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PRICE AND COST IN ENTREPRENEURS' POLICY

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IT is important that economists should have clear ideas as to the scope within which empirical inquiries may be useful, for otherwise immense time may be wasted. What is validly vouchsafed by the deductive method is in no need of verification. For instance, a correctly drawn formula for the 'quantity theory of money' is incapable of being further fortified by statistical inquiries. The empirical method is appropriate in the case of questions to which pure analysis cannot provide an answer.

It is the purpose of this article to consider whether the problem of how the entrepreneur reaches decisions about the amount of output to be undertaken gives scope for empirical study. The theorist properly claims that on the assumption of the profit motive and knowledge on the part of the entrepreneur the proper line of action is precisely determined. It would appear to him naïve and otiose to ask an entrepreneur how he would behave in the event of an increase in demand, since his proper course of action may be read off from the relevant cost and demand curves which represent his circumstances. His answer could but confirm what we already know.

With regard to the assumptions of the profit motive and knowledge, the former of these appears to be securely founded. Any one seeking seriously to challenge this would be regarded as a hopeless sentimentalist. Isolated altruism in a system which works by the operation of competition would not be likely to yield any net advantage to the 'greatest number'; the entrepreneur would do better to take his profit and distribute the proceeds in well-directed charity. This point of view is probably broadly correct; and if the other assumption of perfect knowledge were equally well founded, it would be still more secure. But I shall give some reason for supposing that in the absence of perfect knowledge the other assumption may be weakened also, albeit only to a moderate extent.

The assumption of perfect knowledge is clearly formally incorrect. But at this point the theorist takes refuge in a doctrine of probability. His law with regard to the entrepreneur's reaction to a given change in circumstances may not, he admits, be true in each individual case, but may none the less be true as the expression of a statistical average, since the errors of judgement leading an entrepreneur to depart in either direction from his point of best advantage may be expected to cancel out, if there are a large number of cases.

This gloss to the pure analytical doctrine would be quite acceptable, provided that it could justifiably be assumed that there is no cause likely to be present which is capable of leading to a *systematic* distortion of his judgement or his conduct away from the point of best advantage. Next it is possible to ask whether it is *a priori* likely that there should be such a cause. But this kind of speculation, if it is pressed too far *in vacuo*, is in danger of leading to results which would justify the enemy of analysis in making the stigma which he intends when he uses the expression 'arm-chair theorizing'.

It was with this in mind that the Oxford Research Group decided that this was a proper field for the method of direct question. The best way of discovering possible causes of systematic distortion appeared to be to ask a sample of entrepreneurs how they did in fact make up their minds what to do when faced with specified changes in their business position. In approaching this inquiry the members of the group had completely open minds as to what the result would be. The answers rather emphatically confirmed the suspicion that there are causes at work capable of producing systematic distortion. The material in our dossiers already to hand contains a number of hints and clues which demand alike keen insight and mature reflection for their interpretation. It might be possible to make a number of provisional generalizations, which would then be open to verification by further inquiries. In the paper which follows, Mr. Hall and Mr. Hitch have concentrated attention mainly on the adoption of the 'full cost' principle. This consists in making it a rule to charge a price equal to prime cost plus an allowance for overheads. The rules for determining the appropriate allowance vary in their degree of arbitrariness, but in many cases it is clear that their application is not mere camouflage designed to conceal some other deeper method for arriving at the proper price to be charged.

Now it cannot be stated outright whether the adoption of this principle does in fact, on the whole, distort the entrepreneur's action far from his line of greatest possible advantage, though further analysis may elucidate this point. But *a priori* it is quite capable of doing so and there is nothing in our evidence to suggest the contrary. And this may contain a corollary of immediate practical importance.

