International Management Journals

www.managementjournals.com

International Journal of Applied Institutional Governance

Volume 1 Issue 1

The Theory of the Firm and Alternative Theories of Firm Behaviour: A Critique

Kenny Crossan

PhD Candidate Anglia University and Senior Lecturer Napier University

ISSN 1747-6259

Introduction

The aim of this paper is to review the theoretical and quantitative literature which underpins the Theory of the Firm and alternative theories of firm behaviour.

In the first part of the study classical, managerial and behavioural theories of the firm are discussed and evaluated from a theoretical perspective.

The second part of the study comprises a review and a critique of the quantitative research undertaken in this area. Through the combination of the theoretical literature and the research literature, an attempt is made to evaluate the validity of each theory.

Profit Maximization

Economists have been interested in the objectives of firms, and individuals who control firms, for centuries. The original theory developed was a profit maximization theory which is attributed to Marshall (1897, 1890). In profit maximization theory marginal differentiation is used as the method for measuring the point where this maximum level of profits is attained. The use of marginal analysis in economics can be traced back to Cournot (1838).

The assumption was made that firms, or owners of firms, would set the marginal cost (MC) of production, i.e. the cost of the last unit of production, to equal the marginal revenue (MR), i.e. the revenue received from selling that last unit of production. Mathematically this gives a maximum amount of profit, if profit is defined as total revenue minus total costs (over a given period of time). The focus of this analysis was not on the characteristics of individual firms, instead Marshall focused on general characteristics of the average firm thus developing the idea of the "representative firm". Important contributions have been made by Chamberlain: monopolistic competition (1933), Robinson: monopolistic competition (1933) and Coase: Transaction costs (1937). The central focus of all these theories is profit maximization. The firms act as "black boxes" and are influenced by simple supply side variables (MC) and simple demand side variables (MR).

If the classical theory of the firm is accepted then the main objective for owners/ managers of firms is profit maximization.

Debates about the theoretical and methodological validity and the realism of the assumption of profit maximization can be traced back as far as the mid 18th centuary to the arguments between the classical and the historical schools. The Methodenstreit of 1883-84 dealt with the same issue and American institutionalism may be seen as an attack on abstract theory (theory of the firm). Machlup (1947).

The modern theoretical debate on profit maximization was based around the explicit marginalism which became the standard method of both teaching and researching economics in the early to mid 20th centuary.

Lester (1946, 1947) argued against marginal analysis and profit maximization as a general theory of firm behaviour. Problems were identified with the "general scientific methodology". Lester also questioned the usefulness of abstract theorizing.

Earlier empirical work produced by Hall and Hitch (1939) was used by Lester to support his theoretical arguments (he also undertook a limited empirical study).

Lester (1946) and Hall and Hitch (1939) demonstrate a flawed understanding of the economist's position with regard to profit maximization and the marginalist debate.

Lester argues that the over-simplification of a business into two simple variables (i.e. marginal revenue and marginal costs) makes the theory useless.

Indeed, the argument that other factors would have an influence on the decisions made about price, output, employment and all other supply side (MC) and demand side (MR) variables does not falsify the marginalist approach.

Economists have always accepted that other factors may influence the actions of individuals who control firms, and there is no reason why all possible factors could not be included in a model of the firm. It is possible to construct a model of any firm and expand this to include the utility function of the owners (this would give you all the information on costs, profits and the satisfaction (utility) of the owner of the firm in question). However, a model of a firm and not a theory of the firm would have been constructed. The marginalist approach is an abstraction of reality, and as long as profit maximization is a goal, ceteris paribus, for the majority of firms, then the theory is valid. Machlup writes "The purpose of the analysis of the firm is not to explain all actions of each and every firm in existence; we are satisfied if we can explain certain strong tendencies in representative sectors of business" (Machlup, 1947; p149)

As long as the average businessman/manger of a firm is attempting to maximize profits then this is adequate support for profit maximization as a general rule of firm behaviour.

