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THE LAWS OF RETURNS UNDER COMPETITIVE CONDITIONS[1]

A STRIKING feature of the present position of economic science is the almost unanimous agreement at which economists have arrived regarding the theory of competitive value, which is inspired by the fundamental symmetry existing between the forces of demand and those of supply, and is based upon the assumption that the essential causes determining the price of particular commodities may be simplified and grouped together so as to be represented by a pair of intersecting curves of collective demand and supply. This state of things is in such marked contrast with the controversies on the theory of value by which political economy was characterised during the past century, that it might almost be thought that from these clashes of thought the spark of an ultimate truth had at length been struck. Sceptics might perhaps think that the agreement in question is due, not so much to everyone being convinced, as to the indifference felt by the majority nowadays in regard to the theory of value—an indifference which is justified by the fact that this theory, more than any other part of economic theory, has lost much of its direct bearing upon practical politics, and particularly in regard to doctrines of social changes, which had formerly been conferred upon it by Ricardo and afterwards by Marx, and in opposition to them by the bourgeois economists. It has been transformed more and more into "an apparatus of the mind, a technique of thinking" which does not furnish any "settled conclusions immediately applicable to policy."[2] It is essentially a pedagogic instrument, somewhat like the study of the classics, and, unlike the study of the exact sciences and law, its purposes are exclusively those of training the mind, for which reason it is hardly apt to excite the passions of men, even academical men—a theory, in short, in respect to which it is not worth while departing from a tradition which is finally accepted. However this may be, the fact of the agreement remains.

In the tranquil view which the modern theory of value presents us there is

[1] The opening pages of this article contain a summary of the conclusions of a paper on "Relazioni fra costo e quantita prodetta " published in Vol. II. of the *Annali di Economia*.

[2] Keynes: *Introduction to Cambridge Economics Handbooks*.

scandal spreading, he is promptly silenced, frequently with some concessions and partial admission of his objections, which, naturally, the theory had implicitly taken into account. And so, with the lapse of time, the qualifications, the restrictions and the exceptions have piled up, and have eaten up, if not all, certainly the greater part of the theory. If their aggregate effect is not at once apparent, this is because they are scattered about in footnotes and articles and carefully segregated from one another.

It is not the purpose of this article to add anything to the pile, but simply to attempt to co-ordinate certain materials, separating what is still alive from what is dead in the concept of the supply curve and of its effects on competitive price determination.

At present the laws of returns are of special importance owing to the part they play in the study of the problem of value. But they are naturally much older than the particular theory of value in which they are employed, and it is precisely from their secular age and their original applications that they derive both their prestige and their weakness in their modem application. We are disposed to accept the laws of returns as a matter of course, because we have before our eyes the great and indisputable services rendered by them when performing their ancient function, and we often neglect to ask ourselves whether the old barrels are still able to hold the new wine.

The law of diminishing returns has long been associated mainly with the problem of rent, and from this point of view the law as formulated by the classical economists with reference to land was entirely adequate. It had always been perfectly obvious that its operation affected, not merely rent, but also the cost of the product; but this was not emphasised as a cause of variation in the relative price of the individual commodities produced, because the operation of diminishing returns increased in a like measure the cost of all. This remained true even when the English classical economists applied the law to the production of corn, for, as Marshall has shown, "the term 'corn' was used by them as short for agricultural produce in general" *(Principles,* Vl. i. 2, note).

The position occupied in classical economics by the law of increasing returns was much less prominent, as it was regarded merely as an important aspect of the division of labour, and thus rather as a result of general economic progress than of an increase in the scale of production.

The result was that in the original laws of returns the general idea of a functional connection between cost and quantity produced was not given a conspicuous place; it appears, in fact, to have been present in the minds of the classical economists much less prominently than was the connection between demand and demand price.

The development which has emphasised the former aspect of the laws of returns is comparatively recent. At the same time it has removed both laws from the positions which, according to the traditional partition of political economy, they used to occupy, one under the heading of "distribution " and the other under "production," and has transferred them to the chapter of "exchange-value"; there, merging them in the single "law of non-proportional returns," it has derived from them a law of supply in a market such as can be co-ordinated with the corresponding law of demand; and on the symmetry of these two opposite forces it has based the modern theory of value.