The economist in considering possible consequences of a given change, a fall in prices, an injection of bank credit, a reduction of wages or what not, has usually assumed that entrepreneurs will adapt themselves by proceeding along the lines of greatest advantage (e.g. by equating marginal cost to marginal revenue). But if the conclusions tentatively drawn from our inquiries are correctly drawn and confirmed, he ought rather to assume that producers (or a large proportion of producers) proceed upon the full cost principle, although this may be to some extent irrational. If the adoption by entrepreneurs of this principle leads by accident,[1] so to speak, to conduct which is in their best interest, the theorist will at worst reach the same result by assuming the adoption of it as he would if he had assumed the equation of marginal cost to marginal revenue, both these concepts being interpreted with all necessary reservations; and he will probably reach a better conclusion, because he, like the entrepreneur, is ignorant of all the circumstances affecting marginal cost and revenue properly interpreted, and will have to invent a number of hypotheses, which may be wrong, to give content to those expressions. If, on the other hand, the adoption of the full cost principle by entrepreneurs in fact leads to a distortion, and a majority of entrepreneurs do adopt that principle, the theorist will clearly get a result closer to the truth by assuming that they adopt it.

Next it may be well to enumerate the matters about which the entrepreneur commonly lacks full knowledge. His ignorance with regard to the future is clearly in point when there is a question of ordering fixed equipment. This has often been recognized by theorists and given rise to psychological theories regarding optimism and pessimism. It is less commonly appreciated that future developments are often relevant to the fixation of the level of current output. For instance, the correct valuation of prime cost, strictly interpreted, implies foreknowledge of the prospective value of existing equipment.[2] In imperfect competition, correct valuation of marginal revenue also implies foreknowledge. If a customer is lost by being asked to pay a price of £$x+1$, when he would be retained by the price of £x, his attachment to the firm may be weakened and future custom lost. A true valuation of marginal revenue at the price of £x

[1] But for a further commentary on the term 'accident' see below, p. 7.

[2] Cf. Mr. Keynes's concept of 'user cost', which is an ingredient of prime cost, and Mr. MacDougall's subtle analysis of similar problems in an important article in the *Economic Journal*, Sept. 1936.

requires not only the usual subtraction of a value computed from the elasticity of demand by the ordinary rules, but also the addition of a sum representing the present value of the superior goodwill of the customer through future time, due to his not having gone elsewhere on this occasion. This is clearly a problematic matter; and it involves foreknowledge, since the future value and therefore the present value of the customer's attachment depend upon the future course of events, which will affect his buying power.

It might be objected that these are fine points; but even in the contemporaneous circumstances, of which account must be taken in a correct decision, there is much that is unknown. In imperfect competition—and this covers by far the greater part of the field of production and distribution—in order to estimate current marginal revenue in its crudest sense, that is without taking into account future repercussions, it is necessary to know the elasticity of demand for the product. Our questions revealed that the great majority of entrepreneurs were in profound ignorance with regard to its value. This, indeed, must be regarded as one notable result of our inquiry. Time and again with regard to this magnitude of cardinal importance, which economists are apt to assume to be known as a matter of course, we found that the entrepreneur was often unable to make any conjecture at all. And our sample erred, if at all, by being biased in favour of well-organized and efficiently conducted businesses.

On the side of cost two magnitudes were usually computed with some pains at accuracy, namely, 'direct' cost and total overheads. But direct cost often excluded a number of charges which should properly rank as prime costs; and there was often an arbitrary or conventional element in the process by which 'oncost' per unit was deduced from total overheads. While global figures of cost are comparatively easy to compute, the problem of imputing costs to particular units of output often baffles analysis, especially in the usual case where one firm produces more than one line, though occasionally we found that strenuous attempts at such imputation were made. Thus even entrepreneurs who were prepared to cut prices to the minimum level which covered prime costs were often unsure about the precise value of this; they knew that it was something above the direct cost and less than direct cost plus oncost, but within those limits were vague. The same difficulties stand in the way of discriminating marginal from average prime cost, and answers to questions about increasing or decreasing marginal prime costs were seldom given with confidence.

