Profit Maximisation: An Outdated Hypothesis?

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Introduction

Profit Maximisation must be one of the most elusive, ill-defined concepts in modern economics. It has, as a result, been both totally accepted and utterly rejected as the single goal of the firm by economists working at the same time and studying the same type of companies. In this article I will attempt to formulate a more realistic, relevant idea of profit maximisation. I will also discuss briefly the alternative enterprise objectives as postulated by Baumol, Marris et al and explain why I see these "alternative" objectives as mere vehicles for what must essentially be the long-term goal of the majority of entrepreneurs/administrators; that goal of the highest possible profits given the multitude of constraints within which all firms find themselves. I will discuss the reasons why this is so, and the implications of such aims and I will conclude with reference to some empirical work in this field.

The Neo-Classical Theory

The Neo-Classical theory of the firm has as its basic assumptions the following:

1) The entrepreneur is also the owner of the firm.

2) The firm has a single goal; that of profit maximisation.

3) This goal is attained by the application of the marginalist principle.

4) The world is one of certainty.

5) Entry assumptions vary according to the particular model.

6) The firm acts within a certain time horizon which depends on various factors such as the rate of technological progress, the capital intensity of the methods of production etc.

When considered against the background of the complex world of modern business many of these assumptions appear simplistic and antiquated. In particular, the assumption of the world as one of certainty and that of the attainment of profit maximisation through the conscious application of the marginalist principle contradict most people's knowledge and perception of the modern business world. The goal of profit maximisation, according to the theory is attained by maximising profits in each period of the time horizon of the firm, because the time periods are independent in the sense that decisions taken in any one period do not affect the behaviour of the firm in other periods.(*1)

The notion that businessmen consciously apply the marginalist principle (equating marginal cost with marginal revenue in price and output decisions) is where the theory first falls foul of empirical work done in this field. In 1939 Hall and Hitch, in the results of a study of 38 firms,

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*1 A good discussion of this feature of the neo-classical theory is to be found in Koutsoyiannis, 'Modern Microeconomics'.

came to the conclusion that firms did not use the marginalist rule.(*1)

Instead, they argued, firms set their price on the Average Cost Principle (Price = AVC + AFC + profit margin). The reasons why this is so, according to Hall and Hitch, are firstly that firms know neither their Demand Curve nor their Marginal cost schedules, hence the application of the marginalist rule is impossible due to the lack of relevant information. Secondly, firms believe that the 'full-cost price' is the 'right' price since it allows a fair profit and covers the costs of production when the plant is normally utilised.

On asking businessmen about their goals, profit maximisation was rarely stated to be their goal. Most firms reported that they aimed at a fair level of profit, and that they also had other goals, such as the building up of goodwill, being fair to competitors, etc. If this assessment is true it dispels any notion of profit maximisation as the main goal. Machlup has argued, however, that just because firms do not consciously and mathematically calculate MC/MR, it does not mean that they do not intuitively work out the right price based on subjective assessments of MC/MR which may be every bit as good as those explicitly calculated.(*2) Gordon would attack such subjectivity and argue that it reduces MC/MR to a tautology: any price could be said to be based on somebody's subjective assessment.(*3) Machlup found, in contrast to Hall and Hitch, that average cost pricing was not incompatible with marginalism (i.e. P = AC can lead to the same solution as MC = MR).

To equate ignorance of marginal concepts with inability to maximise profits is not unlike suggesting that because one cannot read or write music that one could not know how to play it. It seems highly likely that a street wise entrepreneur with his ear to the market and considering hard to quantify factors such as customers' preference for stable prices, the importance of goodwill, good competitor relations etc. might be just as capable of maximising profits as an overcautious bean-counter who looks only at MC/MR and short-run profitability.

Considerable confusion exists in the terminology of profit maximisation. It is particularly unfortunate that the terms 'goal' or 'objective' and 'attain' are used interchangeably. It is obviously a lot easier to come up with an alternative, more plausible behavioural hypothesis if you are seeking to disprove the theory that firms <u>attain</u> profit maximisation than to disprove that the long term <u>goal</u> of the firm is to maximise profits. The only way that a firm might <u>attain</u> profit maximisation in the short term is if it were content and permitted to stay stationary with the same market share, same sales etc. each year. Modern business is however characterised by dynamic markets. Firms themselves are dynamic. Few entrepreneurs are content with the status quo. Most constantly seek to innovate, to diversify, to tackle some new challenge. The one way to facilitate these ambitions to earn a higher and higher rate of return is to make as much profit as possible in all aspects of the business taking into account all

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*1 R. L. Hall and C. I. Hitch, 'Price Theory and Business Behaviour'. Oxford Economic Papers, 1939.

*2 F. Machlup, 'Marginal Analysis and Empirical Research' - American Economic Review, 1946.