In order to reach this result it was found necessary to introduce certain modifications into the form of the two laws. Very little was necessary as regards the law of diminishing returns, which merely required to be generalised from the particular case of land to every case in which there existed a factor of production of which only a constant quantity was available. The law of increasing returns, however, had to be subjected to a much more radical transformation: the part played in it by the division of labour—now limited to the case of independent subsidiary factories coming into existence as the production of an industry increases—was greatly restricted; while consideration of that greater internal division of labour, which is rendered possible by an increase in the dimensions of an individual firm, was entirely abandoned, as it was seen to be incompatible with competitive conditions. On the other hand, the importance of "external economies" was more and more emphasised—that is, of the advantage derived by individual producers from the growth, not of their own individual undertakings, but of the industry in its aggregate.

Even in their present form, however, the two. laws have preserved the characteristic of originating from forces of profoundly diverse nature. Such heterogeneousness, while not constituting in itself an insurmountable obstacle when it is attempted to coordinate them and employ them conjointly in problems mainly relating, not to the causes, but to the effects of variations in cost, involves a fresh difficulty when it is sought to classify the various industries according as they belong to one or the other category. It is, in fact, in the very nature of the bases of the two laws that the wider the definition which we assume for "an industry" that is, the more nearly it includes all the undertakings which employ a given factor of production, as, for example, agriculture or the iron industry—the more probable will it be that the forces which make for diminishing returns will play an important part in it; the more restrictive this definition—the more nearly it includes, therefore, only those undertakings which produce a given type of consumable commodity, as, for example, fruit or nails—the greater will be the probability that the forces which make for increasing returns will predominate in it. In its effects this difficulty is parallel to that which, as is well known, arises from the consideration of the element of time, whereby the shorter the period of time allowed for the adjustments, the greater is the likelihood of decreasing returns, while the longer that period is, the greater is the probability of increasing returns.

The really serious difficulties make their appearance when it is considered to what extent the supply curves based on the laws of returns satisfy the conditions necessary to enable them to be employed in the study of the equilibrium value of single commodities produced under competitive conditions. This point of view assumes that the conditions of production and the demand for a commodity can be considered, in respect to small variations, as being practically independent, both in regard to each other and in relation to the supply and demand of all other commodities. It is well known that such an assumption would not be illegitimate merely because the independence may not be absolutely perfect, as, in fact, it never can be; and a slight degree of interdependence may be overlooked without disadvantage if it applies to quantities of the second order of smalls, as would be the case if the effect (for example, an increase of cost) of a variation in the industry which we propose

to isolate were to react partially on the price of the products of other industries, and this latter effect were to influence the demand for the product of the first industry. But, of course, it is a very different matter, and the assumption becomes illegitimate, when a variation in the quantity produced by the industry under consideration sets up a force which acts directly, not merely upon its own costs, but also upon the costs of other industries; in such a case the conditions of the "particular equilibrium" which it was intended to isolate are upset, and it is no longer possible, without contradiction, to neglect collateral effects.

It unfortunately happens that it is precisely into this latter category that the applications of the laws of returns fall, in the great majority of cases. As regards diminishing returns, in fact, if in the production of a particular commodity a considerable part of a factor is employed, the total amount of which is fixed or can be increased only at a more than proportional cost, a small increase in the production of the commodity will necessitate a more intense utilisation of that factor, and this will affect in the same manner the cost of the commodity in question and the cost of the other commodities into the production of which that factor enters; and since commodities into the production of which a common special factor enters are frequently, to a certain extent, substitutes for one another (for example, various kinds of agricultural produce), the modification in their price will not be without appreciable effects upon demand in the industry concerned. If we next take an industry which employs only a small pert of the "constant factor " (which appears more appropriate for the study of the particular equilibrium of a single industry), we find that a (small) increase in its production is generally met much more by drawing "marginal doses" of the constant factor from other industries than by intensifying its own utilisation of it; thus the increase in cost will be practically negligible, and anyhow it will still operate in a like degree upon all the industries of the group, Excluding these cases, and excluding—if we take a point of view embracing long periods—the numerous cases in which the quantity of a means of production may be regarded as being only temporarily fixed in respect to an unexpected demand, very little remains: the imposing structure of diminishing returns is available only for the study of that minute class of commodities in the production of which the whole of a factor of production is employed. Here, of course, by "a commodity" is to be understood an article in regard to which it is possible to construct, or at least to conceive, a demand schedule which is tolerably homogeneous and independent of the conditions of supply, and not, as is frequently implied, a collection of diverse articles, such as agricultural products or ironware.

