situation in which firms could work their plants at less than full capacity and still earn a profit.

This notion was already in the air, but ideas at that time were in a very primitive state. I remember the moment when it was an exciting discovery (made by R. F. Kahn) that where two average curves are tangential, the corresponding marginal curves cut at the same abscissa. The apparatus which we worked out took on a kind of fascination for its own sake (though by modern standards it is childishly simple) and I set about to apply it to the rest of Pigou's system. This reached its culmination in the analysis of price discrimination. I think that this is still useful and that it is worthwhile to master the apparatus for its sake. But to apply the analysis to the so-called theory of the firm, I had to make a number of limitations and simplifications which led the argument astray.

The first was a shameless fudge. I postulated that a firm could find out the conditions of demand for its product by trial and error—that is, I treated the conditions of demand as being unchanged for an indefinitely long period and I assumed that experiments with prices would leave no traces in market conditions. The whole analysis, which in reality consists of comparisons of static equilibrium positions, is dressed up to appear to represent a process going on through time.

To put the argument into a dynamic setting, it is necessary to distinguish between the short-period aspect of competition, which is concerned with price policy and the utilisation of pro-

ductive capacity already in existence, and the long-period aspect, which is concerned with investment.

In manufacturing industry, the producer sets a price and sells as much as the market will take; he therefore has to have a price policy. (Marshall, with his usual instinctive cunning, took the example of a commodity which was sent to market and sold for what it would fetch; in his story of the supply and demand for fish he had no need to bring price policy into the argument.) A perfectly competitive price policy would be continuously to follow the variations of demand so as always to be selling full capacity output (except when price fell below prime cost). This is clearly absurd. By this standard, competition is never perfect. Prices are formed by setting a gross margin, in terms of a percentage on prime costs, to cover overheads, amortisation and net profit. To calculate the appropriate margin, it is necessary to estimate the expected sales from given plant and to take a view of what net profit may be hoped for. In the controversies which arose over imperfect competition, a policy of this kind was described as "full-cost pricing" but that is even more misleading than the formulation in terms of marginal revenue; the producer may know his total overhead costs for a period, but he cannot know what his average cost is going to be until he knows his rate of sales. Moreover the net profit that he hopes to make cannot be derived from costs alone, without any consideration of "what the traffic will bear".

It is true enough that businessmen cannot be expected to draw my curves for themselves; when we know the level of gross margins, it is pointless to try to deduce from it the value of $e/(e-1)$ (e being the producer's subjective estimate of the elasticity of demand for his output) but it is perfectly sensible to say that the "degree of monopoly" is higher,[1] or price policy less competitive, when the producer, in setting his margin, calculates upon a lower level of utilisation of plant and upon a higher rate of profit on capital.

The concept of perfect competition is totally inapplicable to manufacturing industry (it is doubtful whether nowadays it applies even to fish). The prices of manufactures in the nature

[1] Kalecki has been criticised for taking the ratio of margins to prime costs as the definition of the degree of monopoly instead of as a symptom of it. See *The Theory of Economic Fluctuations*, Section 1.

of the case are administered prices. With short-period fluctuations in demand, prices vary very little as long as money costs are constant. Output rises and falls with demand, and (as the overhead per unit of output falls and rises) the share of net profit rises and falls still more. Even in a seller's market when output is up to the limit set by capacity, firms usually prefer to lengthen delivery dates or ration customers, rather than to choke off demand by raising prices today for fear that it might be permanently lost. Movements of demand affect profits strongly, but prices hardly at all.

As for the question of what determines the rate of profit on capital, neither my critics nor my supporters had anything much to say about it.

The Keynesian theory of prices, that money-wage rates are the main determinant of prime costs and that the general level of prices moves more or less proportionately to the level of wage rates, has been made familiar by painful experience. This is sometimes connected with imperfect competition. It is argued that producers can "pass on to the consumer" a rise of costs because they are not competitive; but obviously if there were such a thing as perfect competition, with prices equal to marginal costs, the movement would be automatic. A rise in money-wage rates would shift all the marginal costs curves proportionately upwards. With imperfect competition there is an element of judgement in price policy. Prices move sometimes more, and sometimes less, than in proportion to prime costs according to the general atmosphere of the times.

It was Michal Kalecki rather than I who brought imperfect competition into touch with the theory of employment. He showed that a rise in profit margins, such as may come about by defensive monopolistic agreements in a slump, reduces real wages and so tends to increase unemployment. He also established the very striking proposition that a rise in margins increases the share of profit in the value of output only by reducing the share of wages. The total of profit over a period of time is not likely to be increased by it. Overall expenditure is not raised immediately, so that the main effect of raising prices is to sell less goods for more or less the same total receipts.[1]

[1] *Op. cit.*, Section 3.

All this is concerned with the short-period aspect of competition. To behave monopolistically in the long-period sense, means to pursue a cautious investment policy, restraining the growth of capacity relatively to demand. A monopolistic investment policy will generally be associated with a monopolistic price policy, but the converse is by no means generally true. This explains—what for the old theory was a paradox—that the firms which make the most monopolistic profits are often those which grow fastest. Galbraith points out that, in the United States, growth and competition are not generally associated. There are some competitive industries which conform to the orthodox ideal:

> Yet almost no one would select them as a showpiece of American industrial achievement. The showpieces are, with rare exceptions, the industries which are dominated by a handful of large firms. The foreign visitor, brought to the United States by the Economic Co-operation Administration, visits the same firms as do attorneys of the Department of Justice in their search for monopoly.[1]

Marshall's contradiction between internal economies and competition cannot be resolved by Pigou's optimum size of firm, still less by the prediction that joint-stock companies will fail to grow. Rather it is resolved by recognising that there is no need to resolve it. Competition is always in course of bringing itself to an end. At any moment, in prosperous modern industries, the number of firms is tending to fall and competition is becoming more oligopolistic. My old-fashioned comparison between monopoly and competition may still have some application to old-fashioned restrictive rings but it cannot comprehend the great octopuses of modern industry.