It has been impossible not to be struck by the devastating completeness of entrepreneurs' uncertainty about matters usually assumed to be known in the text-books. And in most cases they were able to convince us that this uncertainty was due not to any negligence or lack of zeal for knowledge on their part but to the nature of the case.

This being so the theorist would be inclined to suppose that the normal procedure would be to adopt the method of trial and error for gaining an approximate knowledge of the true value of the relevant magnitudes. But here again there are great obstacles. In the first place the circumstances may themselves be changing too quickly. Secondly, businesslike administration often requires some standard policy. A firm even of moderate size may issue a periodic price-list containing hundreds of items; the scope for possible experimentation would be stupendous and its practical feasibility correspondingly limited, since experiment with regard to one item or a few items would not give information of much value. Or the firm may have to make prices in response to a continuous succession of heterogeneous orders. Even if the experimentation were feasible, the staff work required for its conduct would cost more than the gain likely to accrue on any reasonable hypothesis. Thirdly, frequent changes of price, or of policy revealed in price quotations, create ill-will among customers, entailing a business loss which may greatly exceed any probable gain.

So far the problem has been discussed in the language of the theory of imperfect competition (marginal cost and marginal revenue). This theory constituted a heroic attempt to reduce to simple terms an analysis of the great region in which perfect competition does not hold. It applied, as it hoped validly, what is essentially the theory of monopoly to the whole of this field, justifying itself on the grounds of product differentiation and customer attachment. By parity of assumption it hoped also to have outflanked the bristling array of unsolved problems which confront the student of duopoly and oligopoly. The failure of economists to reach agreement on these problems would no longer matter, since oligopoly without product differentiation or customer attachment might be relegated to the limbo of problems having intellectual interest but no practical application.

I do not indeed despair of analytical economists yet reaching a determinate solution of the problem of how to maximize profit in these circumstances. But it appears likely that the knowledge supposed to reside in the entrepreneur in this case would be still greater than in the other cases, since the cost schedules of his competitors would probably be a necessary ingredient of it.

Now while our answers throw no doubt on the prevalence of the conditions required by the theory of imperfect competition, they have suggested in a number of instances that there may be an oligopolistic element coexistent with them. Product differentiation and customer attachment may be present, and yet the probable reaction of competitor *B* to a change of price or policy by competitor *A* may be sufficiently important in its effect on the market situation to be a consideration relevant to *A*'s decision to make that change. In fact the real situation is often a subtle blend of monopoly and oligopoly. This provides an addition to the matters of uncertainty, already enumerated, with which the entrepreneur is confronted.

Taking them all together, we might often reach a total uncertainty which is so large that the acutest statistical expert, applying the most refined mathematical technique to the available data, could only give as his answer that the price should lie somewhere between widely distant limits, and application of the crudest common sense might often vouchsafe a narrowing of these. But such an answer, whether yielded by statistics or common sense, is not good enough for action. A precise price quotation must be given, or a precise amount of output undertaken. What shall this be? Pure reasoning can supply no answer.

In this fog of uncertainty the full cost principle may provide a guiding beacon—indeed often does so. I will not enlarge upon the possible grounds for a rational defence of this procedure. An entrepreneur may argue—if I attempt to charge a higher price than this, I shall probably lose ground to competitors in the long run; or again, if I stick to the full cost price, those who try to undercut me by neglecting some part of their overheads must go bankrupt in the long run, so that I can safely neglect their temporary incursion into my market. Such reasonings would seem jejune enough, if only the fuller data required for computing marginal cost and marginal revenue were available; but in the absence of these data they may be sufficiently potent. They are not always so, for it is not claimed that the adoption of the principle is universal but only very common. It must be noticed in passing that its adoption often means not the insistence by a given individual firm on its own computed price but the acceptance by the firm of a price which it finds established in the market for conventional or other reasons, and the adaptation of the quality of its own product so as to equate its full cost to that price. The conclusive argument in favour of the full cost principle is that it is administratively necessary to have some fixed principle, and that the full cost principle is the only one available which at all commends itself to common sense.