It is not by mere chance that, notwithstanding the profoundly diverse nature of the two laws of returns, the same difficulties also arise, in almost identical form, in connection with increasing returns. Here again we find that in reality the economies of production on a large scale are not suitable for the requirements of the supply curve: their field of action is either wider or more restricted than would be necessary. On the one hand, reductions in cost which are due to "those external economies which result from the general progress of industrial environment " to which Marshall refers *(Principles,* V. xi. 1) must, of course, be ignored, as they are clearly incompatible with the conditions of the particular equilibrium of a commodity. On the other hand, reductions in

cost connected with an increase in a firm's scale of production; arising from internal economies or from the possibility of distributing the overhead charges over a larger number of product units, must be put aside as being incompatible with competitive conditions. The only economies which could be taken into consideration would be such as occupy an intermediate position between these two extremes; but it is just in the middle that nothing, or almost nothing, is to be found. Those economies which are external from the point of view of the individual firm, but internal as regards the industry in its aggregate, constitute precisely the class which is most seldom to be met with. As Marshall has said in the work in which he has intended to approach most closely the actual conditions of industry, "the economics of production on a large scale can seldom be allocated exactly to any one industry: they are in great measure attached to groups, often large groups, of correlated industries."[1] In any case, in so far as external economies of the kind in question exist, they are not likely to be called forth by small increases in production. Thus it appears that supply curves showing decreasing costs are not to be found more frequently than their opposite.

Reduced within such restricted limits, the supply schedule with variable costs cannot claim to be a general conception applicable to normal industries; it can prove a useful instrument only in regard to such exceptional industries as can reasonably satisfy its conditions. In normal cases the cost of production of commodities produced competitively—as we are not entitled to take into consideration the causes which may make it rise or fall—must be regarded as constant in respect of small variation in the quantity produced.[2] And so, as a simple way of approaching the problem of competitive value, the old and now obsolete theory which makes it dependent on the cost of production alone appears to hold its ground as the best available.

This first approximation, as far as it goes, is as important as it is useful: it emphasises the fundamental factor, namely, the predominant influence of cost of production in the determination of the normal value of commodities, while at the same time it does not lead us astray when we desire to study in greater detail the conditions under which exchange takes place in particular cases, for it does not conceal from us the fact that we cannot find the elements required

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[1] *Industry and Trade*, p. 188.

[2] The absence of causes which tend to cause the cost either to increase or diminish appears to be the most obvious and plausible way from which constant costs can arise. But as these constitute the most dangerous enemy of the symmetry between demand and supply, those writers who accept this doctrine, in order to be able to relegate the constant costs to the category of theoretical limiting cases which in reality cannot exist, have persuaded themselves that they are something extremely complicated and improbable, since they "can only result from the accidental balancing of two opposite tendencies; the tendency to diminution of cost… and the tendency to increase of cost …" (Sidgwick, *Principles of Political Economy*, 1st ed., p. 207; to the same effect see, *e.g.*, Marshall, *Principles*, IV. xiii, 2, and *Palgrave's Dictionary, sub voce* Law of Constant Return). The dictum of Edgeworth, that "to treat *variables* as *constants* is the characteristic vice of the unmathematical economist," might today be reversed: the mathematical economists have gone so far in correcting this vice that they can no longer conceive of a constant except as the result of the compensation of two equal and opposite variables.

for this purpose within the limits of its assumptions.

When we proceed to a further approximation, while keeping to the path of free competition, the complications do not arise gradually, as would be convenient; they present themselves simultaneously as a whole. If diminishing returns arising from a "constant factor" are taken into consideration, it becomes necessary to extend the field of investigation so as to examine the conditions of simultaneous equilibrium in numerous industries: a well-known conception, whose complexity, however, prevents it from bearing fruit, at least in the present state of our knowledge, which does not permit of even much simpler schemata being applied to the study of real conditions. If we pass to external economics, we find ourselves confronted by the same obstacle, and there is also the impossibility of confining within statical conditions the circumstances from which they originate.