*3 R. A. Gordon, 'Short Period Price Determination in Theory and Practice' - American Economic Review, 1947.

the constraints on short-term profits (fixed factors) and also recognising the importance of good labour relations, goodwill and so on if long-term profit maximisation is to be achieved. Confusion exists as to what constitutes profit maximising behaviour on the part of firms and their administrators. In theory of course, there is no limit to how high profits can soar. It might be argued that a true profit maximisation strategy would involve the sabotaging of competitors reputations or factories; the stealing of inputs; corporate espionage; insider trading etc. Obviously these actions are not included in the normal perception of profit maximising behaviour. When we speak of profit maximisation we mean that businessmen seek to maximise profits within the framework of all the constraints under which they operate while seeking all the time to eliminate or mitigate the effects of these constraints in their quest for greater profits.

The limits of capacity, market share, and sales, all constitute constraints on the company and its ability to maximise profits in the short term. These are things which the entrepreneur/administrator will be constantly trying to change. The need to be constantly innovative, to maintain goodwill, good labour relations, good competitor relations are also constraints on short-term profitability which ensure greater long-run profits. Even ignorance of marginal concepts can be a constraint, particularly on small businesses, and may affect the magnitude of profits. If this is the case, the businessman will learn to use these concepts to his advantage, if the opportunity arises.

To pick some arbitrary factor like the fact that no businessman works 24 hours a day, 7 days a week and to suggest, as it has been, that this constitutes a valid reason why profit maximisation cannot be the main aim of the modern business corporation is absurd. Similiarly, the argument that because businessmen are seen to be primarily motivated by the four Ps (prestige, power, pay, perks) that therefore they cannot be profit maximisers is unrealistic. These benefits are recognised internationally as the sine qua non of motivation and positive reinforcement. Businessmen are well known for what T. Boone Pickens calls their "ballroom size egos".(*1) Their need for the superfluous trappings of success is part of the framework in which you must operate - part of your constraints. In any event, many such embellishments often exist to impress customers, equity investors, creditors, etc. and as such they are the price a firm pays for a dependable, prosperous, stable appearance.

Whatever way you view perks, status symbols and so on, they are a necessary part of your constraints. Within these constraints you aim for maximum efficiency, maximum profitability. You change what you can by diversifying, by marketing, by trimming bits off costs, by increases in productivity etc., all aimed at increasing profits. What you cannot change, you make the best of.

This then, is the new idea of profit maximisation as the objective of the firm and it might be termed 'realistic profit maximisation' or 'profit maximisation subject to constraints.' It appears to follow the ideas of Machlup.(*2) Machlup saw that the firm had a single goal; the maximisation

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*1 T. Boone Pickens, 'Boone: An Autobiography', Hodder and Stoughton, 1987.

*2 F. Machlup, 'Marginal Analysis and Empirical Research' - American Economic Review, 1946.

of long-run profit. Of course, the fundamental weakness with this whole approach is that it reduces profit maximisation to a tautology. On the basis of this approach practically any activity on the part of the firm might be said to result from a desire to maximise long run profits. At worst, it is not less testable or workable than most of the other alternative hypotheses put forward.

Alternative Motivation Hypotheses

Most of the alternative movitation theories in existance are based on the strict Neo-classical definition of profit maximisation. It is not surprising then, to find that writers can easily point to flaws in the hypothesis and its (the strict definitions) irrelevance to the modern business world.

The best known alternative motivation hypothesis is probably Baumol's Sales Maximisation Hypothesis.(*1) The classic exposition of this hypothesis is that firms maximise sales revenue subject to a minimum profit constraint. It sacrifices profits by not producing the optimum level of output. While this may happen in the short-term it can be argued that it is the result of a desire to maximise long-run profit. Like all these hypotheses, Baumol's is difficult to test empirically. Marshall Hall used the mean profit rates for the firm's industry and the mean profit for the entire sample of firms (Fortune's 500 1960 - 1962) as a proxy for the minimum acceptable level of profit (the minimum profit constraint). His findings "lend no support to the sales revenur maximisation hypothesis ..."(*2)

Another plausible objective has been put forward by writers like Robin Marris.(*3) The growth maximisation hypothesis sees firms as constantly wishing to grow by diversifying into new products/techniques. The fact that firms want to grow bigger is undoubtedly true. However, as Koch says

> "... firms are vitally interested in maximising growth but for the same reasons as they might be interested in maximising sales. To finance growth the firm must generate considerable profits internally or borrow in outside captial markets. Debt servicing is a drain on a business so a firm aims to finance growth internally as much as possible. Hence a wish to maximise growth will ordinarily constrain the firm to behave in a manner not dissimilar from that of profit maximisation."(*4)

Elsewhere,

> "...athough the short-run decisions of the growth or sales maximising firm may differ considerably from those of the profit maximising firm, the long-run interests and decisions and interests of growth, sales

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*1 William J. Baumol, "Business Behaviour, Value and Growth", rev. ed., Harcourt Brace Jovanovich, 1967.

*2 Marshall Hall, "Sales Revenue Maximisation: An Empirical Investigation", Journal of Industrial Economics, 15 (April 1967), 143 - 56.

*3 Robin Marris, "A Model of the 'Managerial' Enterprise", Quarterly Journal of Economics, 77 (May 1963), 185 - 209.

