CHAPTER III

EXTENSIONS OF THE DEBATE

The Kinked Demand Curve Reconsidered

Stigler in his article[1] examines the pure theory of the kinked demand curve and applies empirical tests to the assumptions and implications of the theory. In it, he criticises both versions of the theory.

The Hall and Hitch version was charged with being inconsistent. Their additional thesis of the "full-cost" principle, Stigler saw as a principle conflicting with that of the kink theory. The suggestion by them that the kink follows changes in wage rates and material prices suggests that there is some form of collusion between the oligopolists. But according to the kink theory, when there is collusion there is no room for a kink in the demand curve, since the expected reaction of the rivals is the same for price increases as for price decreases. Hall and Hitch are alleged to resolve these conflicts by abandoning either principle to suit their purpose - e.g. abandoning the kink (when prices followed production costs) and abandoning the full-cost principle (when entrepreneurs do not raise prices in depression).

A consistent application of the full-cost pricing principle would suggest a price pattern where prices would vary inversely with output. If firms produce only a small output high prices would be charged so as to cover the high average costs - but that this pattern is not followed by the businessmen is explained by three reasons:-

(1) They "place a value on price stability, and
(2) are influenced by the kink, and
(3) wish to keep plant running as full as possible, giving rise to a general feeling in favour of price concessions".

Hence the Oxford Version apparently embraces also the "large-output" principle.

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[1] G.J. Stigler: "The kinky oligopoly demand curve and rigid prices". Journal of Political Economy, Vol. LV. Reprinted in Readings in Price Theory.

On the kink theory itself, Stigler finds that while it may explain how prices which have been stable should continue to be so despite changes in costs or demand, it does not explain how unstable prices acquire stability, or how a price once raised, should acquire a kink at the new price. For example, with a change in demand conditions the marginal cost curve may cut the marginal revenue curve at an output less than the one where the discontinuity exists. Prices would then be revised. But there is no reason to believe that a kink would reappear under the new situation. Other firms if they have similar cost conditions would follow the price change, contrary to the earlier expectations which gave rise to the kink. It is doubtful if the kink will persist at the new level since the earlier expectations have now been proved false. Thus, there is no reason to believe that the workings of the kink should have general application.

Stigler opines that the appeal of the kink theory lies in its explanation of rigid prices, by reference to the discontinuity in the marginal revenue curve. He submits however, that this appeal is weakened as the same pattern of oligopolistic behaviour could produce kinks in the curves of other variables. Thus, the same kind of expectations could produce a kink in the imagined cost curve. For instance, if one oligopolist raises wage rates, the increase would be followed whereas a decrease in wage rates would not be followed, thereby causing a discontinuity in the imagined cost curve. Prices would then remain rigid as long as the marginal cost discontinuity is contained within the marginal revenue discontinuity. As soon as either discontinuity extends the overlap, prices have to be revised.

From empirical tests which he conducted on the theory, Stigler came across a significant finding - that the monopolies were "unsurpassed for price rigidity although their outputs varied more than those of oligopolistic industries". There was a possibility, he states that the forces that make for price rigidity under monopolistic situations were strong enough to impose the same rigidity in oligopolistic situations. Apart from two special factors in monopolistic situations, i.e. (a) fear of governmental attention and (b) conservatism which comes with size, the other factors could be common to both situations. Empirical research is needed to determine what these common factors are. The kinky demand curve theory does not apply to monopolistic situations, for the essential feature of retaliation by rivals is absent. We should therefore look for an alternative theory to explain price rigidity, should it exist under monopolistic situations.

In the case of explicit collusion between the oligopolists, the kink theory stipulates that no kink exists and therefore price should not be rigid but flexible. According to Stigler, evidence that he has marshalled contradicts this implication. Even if the kink disappears through collusion, thereby increasing price flexibility, this tendency is completely submerged by the opposite effects of

administrative limitations on cartel price policy". Prices fixed by collusion have a strong tendency to persist because any change may lead to a price war, and proposed changes if postponed long enough, will also reduce the need for them. This line of reasoning, (as in the neo-classical theory of price stability) argues for greater price stability.

Stigler differentiates between two types of price leadership: (a) that of the dominant firm which sets the price and (b) that of "barometric firms which command adherence of rivals to his price only because, and to the extent that his price reflects market conditions with tolerable promptness". The kink theory deals with only the first type of price leadership, under which no kink exists since price changes dictated by the price leader will be followed.

Price leadership of barometric firms is more widespread because, Stigler thinks, business firms use this form of price leadership as a device for circumventing the kink when it becomes a barrier to price changes which would increase profits. Stigler adds that this conclusion need hardly be surprising. Since "business is the collection of devices for circumventing barriers to profits" it is hardly conceivable that businessmen are thwarted by barriers (e.g. kinked demand curves) entirely of their own fabrication.