Economics is not a natural science where laws can be proved or disproved in absolute terms, rather it is a social science. The best any social scientist can hope for is that they can predict the average or normal behaviour of a large majority of people.

Therefore Lester's attacks on the theoretical underpinning of the marginalist approach are unfounded.

Managerial Theories of Firm Behaviour

During the mid 20th centaury it became common-place in the modern world for companies to be owned by a large number of individual (and institutional) shareholders. The Joint Stock Company was (and still is) the normal method for business ownership of large-scale firms. This type of ownership introduces a problem that is not relevant to owner-managed firms, namely separation of ownership from control or principals from agents. Under this type of business structure the owners (shareholders) are not the decision makers. Instead, professional managers (agents) are employed to make business decisions on behalf of the shareholders, who as a collective body have the right to replace the management but are not otherwise involved in the management of the firm. Why should the managers of the firms have the same objectives as the owners of the firm? For what reasons would a manager put profits before other objectives; what might these other objectives be?

There have been a number of managerial theories of the firm advanced to explain the nature of business objectives: The revenue maximization hypothesis (Baumol, 1959), The managerial discretion model (Williamson, 1964) and the growth maximization model (Marris, 1964). These theories were developed from the idea of separation of ownership from control, first suggested by Berle and Means (1934).

Baumol (1959) developed the “Revenue Maximization Hypothesis”. This theory stated that after a minimum amount of profits have been reached firms that operate in an oligopolistic market will aim for sales revenue maximization and not profit maximization. This means that the firm will produce beyond the profit maximizing level of output. This can be tested by looking at the number of firms which have a minimum profit constraint.

Baumol suggested that firms are more interested in sales for various reasons. Falling sales may make it difficult to raise finance and may offer a negative impression of the firm to potential buyers and distributors. Executive pay is often linked more closely to sales than to profits. Baumol was not suggesting that firms attempted to maximize sales because it may lead to greater market share and profits in the long run. In this model sales maximization was the ultimate objective.

The most apparent weakness of the model is that it does not address the period of time over which sales are to be maximized. It is possible that the managers of the firms in question may have wanted to maximize their short run sales, to gain marketshare in order to maximize their long run profits. This behaviour is not consistent with the model in question as Baumol stated that sales were the ultimate objective. The managers were not maximizing sales because of some other benefits that are linked to increased sales; a maximum level of sales was the aim. If mangers are interested in sales maximization it is likely to be because of the benefits that they gain from increased sales (power, salary, and prestige). If this is the case, as it is in model developed by Williamson (1964) then maximizing sales is not the ultimate objective, the objective is to gain salary, power etc. Sales maximizing is then a means of achieving your objectives and not an objective in its own right.

Bamoul (1959) developed his model to include advertising and his model predicts that a sales revenue maximizing firm will advertise, no less than, and most likely more than, a profit maximizing firm – as additional money spent on advertising will lead to more sales – the only constraint is one of minimum profit. Bamoul makes no attempt to test this assumption empirically and offers no support for the validity of the hypothesis.

The managerial discretion model was based on the separation of ownership from control. Williamson (1964) hypothesised that managers of joint stock firms would have a different set of objectives from that of profit maximizing. The model started out as a marginal model, with both the price and output being determined in the traditional profit maximizing method (MR=MC). Williamson then developed the idea that managers will gain utility from discretionary expenditure on perks such as additional staff, special projects and other spending that increases costs without increasing profit.

The model was developed from a profit maximizing frame; price and output were determined by the intersection of the marginal revenue and marginal costs curves. Total costs increase as the mangers waste money, therefore, the profits left to be paid, as dividends to shareholders, are less than they would be under profit maximization.

The managerial discretion model was a development of the classical model, and shares many of the same traits. The model developed by Williamson is a mathematical equation that seeks to explain managerial behaviour. Two new variables (discretionary expenditure and staff expenditure) are added to the marginalist model. As it is impossible to model human behaviour in the most complex equation, it is also impossible with a simplified equation.