*4 James V. Koch, "Industrial Organisation and Prices", Prentice Hall, 1980.

and profit maximisers alike are virtually identical. Policies that maximise the long-run growth of a variable such as sales or assets will necessitate approximate profit maximising policies."

Other hypotheses like maximising the present value of the firm are extremely difficult to test empirically and are in any case inexorably linked to long run profit maximisation.

Managerial theories and alternative hypotheses suggest that because so many firms are not owner-managed, the managers are free to, and do, pursue other objectives than profit maximisation. Berle and Means argue that while owner-stockholders are permanently interested in high dividend payments and typically favour profit-maximising actions, managers are subject to their own needs, motives and desires. Managers may be more interested in perks, in being the head of a bigger if less profitable organisation.(*1) I discussed this subject earlier, but it is worth stressing here that very few people are driven solely by a desire for power and perks make it to the top of organisations without displaying an ability to deliver the goods in terms of profits. Kamerschen, in a study of the largest non-financial corporations during the period 1959 - 1964 found not only that the extent of the management control does not affect profit rates in a noticeable fashion, but also that a change in control from owner-controlled to manager-controlled status for a given firm was associated with increased profit rates.(*2)

So even managers have profit to the forefront of their objectives. Prosperity finances growth and pays for the perks that managers enjoy. Profitability is the way to keep jobs secure, to finance perks, and to take advantage of new challenges to grow and diversify. Increasingly management renumeration is linked to profitability. "We pay very little money for coming to work" said Tony O'Reilly recently. About two-thirds of the pay of each of the top 300 managers takes the form of performance incentives based on everything from brand profitability to corporate return on shareholders' equity.(*3)

Lewellen and Masson have demonstrated that very large portions of executive compensation takes the form of stock options, grants and profit sharing. (*4, *5) Masson, for example, found that over five sixths of the total financial compensation received by the executives in his sample was non-salary in nature. During the U. S. Government loan guarantee period at New Chrysler Corporation, chairman Lee Iacocca drew a salary of only $1 a year. Yet his stock options were worth 4 - 5 million dollars(*6). It is easy to

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*1 A. A. Berle and G. C. Means, The Modern Corporation and Private Property, Commerce Clearing House, 1932.

*2 David R. Kamerschen, "The Influence of Ownership and Control on Profit Rates", American Economic Review, 58 (June 1968), 432 - 47.

*3 Fortune, "Heinz Pushes to be the Lowest Cost Producer", June 24, 1985.

*4 Wilbur G Lewellen, "Executive Compensation in Large Industrial Corporations", National Bureau of Economic Research, 1968.

*5 Robert T. Masson, "Executive Motivations, Earnings and Consequent Equity Performance", Journal of Political Economics, 79, (November 1971), 1278 - 92.

*6 Time, "I Gotta Tell Ya", April 1, 1985.

see how important profit is to management. Another reason why profit maximisation as the objective of the firm is so essential is to guard against hostile take-over bids. If management are seen to be aiming for something other than profit or not utilising the company to its full potential, they run the risk of a hostile take-over bid from a healthy company or a corporate raider wishing to take advantage of the undervalued stocks. When this happens the management who presided over the under-utilization or resources quickly become 'guests of the nation'.

It is clear then that for both the firm and for management profit is the key to survival. There are any examples of companies which have failed while having a large sales turnover or that failed because they tried to expand beyond their means (eg PMPA). Few companies fail because they are making too much profit.

In 1958 Lanzilotti carried out a study on pricing objectives in large corporations(*1) He interviewed the senior management of 20 such companies. While, as Lipsey saus, "one only needs a nodding acquaintance with elementary psychology to realise that we are not likely to discover what motivates a person by asking them", when you consider that business men would be naturally shy of admitting, if they were conscious of the fact, that they were solely motivated by profit considerations, it is interesting to note that the 4 principle objectives cited (target Return-On-Investment, stabilisation of prices, target market share, matching competition) are all closely related to, as Awh puts it, "a concern for profit in the present as well as in the future". Awh sees three main advantages to the profit maximisation hypothesis.(*2) Firstly, it is the most pervasive force that governs the behaviour of business firms - all other behaviour may be approximated by it. Secondly, it is a simple hypothesis. Thirdly, it is the single best assumption available.

Conclusion

From the outset of this essay I identified what I saw as the problems with a strict Neo-classical perception of the profit maximisation hypothesis and how easy it was for those with alternative theories to find fault with it. While the strict definition might not be very practical the idea that the main goal of a firm is to maximise profits seems to be the best predictor of business behaviour, provided we acknowledge the multitude of constraints under which firms must operate if they wish to ensure long term survival and profits. No other alternative maximisation strategy can ensure long term survival, profitability and growth to the same degree. Nobody realises this better than rational entrepreneurs.

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*1 F. Lanzilotti, 'Pricing Objectives in Large Companies', American Economic Review (1988) p. 921 - 41.

*2 Y. Awh, 'Microeconomics".