It is necessary, therefore, to abandon the path of free competition and turn in the opposite direction, namely, towards monopoly. Here we find a well-defined theory in which variations of cost connected with changes in the dimensions of the individual undertaking play an important part. Of course, when we are supplied with theories in respect to the two extreme cases of monopoly and competition as part of the equipment required in order to undertake the study of the actual conditions in the different industries, we are warned that these generally do not fit exactly one or other of the categories, but will be found scattered along the intermediate zone, and that the nature of an industry will approximate more closely to the monopolist or the competitive system according to its particular circumstances, such as whether the number of autonomous undertakings in it is larger or smaller, or whether or not they are bound together by partial agreements, etc. We are thus led to believe that when production is in the hands of a large number of concerns entirely independent of one another as regards control, the conclusion proper to competition may be applied even if the market in which the goods are exchanged is not absolutely perfect, for its imperfections are in general constituted by frictions which may simply retard or slightly modify the effects of the active forces of competition, but which the latter ultimately succeed in substantially overcoming. This view appears to be fundamentally inadmissible. Many of the obstacles which break up that unity of the market which is the essential condition of competition are not of the nature of "frictions," but are themselves active forces which produce permanent and even cumulative effects. They are frequently, moreover, endowed with sufficient stability to enable them to be made the subject of analysis based on statical assumptions.

Of these effects two, which are closely interconnected, are of special importance because they are to be found with great frequency in industries in which competitive conditions appear to prevail; and they also possess a special interest because, as they relate to certain of the most characteristic features of the theoretical conception of competition, they show how seldom it is for these conditions to be realised in their integrity, and how a slight divergence from them suffices to render the manner in which equilibrium is attained extremely similar to that peculiar to monopoly. These two points in which the theory of competition differs radically from the actual state of things which is most general are: first, the idea that the competing producer cannot deliberately affect the market prices, and that he may therefore regard it as constant

whatever the quantity of goods which he individually may throw on the market; second, the idea that each competing producer necessarily produces normally in circumstances of individual increasing costs.

Everyday experience shows that a very large number of undertakings—and the majority of those which produce manufactured consumers' goods—work under condition of individual diminishing costs. Almost any producer of such goods, if he could rely upon the market in which he sells his products being prepared to take any quantity of them from him at the current price, without any trouble on his part except that of producing them, would extend his business enormously. It is not easy, in times of normal activity, to find an undertaking which systematically restricts its own production to an amount less than that which it could sell at the current price, and which is at the same time prevented by competition from exceeding that price. Business men, who regard themselves as being subject to competitive conditions, would consider absurd the assertion that the limit to their production is to be found in the internal conditions of production in their firm, which do not permit of the production of a greater quantity without an increase in cost. The chief obstacle against which they have to contend when they want gradually to increase their production does not lie in the cost of production—which, indeed, generally favours them in that direction—but in the difficulty of selling the larger quantity of goods without reducing the price, or without having to face increased marketing expenses. This necessity of reducing prices in order to sell a larger quantity of one's own product is only an aspect of the usual descending demand curve, with the difference that instead of concerning the whole of a commodity, whatever its origin, it relates only to the goods produced by a particular firm; and the marketing expenses necessary for the extension of its market are merely costly efforts (in the form of advertising, commercial travellers, facilities to customers, etc.) to increase the willingness of the market to buy from it—that is, to raise that demand curve artificially.

This method of regarding the matter appears the most natural, and that which adheres to the reality of things. No doubt it is possible, from the formal point of view, to reverse these relations and regard every purchaser as being perfectly indifferent in his choice between the different producers, provided the latter, in order to approach him, are prepared to incur marketing expenses varying greatly in different cases, and to reckon these increased marketing expenses in the cost of production of each. In this way increasing individual costs can be obtained to any desired extent and a perfect market in which there is an unlimited demand, at current prices, for the products of each. But the question of allocating the marketing expenses cannot be decided from the point of view of formal correctness, for on that basis the two methods are equivalent; nor can it be decided according to the fact that these charges are actually paid by the purchaser or the seller, as this does not affect their incidence or their effects in any way. What is important is to ascertain how the various forces at work can be grouped in the most homogeneous manner, so that the influence of each of them on the equilibrium resulting from their opposition may be more readily estimated. From this point of view the second of the methods mentioned must be rejected, since it entirely conceals the effects which the circumstances from which the marketing expenses originate exercise in disturbing the unity of the market. It alters in a misleading way, moreover,

the customary and well defined significance of the expression "cost of production," with the result of rendering it dependent upon elements quite extraneous to the conditions under which the production of a given undertaking takes place. It consequently misrepresents the manner in which the actual process of determining the price and the quantity produced by each undertaking is affected.