A Critical Review of Normal Cost Pricing

Professor Robinson's review article[2] on "The Pricing of Manufactured Products"[3] consists firstly of criticisms of Mr. Andrew's theory of normal-cost pricing and secondly of a defence of the theories of imperfect competition against Andrew's criticisms.

Robinson observes that the imperfect competition theories of the 1930's gave an account of the economic forces underlying the decisions of firms which were highly though not perfectly competitive; and that since they were theories of competition they also indicated the kind of behaviour which would ensure their firms' survival amidst competition. Since adherence to the behaviour posited by these theories led to maximum profits, it also gave the best chance of building up reserves against unforseen circumstances, of securing additional capital for expansion, i.e. in general, such behaviour in the short-run gave the best guarantee of survival in the long-run. In other words, short-term profit maximisation is also the most profitable in the long-run, because it always places the firm in a better financial position. According to Robinson "there was no essential conflict between their (the firms') short-term and long-term

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[2] E.A.G. Robinson: "The pricing of manufactured products". Economic Journal, 1950.

[3] P.W.S. Andrews: "Manufacturing business" Op. cit.

aspects, and the long-term equilibrium grew naturally and automatically out of the shorter-term pursuit of profit".[4]

But the emphasis of "Manufacturing Business" is away from short-period profit maximisation as an objective of business behaviour, and normal cost pricing does not aim at maximum profits in the short-run. This being so, Robinson argued that those firms which did not conform to the "ritual" of price-fixing on the basis of "normal-cost" rules would have a better chance of survival than those which did.

Robinson distinguishes two codes of obedience to the ritual: (a) the lay code and (b) the priestly code, the latter being inflexible pricing where the costing margin is deemed to cover the indirect costs and a nominal level of net profits that is held throughout the whole industry and where price is invariant with any changes in the demand curve for the individual firm. The lay code however takes account of all the concessions made to market conditions. He cites these concessions and gives the page numbers in Andrew's book.

"The costing-margin will vary for the same product between different businesses (page 159). A firm with high direct costs is likely to be obliged to accept a smaller costing margin (page 169). For most established businesses, the net margin is "that which they expect to get on the average" (page 165). It will differ for different products within the same business (page 159) not only because of differences of overhead costs involved in their product but also because their markets differ in the extent to which they are liable to the competition of new entrants (page 173). The costing rules of small competitors will conform to the costing rules of a price leader (page 187). It will "give the business the highest level of price that it can maintain against competition in the long-run, and will be revised downwards at once if the business, in fact, meets competition at a lower level of price (page 253)."[5]

The costing margin, then, according to the lay code is partly determined by market forces rather than by the spread of overheads and normal profit over a normal output. Robinson saw the process as being "really engaged in discovering the demand price in the market" ... . His belief is reinforced by certain other practices. He cites two. Firstly, if demand falls, the costing margin and price are not revised upwards so as to spread overheads over the new lower output - in a depressed industry the costing rules are likely to assume full normal output, and if price-cutting

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[4]Robinson: Op. cit. Page 774.

[5]Ibid. Page 776.

occurs, the actual margin added to direct cost will thereby be even less. Secondly, the costing rules disregard economics and diseconomies experienced by the firm, as a rise in its own output spreads indirect costs over a larger number of units, or entails extraordinary overtime costs, as the case may be. Contrary to Mr. Andrew's account, these practices, Robinson argued pay more regard to demand than to costs.

Robinson then goes on to argue that the pricing rules described by Andrew's are, on certain assumptions, consistent with profit maximisation; that Andrews in fact describes not an irrational ritual, but "rational action for long-term profit maximisation in industries processing certain characteristics".[6] On the following assumptions:

(1) that competition is almost perfect
(2) entry of new competitors is free and rapid;
costing rules are wholly consistent with the profit maximisation objective.

He concludes by saying that "everything turns on whether the costing margin is determined by (a) actual indirect costs of the firm or (b) merely an addition to direct costs which reflect the judgement of the firm as to what price the market will bear".[7] He believes that the book by Andrews concedes much to the forces of the market in the determination of the costing margin.

He also makes a plea for comparative detailed study of the processes in a variety of firms; and he also supplies some direct evidence from a publishing firm in which he has taken part in the pricing procedure, where it was "customary to discuss the possible sales at different prices, and the alternative possibilities of breaking even or making a profit with different prices and their corresponding costs".[8]

The Security Motive

The profit maximisation hypothesis in the theory of the firm has been attacked as being unrealistic in oligopolistic situations. Alternative hypotheses have been proposed. Gordon,[9] while accepting the importance of profits, questions the assumption of maximisation and argues that it should be replaced by the goal of making satisfactory profits. An alternative to this, suggested by

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[6] Ibid.