The managerial discretion model, like profit maximization, fails if it is taken to literally tell how businesses set price and output, but it may still be valid at the level of managers'/businesses' objectives.

Marris (1964) developed the theory of managerial capitalism. In this model the mangers of joint stock companies are concerned with maximizing the rate of growth of sales, subject to a share price/capital worth constraint. If the share price falls too low as a portion of the capital worth of the firm, then the firm may be subject to a take-over bid.

The model states that a managerially controlled firm will opt for a higher rate of sales growth than an owner controlled firm, and that profits (profit rate) to the owners (shareholders) will be lower in a managerially controlled firm than it would be for an owner controlled firm, as profit will be retained to fund growth (new market development, product development etc).

The model looks at the trade off between managers' desire for a high rate of sales growth, that can offer them the opportunity to maximise their own utility (in a similar manor to Williamson's model), and the need to offer dividends to shareholders. If managers do not offer a high enough dividend then they might lose their employment. Managers are assumed to (be trying to) maximize the utility function $U=U(\dot{C}, v)$, where $\dot{C}$ and v represented, respectively, the satisfactions associated with power, prestige and salary and the security from take-over, plus stock–market approval. Ambiguity of the definition of $\dot{C}$ and v represent the most apparent limitation of this model, it is difficult to test theories mathematically if the two main variables have not been clearly identified.

The models developed by Willaimson (1964) and Mariss (1964) both attempt to explain managerial behaviour with a mathematical equation. By using these models the researchers are trying to move away from the abstract simplification of the classical theory and construct a more realistic framework for analysing firm behaviour. But once some of the relevant factors are included then why not include all relevant factors? The end products are models that offer some intuitive insight into how separation of ownership form control may affect the objectives of a firm. The models fail to offer a general rule for a theory of the firm.

Behavioural Theories of the firm

Behavioural theories of the firm were developed by various authors at the start of the second half of the last century. Simon, (1963) developed a model in which firms consist of a number of decision makers, many of whom will have different objectives. Individuals within an organisation may be interested in profits, sales, market share, inventory and production. Organisations are involved in resolution of conflicts (due to different goals), uncertainty avoidance, problematic search and organisational learning. Simon (1959), Cyert and March (1963) developed similar models based on the interaction of individual manages within an organisation. The outcome of these models was that firms would aim for a satisfactory level of profits and pursue other objectives at the same time.

These models all assumed that businesses were a complex combination of individuals with different aims and objectives. This may have been true for large Joint stock firms, but was unlikely to be the case for small firms, which may have a single owner or a small number of partners. Over ninety percent of firms in the UK in 2000 were classified as small or medium sized enterprises[1].

Most large firms are run by a small number of people or one (Chief Executive) whose job is to force their aims and objectives on the firm as a whole. The models that have been developed are not general models of firm behaviour, instead they are models of business decision making in complex organisations.

Malcup points out that the majority of important decisions in terms of profit maximization are not that complex. Therefore, there is no need to consider the complexities of the firm's hierarchy or how information flows throught the hierarchical structure.

> *"Why should it take special theories of bureaucracy to explain how the news of a wage increase "flows" through various hierarchical levels up or down or across? Yet this, and this alone, is the information that is essentially involved in the theory of prices and allocation, since it is the adjustment to such changes in conditions for*
> *which the postulate of maximizing behaviour is employed." (Malcup, 1947;152)*

Profit Maximization (Quantitative Studies)

There have been a number of quantitative studies: Hall and Hitch (1939), Liester (1946), Skinner (1970), Shipley (1981), Jobber and Hooley (1987) and Hornby (1994), which have attempted to provide evidence in support of, or to detract from, the economic theories that have been developed to explain business behaviour.