Before concluding, I should like to pursue briefly two lines of thought of a more general character suggested by the argument.

My first concerns the mode of survival of firms. The efficiency which promotes survival is usually thought of in terms of certain specifiable qualities, such as intellectual ability, assiduity, punctuality, tact, power of leadership. None of these need be considered further, save the first. Intellectual ability may be regarded as the power to reach correct conclusions, preferably speedily, from given premises. It has been the burden of this argument that the premises required to reach correct decisions on matters about which action must be taken are often wholly absent. The intellectual ability may lack material to which to apply itself.

Other lines of thought suggest themselves. It may be that certain procedures, of which application of the full cost principle is one example, are thrown up purely by chance in the first instance and survive by a process akin to natural selection in biology. New business procedures would then be analogous to new mutations in nature. Of a number of procedures, none of which can be shown either at the time or subsequently to be truly rational, some may supplant others because they do in fact lead to better results. Thus while they may have originated by accident, it would not be by accident that they are still used. For this reason, if an economist finds a procedure widely established in fact, he ought to regard it with more respect than he would be inclined to give in the light of his own analytic method. Among these may be included not only the full cost principle itself, but also the various arbitrary rules for computing oncost, which serve, some in greater some in less degree, to temper it to the state of the market.

It is also possible, though this is more problematic, that there may be a deep connexion between certain human characteristics other than sheer brain-power and the propensity to hit upon procedures likely to be justified by the event. One may think of such qualities as dogged conservatism, obstinacy, temperamental reluctance to take a quick profit, &c. There is a wide field here for the investigations of the psychologist trained in economics. This line of thought relates economics to biology; my next relates it to ethics.

In the paper contributed by Mr. Hall and Mr. Hitch there are some references to entrepreneurs' claims that they follow the rule of a 'fair', 'just', or 'equitable' price. These adjectives are no doubt likely to arouse acute suspicion and the reader will be inclined to pass them over quickly, to turn a blind eye to them, as being doubtless a polite record of entrepreneurial testimony but not to be taken too seriously. Such words, it will be felt, are more likely to be used by an entrepreneur exposed to the necessity of cutting prices below a profitable level and anxious to persuade the public of the desirability of state aid or of the formation of a cartel than to represent a rule of conduct which any one actually adopts. Yet it may be unwise to dismiss the matter so cavalierly.

The economic system of competition is usually analysed on the atomistic assumption that each individual is independently endeavouring to place himself in the most favourable position so far as his trading relations are concerned. The notion of a moral code appears on the face of it to be inapplicable. The only moral sanction in the competitive struggle has been that provided by the dictum of Adam Smith, that if each pursues his own greatest gain, the resultant state of affairs will be that which best suits the greatest number. Over against atomistic competition stands explicit or tacit agreement, but, it must be emphasized, we are not concerned here with any form of agreement, however tenuous.

The essence of a moral rule is that while adherence to it cannot be shown to be productive of advantage in each particular case taken singly, there is a clear apprehension that general adherence to it will be of general advantage. This is the case with truth-telling and the observance of promises. Now it cannot be doubted that man has a propensity to favour moral rules and moral behaviour, if occasion offers; that propensity has been a pre-condition of civilized society. It would be unwarrantably doctrinaire to rule out the possibility of its operation in economic matters.