[7] Ibid.

[8] Ibid.

[9] Gordon: Op. cit.

Rothschild was that the primary motive of the entrepreneur is long-run survival. In his view, the entrepreneur's decisions are aimed so as to maximise the security of his firm. Another suggestion for an alternative motive is that of Baumol's[10] that firms seek to maximise sales subject to a minimum profit constraint.

Rothschild's[11] argument is that while profit maximisation may have "served as the wonderful masterkey that opened all the doors leading to an understanding of the entrepreneur's behaviour" in the traditional market structures, this motive force by itself fails to explain oligopolistic behaviour. Under monopoly, perfect competition and imperfect competition, the monistic profit maximisation principle is regarded as the sole principle determining the firms' actions, and extra-pecuniary factors such as family considerations, moral and ethical reasons are regarded as sufficiently exceptional to justify their exclusion from the theory. In each of these situations, the firms basing their behaviour on this motive force will logically tend towards a position of equilibrium. Equilibrium analysis of these situations is simple and determinate. But this kind of analysis is not appropriate for oligopolistic and duopolistic situations. Either it presents a determinate solution by ignoring the most essential aspect of oligopolistic situations - that of oligopolistic interdependence or it stresses the indeterminateness of the solution and adopts a descriptive approach to explain entrepreneul behaviour. Rothschild thinks that the dynamic structure of the oligopolistic situation makes this kind of analysis unsuitable.

The framework of analysis - the concepts and methods - used for equilibrium analysis is of little use in oligopolistic situations. The variables in an oligopolistic structure are of a different nature[12] and are not easily quantifiable. The oligopolist does not enjoy the security of the absolute monopolist, nor does he suffer from the impotence of the price taker. The background of an oligopolistic situation is that of a struggle by means of business strategy and tactics for survival, and this led Rothschild to put forward his proposal - that besides profit maximisation firms are motivated by a desire for secure profits. Economic theory has been able to neglect this motive because "some of the most conspicuous actions motivated by the desire for maximum security are identical

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[10] Baumol: "On the theory of oligopoly". Economica, Vol. XXV, 1958.

[11] K.W.Rothschild: "Price theory and oligopoly". <u>Readings in Price Theory</u>.

[12] Such as political influence, financial backing, the psychology of big business.

with actions aiming at maximum profits" and the firm's behaviour in these cases can be explained by the profit maximisation motive. Where the two motives demand divergent actions (e.g. "when profit maximisation should tend to create firms of optimum size, security considerations favour the oversized firm" to anticipate an increase in demand) the firms' actions can only be explained by acknowledging the importance of the security motive.

As soon as the desire of the oligopolists to aim at their long-term security is admitted, their pattern of behaviour becomes explicable. Their normal desires would be (a) to entrench themselves in the market against the aggressive policies of their rivals (b) to prevent the encroachment of potential rivals and (c) to maintain the goodwill of the customers. These aims limit the range within which price may vary. With regard to (a) price should not be fixed too low in order not to provoke retaliations which may lead to a price war. As far as (b) is concerned, a high price might be taken as an indication of a high level of profits, (c) limits price within a certain range so as to maintain the goodwill of the customers. These considerations, taken together seem to suggest that oligopolistic firms follow a rigid price policy. The oligopolist then will try to quote that price which will promise his maximum profits but which will also be above the minimum he considers essential for his continued stay in the industry. The price will have to cover his expected costs during each period of production. To his costs, he adds a profit margin largely determined by the strength of his position. The cost situation becomes important since the oligopolist's pricing procedure seems to emphasise cost elements, thus giving credence to the view that pricing under oligopoly is along lines of the full-cost principle.

The quoted price is therefore said to be the expression of a strategic policy and there is a tendency for its rigid maintenance. Thus the necessity for following a strategic policy as a result of the security motive may modify the actions postulated by the profit-maximisation principle, e.g. that of changing price with every change in demand or costs.

Although price occupies an important pivotal place in oligopolistic policy the existence of other variables such as quality and selling costs, effects reconciliation between two apparently antithetical positions - that of rigid prices in a necessarily dynamic situation. The continuous existence of a potential struggle with the possibility of outbreaks into price wars induces the firms to conform to rigid prices. Flexibility then, in the dynamic oligopolistic situation is afforded by the manipulation of non-price variables such as advertising and quality. The oligopolistic firms in order to stave off the harmful effects of price wars, either indulge in non-price competition or consider policies which do not take away rivals business (e.g. by capturing new markets) so that the likelihood of retaliation is reduced.