The first study to refute profit maximization as a general rule of firm behaviour was undertaken by Hall and Hitch (1939). The authors surveyed 38 businessmen to determine what method they used to set prices and make their output decisions. Hall and Hitch found no support for the profit maximization theory; the majority of respondents did not use or understand terms such as marginal revenue, marginal costs, etc. Where the businessmen did understand these terms they found them of little or no importance.

Hall and Hitch (1939) stand alone as the only researchers to attempt to falsify profit maximization under all circumstances. A number of theories have been developed to replace profit maximization. They are generally concerned with ownership and control, the principal agent problem, and not profit maximization under all circumstances. The (Hall and Hitch, 1939) research was carried out with owner-controlled firms and therefore there was no principal agent relationship; thier attack was on profit maximization as a general theory of firm behaviour.

This research was useful as a motivating factor for other economists to develop more complex theories of the firm which can deal with the principal agent problem, however, as a piece of research, it is flawed.

[1] Office of National statistics. (Full web is referenced)

The small sample size of 38 made any aggregation of the results into a general rule unreliable as the results are likely to lack validly. Furthermore, the sample includes 36 small manufacturing firms and, as a consequence, misses out large sections of the economy. The sample was further biased as the selection of candidates for the survey was based on personal relationships between the authors and the businessmen questioned. There was no attempt to gather a sample that represented any notion of the average businessman in Oxford, England or the UK.

As a representative study Hall and Hitch's work has no real value, and they freely admit the weakness of their own work. The argument they advanced was that the evidence from their study (no matter how limited) was so overwhelming that it disproved profit maximization. "A large proportion of businesses make no attempt to equate marginal revenue and marginal cost in the sense in which economists have asserted that this is typical behaviour" (Hall and Hitch, 1939, p.32). This argument is flawed, firstly due to the lack of rigour in the original research that limits the validity of any conclusion, secondly, and more importantly, by the researchers' own lack of understanding of the concept of profit maximization. Businessmen's failure to use and understand marginal analysis does not mean that they are not attempting to profit maximize, only that they do not understand how to achieve this aim. Hall and Hitch's paper demonstrates a flawed understanding of the economist's position regarding profit maximization. The profit maximizing firm is intended to be a representative firm; it is an economic model of how firms operate. Models are only representative simplifictions and do not exist in reality. MR=MC is the method for maximizing profits and it is used for economic analysis; owners of firms are not expected to follow this as a pricing strategy. "The marginal analysis of the firm should not be understood to imply anything but subjective estimates, guesses and hunches … Anticipations alone are the relevant variables in the marginal calculus of the firm" (Malcup, 1946; p525).

The marginalist approach does not imply that businessmen use or understand economics or economic terms or that they look at costs and revenue in an objective manner, only that they consider the costs and revenue they expect to receive from extra work and will undertake this work if it adds to their profits and will decline the offer of new work if it decreases their profits.

The underlying principle, that the owners of firms would aim to make as much profit as they can, is not falsified by Hall and Hitch's work.

The most fundamental weakness in Hall and Hitch's (1939) work lay in their lack of understanding of profit maximization and in the survey questions they asked, due to this lack of understanding. A more suitable approach would be to ask managers and owners if they could (in their opinion) increase their current or future profits by changing the price charged for their goods or services. It is unrealistic to expect managers or owners of firms to use or understand economic terms, such as marginal revenue and marginal cost. There is little to be gained from explaining these terms as a study would be interested in profit maximization as a business strategy not an actually pricing strategy.

The results from an ideal survey would indicate, ceteris paribus, if the mangers are aiming to maximize profits, even if problems of bounded rationality make it an impossible goal.
Bounded rationality refers to behaviour that is "intended rationally but only limitedly so", (Simon, 1961; 210).

Here lies an important distinction. We are interested in what firms are aiming to achieve, not what the outcome of their efforts is.

Lester (1946) surveyed a sample of 430 manufacturing firms to gain an understanding of why the owners of these firms increased or decreased the level of employment in their factories. He went on to link this to marginal analysis used for attaining the profit maximizing price and output of a firm. His findings supported Hall and Hitch's, that almost none of the respondents understood or used the terms marginal revenue or marginal costs, (or elasticity of demand).