By adhering to the first point of view, therefore, we are led to ascribe the correct measure of importance to the chief obstacle which hinders the free play of competition, even where this appears to predominate, and which at the same time renders a stable equilibrium possible even when the supply curve for the products of each individual firm is descending—that is, the absence of indifference on the part of the buyers of goods as between the different producers. The causes of the preference shown by any group of buyers for a particular firm are of the most diverse nature, and may range from long custom, personal acquaintance, confidence in the quality of the product, proximity, knowledge of particular requirements and the possibility of obtaining credit, to the reputation of a trade-mark, or sign, or a name with high traditions, or to such special features of modelling or design in the product as—without constituting it a distinct commodity intended for the satisfaction of particular needs—have for their principal purpose that of distinguishing it from the products of other firms. What these and the many other possible reasons for preference have in common is that they are expressed in a willingness (which may frequently be dictated by necessity) on the part of the group of buyers who constitute a firm's clientele to pay, if necessary, something extra in order to obtain the goods from a particular firm rather than from any other.

When each of the firms producing a commodity is in such a position the general market for the commodity is subdivided into a series of distinct markets. Any firm which endeavours to extend beyond its own market by invading those of its competitors must incur heavy marketing expenses in order to surmount the barriers by which they are surrounded; but, on the other hand, within its own market and under the protection of its own barrier, each enjoys a privileged position whereby it obtains advantages which—if not in extent, at least in their nature—are equal to those enjoyed by the ordinary monopolist.

Nor is it necessary to stretch the customary conception of monopoly to make this case fit into it. In it also, in fact, we find that the majority of the circumstances which affect the strength of a monopolist (such as the possession of unique natural resources, legal privileges, the control of a greater or less proportion of the total production, the existence of rival commodities, etc.) exercise their influence essentially by affecting the elasticity of the demand for the monopolised goods. Whatever the causes may be, this is the only decisive factor in estimating the degree of independence which a monopolist has in fixing prices: the less elastic the demand for his product, the greater is his hold on his market. The extreme case, which may properly be called "absolute monopoly," is that in which the elasticity of the demand for the products of a

firm is equal to unity[1]; in that case, however much the monopolist raises his prices, the sums periodically expended in purchasing his goods are not even partially diverted into different channels of expenditure, and his price policy will not be affected at all by the fear of competition from other sources of supply. So soon as this elasticity increases, competition begins to make itself felt, and becomes ever more intense as the elasticity grows, until to infinite elasticity in the demand for the products of an individual undertaking a state of perfect competition corresponds. In the intermediate cases the significance of a moderate elasticity in the demand is that, although the monopolist has a certain freedom in fixing his prices, whenever he increases them he is forsaken by a portion of his purchasers, who prefer to spend their money in some other manner. It matters little to the monopolist if they spend it in purchasing goods very different from his own, or goods identical with them, but supplied by other producers who have not increased their price; in either case he must undergo—if only in a slight degree—actual competition from such goods, since it is precisely the possibility of buying them that leads the purchasers gradually to give up using his product as he increases the price. The direct effects are thus equal whether the sums set free as the result of an increase in price by an undertaking are expended on a large number of different commodities, or whether they are employed preponderatingly in the purchase of one or a few rival commodities which are more or less available for buyers, as occurs in the case of an undertaking which, while controlling only a small part of the total production of a commodity has the advantage of possessing a particular market of its own. But the indirect effects in the two cases are substantially different.