Rothschild argues that the framework of a theory of oligopoly, to be complete and relevant, must include all the main aspects of the struggle for security and position (including non-economic elements as well), and the starting point of such a theory should be the recognition of the existence and importance of the security motive, besides that of profit-maximisation.

The Sales Maximisation Hypothesis

Baumol,[13] after observing a number of American business firms, was able to conclude that the current behaviour of the typical large corporation in the U.S. seems to suggest that they aim at sales maximisation subject to a minimum profit constraint; rather than profit maximisation.

His thesis states that once a minimum level of profits is reached, firms are willing to forgo further increases in profits if by so doing they can increase their revenue. Admittedly, this profit constraint "is a major analytical problem", but Baumol ventures to suggest that it should be high enough to allow "for the financing of maximum long-run sales". Sales maximisation does not mean that the firm concerned will try to get the largest physical sales volume because it is difficult to determine this physical volume (as in the case of the multiple product firm). It is the total revenue that the firm will maximise rather than the physical volume. Maximum sales from the revenue angle does not require very large physical outputs. For example, at a zero price physical volume may be high but dollar sales volume will be zero.

Baumol argues that usually the sales maximising output will exceed that which maximises profits. At the point of maximum profits, the firms marginal costs are positive, then the marginal revenue must also be positive since at this point there is equality between the two marginal values. This means that additional sales will bring in more total sales revenue. The firm normally earns more profit than the required minimum at the point of maximum profits, It will pay the sales maximiser to lower his price and increase his physical output. The sales maximising output will exceed that which maximise profits. Bamnol feels that this argument affords an explanation of the readiness on the part of businessmen to use sales as a criterion of the state of his enterprise".

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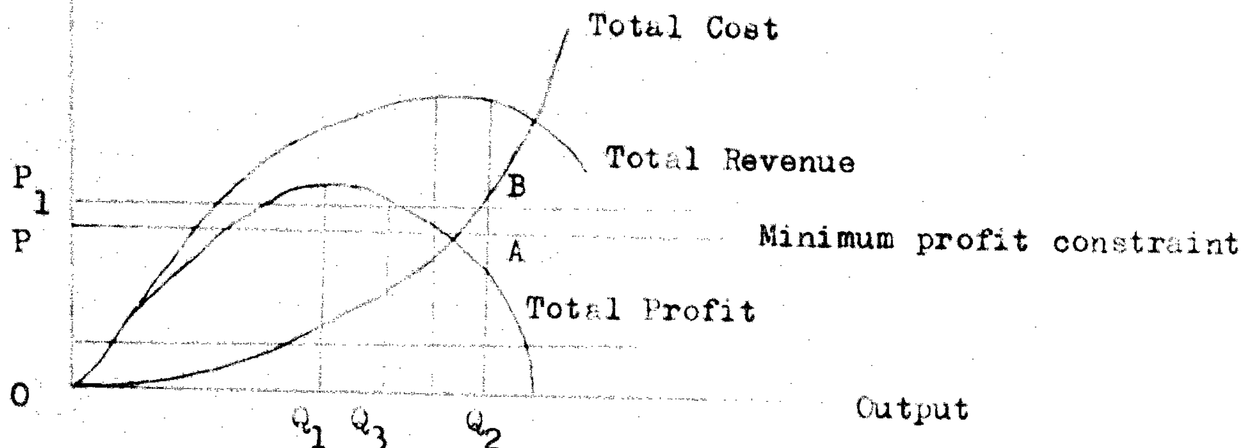
13 Baumol: "On the theory of oligopoly". Economica, 1958.

FIGURE 4

SALES MAXIMISATION HYPOTHESIS



In the diagram above, OP is the minimum level of profit that the firm must earn to continue in business. OQ_1 and OQ_2 are the profit and sales maximising outputs. At output OQ_2 the profit constraint is ineffective as more than minimum profits are earned. If the minimum profit level rises to OP_1, at output OQ_2 the constraint becomes effective as the firm does not earn even the required minimum, it will have to think of a cut in output to OQ_3. The output at either position of equilibrium, i.e. where the profit constraint is effective or ineffective will be more than the profit maximisation output.

According to Baumol, most businessmen view the difference between maximum attainable profits and the minimum acceptable profit levels as a fund of sacrificeable profits which is devoted to increasing revenues as much as possible. Assuming that increased advertising expenditure can always increase physical volume[14] and thereby causing total dollar sales also to increase the sales maximiser will increase advertising outlay until his profits have been reduced to the level of his profits contraint. This may mean that sales maximisers will normally advertise no less than and usually more than what profit maximisers would do.