Besides the static approach, there were some other serious limitations on my argument. I did not attempt to tackle duopoly and oligopoly and, concentrating on price as the vehicle for competition, I said very little about non-price competition, such as artificial product-differentiation, advertising and sales promotion, which in fact accounts for the greatest part of the wastefulness of imperfect markets. (The twin to my book, Chamberlin's *Monopolistic Competition*, opened up these subjects, but in the subsequent controversies Chamberlin appeared

[1] J. K. Galbraith, *American Capitalism*, p. 96.

to be more concerned to defend the market system than to expose its drawbacks.)

To get my simple analysis on to its feet, I had to assume that each firm was selling a single commodity. This has the effect of making the treatment of "industries" misleading. When I revisited Imperfect Competition after twenty years I pointed this out.[1]

> The assumption that each firm produces a single commodity conceals the distinction between the output of an *industry*—that is, a group of firms engaged in production of commodities alike in their methods of manufacture, and the supply to a *market*—that is, the demand for a group of commodities which are close substitutes for each other. In ordinary language when we speak of the cotton industry, the iron-founding industry, the boot-and-shoe industry (leather) we are thinking of a group of firms engaged in a certain type of production, governed by the kinds of object produced and the materials of which they are made. Sometimes a single firm produces very diverse objects which are complements to each other, and therefore sold together (pens and blotting-paper, low-power electric motors and artificial teeth) and sometimes quite unrelated objects are bound together in production because they are bound together in selling by conventional shopping habits (hair-brushes and medicines). Many of the products of a single industry are extremely remote substitutes for each other. There is no overlap, for instance, between the markets for men's and children's shoes or for drain-pipes and stoves. On the other hand, products of totally different industries may be quite close substitutes—rubber and leather shoes; asbestos and cast-iron drain-pipes.
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> The concept of an industry, though amorphous and impossible to demarcate sharply at the edges, is of importance for the theory of competition. It represents the area within which a firm finds it relatively easy to expand as it grows. There are often certain basic processes required for the production of the most diverse commodities (tennis balls, motor tyres, and mattresses) and economies in the utilization of by-products under one roof. The know-how and trade connections established for one range of products make it easier to add different commodities of the same technical nature to a firm's output than it is to add mutually substitutable commodities made of different materials, or made or marketed by radically different methods. Moreover, the members of an industry

[1] *Economic Journal*, September 1953, and *Collected Economic Papers*, vol. i.

have common interests and a common language, and feel a kind of patriotism which links them together, even when they are in competition with each other. It is much easier to organize control over one industry serving many markets than one market served by the products of several industries.

The degree of concentration in an industry, measured by the proportion of its output produced by, say, the three largest firms, or the degree of monopoly in the sense of the closeness of the organization binding the firms, may have little relation to the degree of monopoly in the markets which it serves, in the sense of power to control prices. An unconcentrated and unorganized industry may contain a number of very strong small monopolies over particular commodities, while another, highly concentrated or tightly organized, may be meeting competition in some or all of its markets from the products of rival industries which are substitutes for its own.

Nowadays the definition of an industry is breaking down in another way. More and more, the great firms have a foot not only in many markets but in many industries, in several continents, the connections between their various activities being neither in know-how nor in marketing but merely in financial power.

Since this book has long been used as a text for students, some of its weaknesses have been frozen into orthodox teaching but its strong points, I think, have had very little influence. The strong points are negative. They should have cleared away a lot of rubbish. Of course, nothing can be proved about the nature of reality by a purely *a priori* argument, but the analysis opened up some lines of thought which are still important, and still neglected, today.

First of all, by showing that perfect competition cannot obtain in manufacturing industry, it undermines the complex of ideas erected on the slogan of "price equals marginal cost". In the short period, prices equal to marginal cost would mean that small variations in demand produce violent changes in prices, as can be seen where competition reigns, that is, in the markets for primary products. What it would mean in the long period, with "normal profits", orthodox text-books have never made clear.

Another moral that the argument suggests is that consumer's

sovereignty can never be established as long as the initiative lies with the producer. For the general run of consumer goods, the buyer is necessarily an amateur while the seller is a professional. To make industry genuinely serve the needs of the public, as it is supposed to do in the text-books, would require a monopsony of consumers, equipped with their own experts. Some slight efforts are being made nowadays to protect the consumer interest, but they cannot make much head against the power of advertisement. The great chain-stores exercise some monopsonistic influence in imposing a kind of synthetic perfect market on small-scale producers, but they cannot offer a counterweight to the great oligopolists. Besides, though they serve the consumer interest against the producer, they also have some interests of their own.

Finally, what for me was the main point, I succeeded in proving within the framework of the orthodox theory, that it is not true that wages are normally equal to the value of the marginal product of labour.

All this had no effect. Perfect competition, supply and demand, consumer's sovereignty and marginal products still reign supreme in orthodox teaching. Let us hope that a new generation of students, after forty years, will find in this book what I intended to mean by it.

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