The method indicated by Marshall in regard to manufactures designed for particular tastes is applicable for the study of this latter case. "When we are considering an individual producer," he writes, "we must couple his supply curve, not with the general demand curve for his commodity in a wide market, but with the particular demand curve of his own special market " *(Principles*, V. xii. 2). If we extend this method to those industries in which each firm has more or less a particular market, we must not restrict its employment to the occasions when we are considering the individual producer, but we must adhere to it also when we examine the manner in which equilibrium is attained in the trade as a whole; for it is clear that such particular curves can by no means be compounded so as to form a single pair of collective demand and supply curves. The method mentioned above is the very same as that followed in cases of ordinary monopoly, and in both cases, in fact, the individual producer determines his selling price by the well-known method which makes his monopoly revenue or his profits the maximum obtainable.

The peculiarity of the case of the firm which does not possess an actual monopoly but has merely a particular market is that, in the demand schedule for the goods produced by it, the possible buyers are entered in descending

[1] The elasticity of demand for the products of a monopolist cannot, of course, be less than unity in respect to prices immediately above the equilibrium price— that is, in respect to that part of the demand curve which alone counts in regard to the determination of the power of a monopolist in his own market; a question which is quite distinct from that of the magnitude of the gains obtainable by the monopoly, as the latter is dependent, not so much on the ratio of change, as on the absolute measure of the demand and the demand price.

order according to the price which each of them is prepared to pay, not rather than go entirely without, but rather than not buy it from that particular producer instead of elsewhere. That is to say, that two elements enter into the composition of such demand prices—the price at which the goods can be purchased from those other producers who, in the order of a purchaser's preference, immediately follow the producer under consideration, and the monetary measure of the value (a quantity which may be positive or negative) which the purchaser puts on his preference for the products of the firm in question.

For convenience in discussion it may be assumed that initially, in an industry in which like conditions prevail, each producer sells at a price which barely covers his costs. The individual interest of each producer will urge him to increase his price quickly so as to obtain the maximum profit. But in proportion as this practice spreads throughout the trade the various demand schedules will be modified as a result; for, as each buyer finds that the prices of the substitutes upon which he was able to reckon are increased, he will be inclined to pay a higher price for the products of the firm whose customer he is. So that, even before the first increase in price has been completely carried into effect, the conditions will be created which may permit every one of the concerns to make a further increase—and so on in succession. Naturally this process speedily reaches its limit. The customers lost by a firm whenever it raises its prices have recourse in part to other suppliers, and these will return to it when the others also have raised their prices; but in part they entirely give up buying the goods and definitely drop out of the market. Thus, every business has two classes of marginal customers—those who are at the margin only from its own individual standpoint and fix a limit for the excess of its prices over the prices generally ruling, and those who are at the margin from the standpoint of the general market and fix a limit for the general increase in price of the product.

It is, of course, possible that a general rise in the prices of a product may affect the conditions of demand and supply of certain firms in such a way as to make it advantageous for them to lower their prices rather than conform with the rise. But in an industry which has attained a certain degree of stability in its general structure, in regard of its methods of production, the number of undertakings composing it, and its commercial customs—in respect to which, therefore, statical assumptions are more nearly justified—this alternative is much less likely to be adopted than its opposite. In the first place, it involves great elasticity in the demand for the products of an individual business and rapidly diminishing costs for it—that is to say, a state of things the almost inevitable and speedy result of which is complete monopolisation, and which, therefore, is not likely to be found in a trade operated normally by a number of independent firms. In the second place, the forces which impel producers to raise prices are much more effective than those which impel them to reduce them; and this not merely owing to the fear which every seller has of spoiling his market, but mainly because an increase of profit secured by means of a cut in price is obtained *at the cost* of the competing firms, and consequently it impels them to take such defensive action as may jeopardise the greater profits secured; whereas an increase of profit obtained by means of a rise in prices not only does not injure competitors but brings

them a positive gain, and it may therefore be regarded as having been more durably acquired. An undertaking, therefore, when confronted with the dual possibility of increasing its profits by raising its selling prices, or by reducing them, will generally adopt the first alternative unless the additional profits expected from the second are considerably greater.