Of the two alternative ways of increasing revenue mentioned in the foregoing paragraphs - that of price reduction or non-price competition (e.g. increase in advertising costs), Baumol is of the opinion that firms prefer the latter alternative. A price reduction, depending on the demand elasticity of the product might increase total revenue by increasing the total number of units which can be sold and it simultaneously reduces the revenue on each unit sold.

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[14] Baumol feels businessmen often make this assumption.

Price cutting is therefore an uncertain mean of increasing dollar sales ("a double edged sword"). On the other hand, the effect of advertising, improved service, etc. on sales is certain, though their profitability may be quite doubtful. "Thus, sales maximisation makes far greater the presumption that the businessmen will consider non-price competition to be the more advantageous alternative."[15]

Furthermore, the theory of the firm has been unable to explain a common business practice - that price increases are considered when fixed costs increase. Traditional theory either asserts that a change in overhead costs do not lead to prices being varied, as long as they do not lead the firm to close down. With the sales maximiser at equilibrium the profit he earns will be just enough to satisfy his profit constraint. A rise in overhead costs must mean that profits fall below this minimum and a revision in price will be contemplated. This has the same effect as a change in the minimum profit level.

Baumol thinks that his hypothesis "appears to represent the facts somewhat better ... and in addition helps to explain a number of otherwise puzzling features of oligopolistic behaviour. On both these grounds, he says his hypothesis should tentatively be permitted to supercede that of profit maximisation.

Note on Profit Maximisation and Its Implications

The challenges to the profit maximisation assumption[16] in marginalist theory have been two-pronged. Firstly, is profit the only objective of the firm? Secondly, do firms actually maximise profits? The results of these attacks were firstly attempts to propose substitute motivational assumptions, on the part of the attackers and secondly retorts and refinements made by the theorists. The latter takes various forms. Machlup,[17] in his notable defence of marginalism, argues that "marginal analysis of the firm should not be understood to imply anything but subjective estimates, gresses and hunches".[18] But if whatever a businessman does is explained by profit maximisation, then this lays open the marginalist case to the charge of being tautological, a weakness Machlup was well aware of. Another form of defence was proposed by Hague[19] who thought that

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[15]Ibid.

[16]Gordon, Rothschild, Bamnol - quoted earlier.

[17]Machlup: Op. cit.

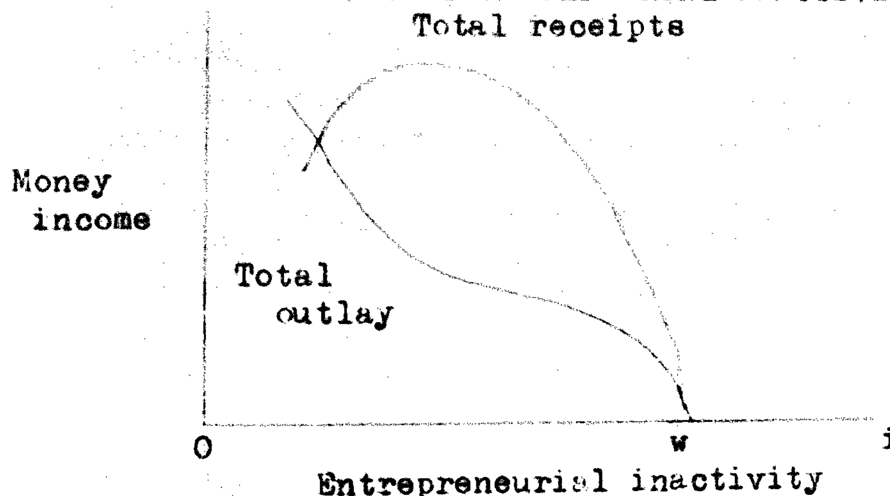
[18]Machlup: Op. cit.

[19]D.C. Hague: "Economic theory and business behaviour". Review of Economic Studies, Vol. 15-16, page 155.

the best way to make conventional marginal analysis more realistic is by attempting to introduce pecuniary estimates of the non-pecuniary items involved in the maximisation decisions", and that at least some attempts should be made to include non-pecuniary elements in the analysis of entrepreneurial behaviour. Scitovsky's article[20] is one such attempt.

His article sets out to examine the implications of the profit maximisation assumption. His analysis makes use of the geometrical method. On the entrepreneur's indifference map, measuring money income and entrepreneurial inactivity(i)[21] he draws the entrepreneur's total receipts and total outlay curves, the vertical difference of which will show the entrepreneur's total net income for each level of output.