The conditions favourable for the formation of a new moral rule are (i) that with regard to the behaviour covered by it there is some doubt as to which of alternative lines of conduct is most advantageous in the particular case, and (ii) the presumed probability that if the decisions taken are commonly along one line rather than the most obvious alternative, there will be substantial net advantage on the whole. There is reason to suppose that both conditions are present in the case of basing price on full cost—the most obvious alternative being cutting down towards prime cost. The second condition is not inconsistent with the possibility, envisaged earlier in this article, that there is some line of action, if only he knew what it was, which would be of greater advantage to each entrepreneur taken separately; for what benefits all, if all do it, may not benefit each, if he does it without the others. Nor need we suppose full cost quotations to be the most beneficial to each, even if all do it, but only more beneficial to each if all do it than any other procedure which could be specified in terms precise enough for general adoption.

The conditions required for the general observance of a moral rule are either (i) some positive sanction—but this is clearly inapplicable in this case—or (ii) that an alternative line of action should not obviously be to the private interest of a considerable number of individuals in the system. It is quite possible that the second condition is fulfilled in this case, owing to the numerous factors of uncertainty already mentioned.

If there really is a moral sentiment operative in this field, as these *a priori* considerations and our evidence alike suggest, it is possible that some individuals act in accordance with the full cost principle, even when they know or believe that it would be in their private interest to do otherwise. For, human nature being what it is, man has an inclination, which may overcome inclinations pulling in another direction, to act in accordance with a rule supported by moral sentiment.

My belief in the real existence of this moral code was greatly strengthened by finding in its favour an argument of the type that 'the exception proves the rule'. The question at once suggests itself, if such a morality is really capable of taking root, why do not the primary producers, who would clearly prize beyond words a joint reduction of output, fall victim to this morality? If one of the influences which makes manufacturers restrict output and sustain prices in a recession is a moral sentiment, why has it not found a home among primary producers for whom a common rule of restriction would bring still more manifest benefit? Why does such restriction appear hopeless of achievement in that field save by agreement? But agreement, however tacit, is ruled out by hypothesis in the case of manufacturers supposed to be influenced by moral sentiment, and was definitely stated not to exist in the case of some entrepreneurs who professed to follow the moral rule. Mr. Hitch supplied me with a perfectly satisfactory answer to this conundrum. In the case of the primary producers there is no unique rule available which is capable of elevation to moral status. The crucial decisions are the number of acres to be put under a crop and the amount of money to be spent upon them. It is a question of more or less. In the case of the manufacturer the crucial decision is when he quotes a price, and the full cost principle yields a unique price. Or it may be that he has to take the market price as given and his crucial decision is what quality to put into his wares, and then again the full cost principle yields a unique quality. Thus there is a rule in readiness to receive the odour of sanctity. When a man is asked a question, there are an infinite number of possible answers, but there is only one true answer. It is this uniqueness which makes truth-telling easily endowable with a moral sentiment in its favour.[1] If we raise the further question why the agriculturalist is not as well placed as the manufacturer to adapt his output to the full cost principle when making his crucial decisions, the answer no doubt is the unpredictability of the harvest. But it is none the less true that it may be known at a certain time that, whatever the harvest proved to be, conjoint reduction would be in the general interest of agriculturalists. The moral sentiment does not take root because it is impossible to specify any precise common rule of conduct. And the moral sentiment does—or may reasonably be allowed to be likely to—take root among manufacturers because there is some rule, the full cost principle, which it is possible to specify. Not that that rule necessarily yields the best possible result for all—there is no evidence that it does. But it is

[1] Types of conduct commanding moral approval, in which there is no unique rule, such as kindness and temperance, yield their good result directly and not subject to the condition, if only all others do likewise. It is only in the case of moral rules, the rationale of which requires similar action by many, that their establishment is greatly helped by a unique solution. For a fuller discussion of this subject, see R. F. Harrod, 'Utilitarianism Revised', *Mind*, April 1936.

deemed to yield a better result than unmitigated self-seeking by each on his own account.

These reflections are of a type not commonly found in economic discussions. Economists are upbraided from time to time for not taking into account the moral aspect of things. But their critics on this score usually vouchsafe no positive contribution save their own eloquence. The foregoing paragraphs are ventured as a tentative essay in economico-ethical thought.