These same reasons may serve to dispel the doubt, which might at first sight arise, whether in the case considered above the equilibrium may be indeterminate, as it is generally considered to be in the analogous case of multiple monopoly. In the first place, even in this case, as Edgeworth has noticed, "the extent of indeterminateness' diminishes with the diminution of the degree of correlation between the articles" produced by the different monopolies[1]; that is to say, in our case, with the diminution of the elasticity of demand for the products of the individual firm—a limitation, it may be added, the effectiveness of which is the greater in proportion as the rapidity of decrease in the individual cost with the increase in the quantity produced becomes less. Both these conditions, as has been said above, are generally present to a large extent in the case we are considering. Moreover, the indeterminateness of the equilibrium in the case of multiple monopoly is necessarily dependent upon the assumption that at any moment each of the monopolises is equally inclined either to raise or to reduce his price, according as one or the other may suit him best from the point of view of immediate gain—a supposition which, at least in our case, is not, as we have said, justified.[2]

The conclusion that the equilibrium is in general determinate does not mean that generalising statements can be made regarding the price corresponding to that equilibrium; it may be different in the case of each undertaking, and is dependent to a great extent upon the special conditions affecting it.

The only case in which it would be possible to speak of a general price would be that of a trade in which the productive organisation of the different undertakings was uniform, and in which their particular markets were alike as regards the nature and attachment of the customers. In that case, as may readily be seen, the general price of the product, through the independent action of a number of firms, each of which is prompted only by its individual interests, would tend to reach the same level as that which would be fixed by a single monopolistic association in accordance with the ordinary principles of monopoly. This result, far from being conditioned by the existence of an almost complete isolation of the individual markets, requires only a very slight degree of preference for a particular firm in each of the groups of customers. In itself, this case is of no importance, because it is extremely unlikely that such uniformity would actually be found; but it is representative of a tendency,

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[1] *The Pure Theory of Monopoly*, in Papers Relating to P. E., Vol. 1. p. 121.

[2] The determinateness of the equilibrium would be more evident if, instead of regarding the various units of the same goods produced by different undertakings as rival commodities, we had regarded each unit as being composed of two commodities having, within each particular market, a joint demand, one of which (the commodity itself) is sold under competitive conditions, and the other (the special services, or the distinguishing features added to it by each producer) is sold under monopolistic conditions. This point of view, however, is more artificial and less in conformity with the customary method of regarding the matter.

which prevails even in actual cases where the conditions of the various undertakings differ among each other, whereby the cumulative action of slight obstacles to competition produces on prices effects which approximate to those of monopoly.

It should be noted that in the foregoing the disturbing influence exercised by the competition of new firms attracted to an industry the conditions of which permit of high monopolist profits has been neglected. This appeared justified, in the first place because the entrance of newcomers is frequently hindered by the heavy expenses necessary for setting up a connection in a trade in which the existing firms have an established goodwill—expenses which may often exceed the capital value of the profits obtainable; in the second place, this element can acquire importance only when the monopoly profits in a trade are considerably above the normal level of profits in the trade in general, which, however, does not prevent the prices from being determined up to that point in the manner which has been indicated.

It might seem, moreover, that the importance of the marketing difficulties as a limit to the development of the productive unit has been over-estimated as compared with the effect in the same direction exercised by the more than proportionate increase in the expenditure which a firm must sometimes incur in order to furnish itself with the additional means of production which it requires; but it will generally be found that such increases in costs are an effect, and not a determining cause, of the market conditions which render it necessary or desirable for a firm to restrict its production. Thus, the limited credit of many firms, which does not permit any one of them to obtain more than a limited amount of capital at the current rate of interest, is often a direct consequence of its being known that a given firm is unable to increase its sales outside its own particular market without incurring heavy marketing expenses. If it were known that a firm which is in a position to produce an increased quantity of goods at a lower cost is also in a position to sell them without difficulty at a constant price, such a firm could encounter no obstacle in a free capital market. On the other hand, if a banker, or the owner of land on which a firm proposes to extend its own plant, or any other supplier of the firm's means of production, stands in a privileged position in respect to it, he can certainly exact from it a price higher than the current price for his supplies, but this possibility will still be a direct consequence of the fact that such a firm, being in its turn in a privileged position in regard to its particular market, also sells its products at prices above cost. What happens in such cases is that a portion of its monopoly profits are taken away from the firm, not that its cost of production is increased.

But these are mainly aspects of the process of diffusion of profits throughout the various stages of production and of the process of forming a normal level of profits throughout all the industries of a country. Their influence on the formation of the prices of single commodities is relatively unimportant, and their consideration is therefore beyond the scope of this article.

PIERO SRAFFA

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