FIGURE 5: THE ENTREPRENEUR'S INDIFFERENCE - MAP BETWEEN MONEY INCOME & ENTREPRENEURIAL INACTIVITY



From this diagram is derived the net income curve. Superimposed on this map are the indifference curves representing (1) the minimum satisfaction that will keep the entrepreneur in his profession. He is sustained on this level of satisfaction by his normal profits and (2) that level of satisfaction after including his extra ordinary profits.

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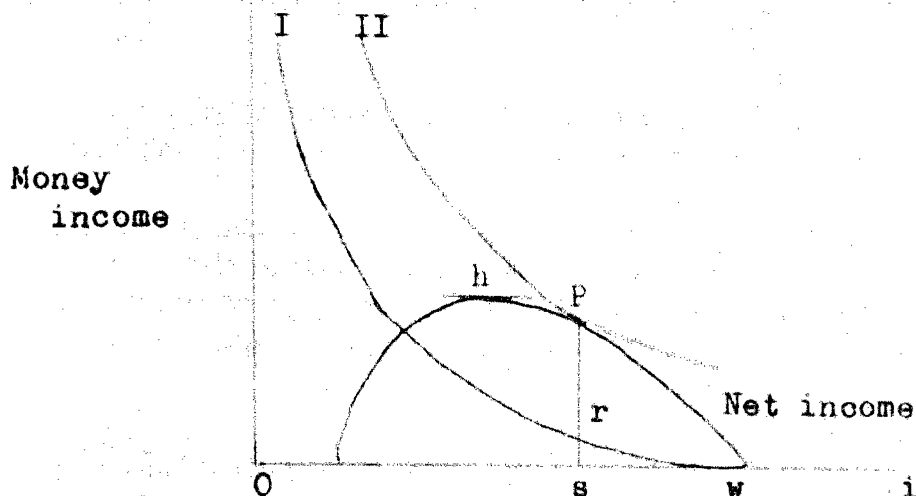
[20] T. Scitovsky: "A note on profit maximisation and its implications.
Reprinted in Readings in Price Theory.

[21] Scitovsky quantifies entrepreneurial activity in terms of output by treating it as a limitational factor in the manufacture of the entrepreneur's product, i.e. a factor of production whose quantity per unit of output is fixed and cannot be varied. Entrepreneurial activity is the negative of entrepreneurial inactivity(i).

MAXIMUM PROFITS & MAXIMUM SATISFACTION ON THE ENTREPRENEUR'S INDIFFERENCE MAP



Profit proper in the diagram is the part of his income above indifference curve I. Maximum profits will therefore be at the level of output where the vertical distance between the net income curve and indifference curve I is greatest, i.e. where the tangents to the two curves are parallel. Maximum satisfaction will be at the level of output where the net income curve is tangential to an indifference curve. Since we use different indifference curves to determine these two positions, the two levels of output need not coincide. Unless we attribute to the entrepreneur some special type of psychology and thereby establish a definite relationship between the shape and position of the various indifference curves, there is no reason to believe that the two levels of output need be the same and therefore that maximum profits should also maximise his satisfaction.

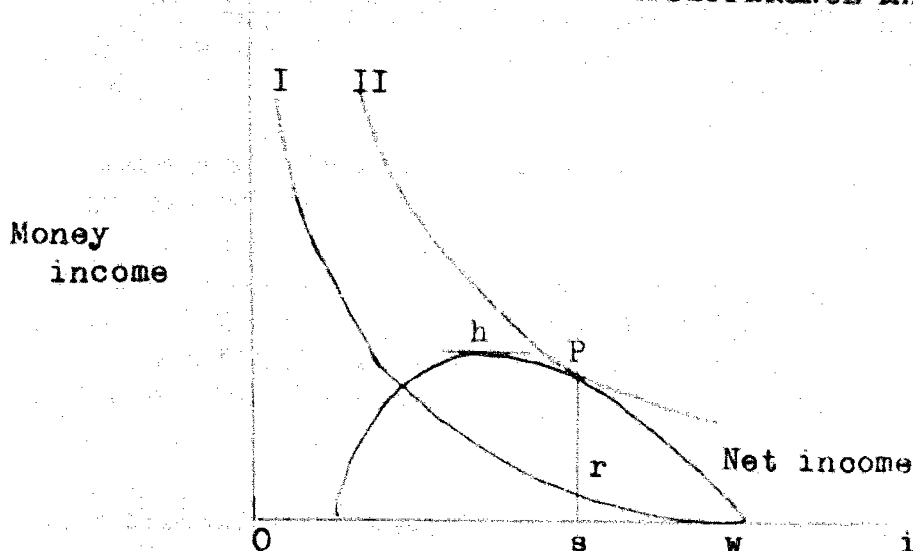
Geometrically the condition that must be satisfied before profit and satisfaction may be maximised at the same level of output, is that the several indifference curves must be vertical displacements of each other, i.e. they must all have the same slope for each abscissa. Then the net income curve will be tangential to an indifference curve at the level of output where the slope of these curves is the same as that of indifference curve I.

In economic terms, the entrepreneur choice between activity and inactivity is independent of his income, i.e. his supply of entrepreneurship is of zero income elasticity. To fulfil this condition, we have to attribute to him a special type of behaviour. We assume that his willingness to work is independent of his income, and that the amount he has already earned should not affect the ardour and energy with which he seeks to earn more. This becomes plausible when we realise how often it is that businessmen regard a rising income as an index of their success and efficiency.

Where the entrepreneur aims at raising his standard of living or at other material demands, then his willingness to work will be affected by the income he has earned, because material

FIGURE 6

MAXIMUM PROFITS & MAXIMUM SATISFACTION
ON THE ENTREPRENEUR'S INDIFFERENCE MAP



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demands can become satiated and also leisure becomes relatively more important than work. In such a case, the entrepreneur will keep his efforts and his output below the point where profits will be maximised.

Scitovsky does not disregard the fact that the assumption might be untrue of people who treat work as a drudgery, or who work to achieve satiable material desires - but he believes that the assumption is typical of a large number of entrepreneurs who derive satisfaction from their work, other than that yielded by income and whose motivational considerations include "ambition, a spirit of emulation and rivalry" .... .

An Evaluation of the Debate

The crux of the debates has been a methodological issue. Does the deductive system of the marginalist theory of the firm provide an adequate explanation of entrepreneurial behaviour? The iconoclasts contend that the theory is unrealistic, and empirical studies conducted by them show business behaviour to be at variance with the over simplified predictions of the marginalist theory. In defence, Machlup says that the marginal analysis makes only a modest claim for itself - it "really intends to explain the effects which certain changes in conditions may have upon the actions of the firms".[22] This theory is essentially a theory of adjustment to change using the marginal calculus as its dominating principle and that the relevant magnitude involved are subjective rather than objective. He also charged the empiricists with a failure to understand the marginal analysis "faulty research techniques and mistaken interpretation[23] of findings" The empiricists counter by alleging that methodologically the theorists default by "implicit theorising"[24] and marginal analysis subject to such methods would be reduced to being tautological, and that "deductive systems, divorced from empirical generalisations are not likely to lead to conclusions that are both valid and specific".[25]

F.C. Knight's[26] and Machlup's[27] articles appear to be an

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[22]Machlup: Op. cit.

[23]Machlup: Op. cit.

[24]Leontief: "Implicit theorising: A methodological criticism of the Neo-Cambridge School". Quarterly Journal of Economics, 1937.

[25]Farrell: "Deductive system and empirical generalisations in the theory of the firm". Oxford Economic Papers, 1952.

[26]F.C. Knight: "Methodology in economics, Part I". Southern Economic Journal, Vol. 27. 1960.

[27]Machlup: "Are the social sciences really inferior?" Southern Economic Journal, Vol. 27. 1960.

indirect rejoinder to this criticism. Machlup argues that the fundamental postulates in economics – such as the laws of maximising utility and profits are not verifiable by empirical tests. These "high-level" hypothes s can never be verified because from one hypothesis standing alone, nothing follows".[28] "Economics is not a strictly empirical science; its axioms and conclusions are not known by sense observation and cannot be verified."[29]

The empiricists could perhaps reply thus. "It cannot be that axioms established by argumentation can suffice for the discovery of new works, since the subtlety of nature is greater many times over than the subtlety of argument"[30] and that "on account of the pernicious and inveterate habit of dwelling on abstractions, it is safer to begin and raise the sciences from those foundations which have relation to practice and let the active part be as the seal which prints and determines the contemplative counterpart".[31] This line of argument, if carried further, would bring the economist on to epistomological grounds.

On a more mundane level, it seems that much of the controversy is based on a misunderstanding of the questions the conventional theory was designed to answer. Granting Machlup's modest claim for the theory (as quoted earlier) one must admit that there are a number of important and interesting questions relating specifically to business behaviour that the theory cannot answer and was never developed to answer, especially with regard to the process of price setting in multiproduct firms, and of firms governed by oligopolistic interdependence. Seen in this light the many attacks on the theory of the firm should have been regarded not so much as critiques of existing theory but as suggestions for the development of a theory appropriate to this different set of questions. The empiricists seem to have made out a case for the inapplicability of conventional theory for analysising contemporary situations. Its "weaknesses" in this respect seem to be:

(a) the use of over-simplified postulates and definitions, e.g. its dependence on the monistic profit maximisation[32] principle and on the gross simplifications

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[28] **Knight:** Op. cit.

[29] **Machlup:** Op. cit.

[30] **Bacon:** Norvum Organum I 14. Quoted in R.H. Barback: "The pricing of manufactures".

[31] Bacon: Norvum Organum II 4.

[32] This has been the most basic source of contention in the controversy.

of the firm[33] (single-product, etc.) and market classifications.[34]
This weakness also partly embraces the failure to deal with subjective estimates and influences in the entrepreneurs behaviour.[35]

(b) the neglect of the time element, thereby forcing the theory to abstract from the enterprise its essential feature - uncertainty.[36] Its inapplicability arises from the fact that it is largely a static theory. The assumption that firms operate with perfect knowledge of the magnitudes of cost and revenue assumes away the very conditions under which profits arise.

Full-cost pricing or normal-cost pricing has been proposed by the empiricists as an alternative principle for explaining business behaviour. Their theory too suffers from several weaknesses. The earlier tentative formulations of the theory rest on too slender a factual basis on which to build a new theory. The criticisms made by Machlup about the empirical studies illustrate this point. The presentation of the theory consists of contradictions as had been pointed out by Stigler and Machlup, whose articles have been dealt with earlier.

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[33]Mrs. Robinson refers to the "fiction of the one commodity firm in her "Imperfect Competition Revisited". Economic Journal, 1953.

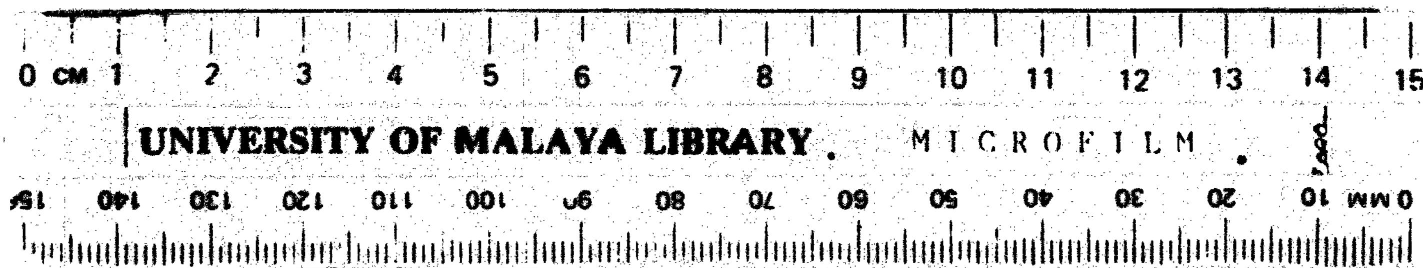
[34]See Joe Bain: " Market classifications in modern price theory". Quarterly Journal of Economics, Vol. 56. 1942.

[35]attempts to conceal this weakness appear to have been made by D.C. Hague: "Economic theory and business behaviour", Review of Economic Studies, Vol. 15-16, who analysises entrepreneurial worry,and T. Scitovsky (quoted earlier).

[36]See Gordon, op. cit., also Boulding: "Theory of the firm in the last 10 years". American Economic Review, 1942.

Perhaps the weakest part of the theory lies in its formulation of the costing-margin. Robinson's criticisms on this point seem to be securely founded. Silbertson's[37] additional criticism of the costing margin is that even in the ideal situation when a firm is adhering to the full-cost principle it can have no objective existence since the firms idea of its indirect costs as well as of its normal profits will depend very much on the market situation, i.e. on the slope and position of the firm's demand curve. The empiricists do not seem to know what the full-cost price should be based upon. Hall and Hitch think that the individual businessman bases his price on his own full-cost. But they mention that other firms follow the full-cost of the price leader. Further they also imply that where costs do not differ widely, the full cost of the representative firm is taken as a basis for the fixing of the costing margin. R.F. Kahn[38] complains that at this point the principle of full-cost pricing is getting amorphous. Andrews also mentions the full-cost of the potential competitor as an influence in determining the costing-margin.

These criticisms, however, do not invalidate the fact that Andrews, while failing to present a new theory, has attempted to provide many of the ingredients which may go towards the building of a more realistic theory of the firm, e.g. his analysis of costs and the attention he drew to the preference of firms for rigid prices.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[37] A. Silbertson: "The pricing of manufactured product". Economic Journal, June 1951.

[38] R.F. Kahn: "Oxford studies in the price mechanism". Economic Journal, 1952.