This survey suffers from the same lack of understanding of economic theory that the previous study of 1939 suffered from, (Hall and Hitch). Furthermore, both studies failed to undertake any form of follow up interview and, as a consequence, the results lack any validly. Malcup contends that there are "issues of the validity of surveys through mailed questionnaires and of the proper interpretation of responses to various types of questions about managerial judgment" (Machlup, 1967; p3)

Skinner (1970) surveyed 179 firms and aimed to gather information on their pricing strategy. The survey also offers some evidence in terms of firms' objectives (profit maximizing or non-profit maximizing). Skinner interprets profit maximizing as a pricing tactic instead of a business strategy, the former identifying how firms decided the actual price of any good or services, whereas the later interprets what the managers/owners of firms see as their overall objective. The results offered more support for profit maximizing than those of Hall and Hitch(1939). Fifty-two percent of respondents answered no to the following question: "Taking account of all relevant factors, including the reactions of your competitors, could you at present (if you wanted) increase your profit by changing price?". Skinner himself was not convinced that this meant that 52% of firms are profit maximizers. If you declare profit maximizing as MR=MC, he is right. The figures suggest that 52% of the firms surveyed thought that they were selling their goods at a price which maximized profits, i.e. they *think* they are maximizing their profit. They make decisions with bounded rationality not unbounded rationality.

Economists understand and accept that decision makers are subjective and not objective when making business decisions, it is other authors who misinterpret the economists' position and suggest that economists imply that decision making by individuals is done in an objective manner.

This would suggest that 52% of the firms surveyed put maximizing profits as their primary objective.

Shipley (1981) gained responses from 728 firms. When asked what their primary objective was, 47.7% of the respondents said profit maximization. Shipley suggested that claiming profit maximizing as a primary objective was not sufficient in terms of the firms actually being profit maximizers in the manner argued by economists.

Shipley found that 15.5% of the 728 respondents could be classified as true profit maximizers, by his definition. That is, that profit maximizing is both "of overriding importance and a primary objective". The majority of researchers in this field appear to be trying to limit the percentage of respondents who claim profit maximizing as their objective. To what extent this is due to misunderstanding the ideas behind the original model, or possibly some bias against the model, is difficult to quantify.

Jobber and Hooley (1987) used a postal survey in a similar manner and gained a usable response of 1775. They asked firms to identify their prime pricing objective and 40.2% of the respondents identified profit maximization as their prime pricing objective.

Hornby (1994) surveyed a sample of 200 Scottish companies and gained a usable responsive rate of 38.5% (77 companies). The survey was based on a postal survey. When questioned on what "objective is of overriding importance", 28.6 % of firms stated profit maximizing. When asked if profit maximizing was both "of overriding importance and a primary objective", 24.7% of firms answered in the affirmative. Answering yes to both questions is the definition that was developed by Shipley of a true profit maximizer.

The data supports the idea of profit maximizing for a large number of the firms surveyed. If we take the figures for the firms that claim to be profit maximizers, before any interpretation of there meaning by the researchers, some 43% of the respondents of the surveys listed (n=2797) claim to be profit maximizers. If we look at the figures after various re-interpretations by the researchers in question the figure falls to 32%, this still represents a large percentage and offers support to the theory that profit maximzing is a prime objective for a large number of firms.

All Postal surveys involve problems of questionnaire design and interpretation and provide little or no scope to validate the responses gained. The authors of the aforementioned studies, with the exception of Hall and Hitch (1939) and Lester (1947) attempted to limit these problems. Problems in the design of a questionnaire can be limited by using one or more of the following techniques: pilot studies, phone interviews, comparison with other studies etc.

Managerial Theories of the Firm (Quantitative studies)

Hornby (1994) tested a number of hypotheses, with the aim of finding support for managerial theories of the firm. The first hypothesis tested was "There will be a negative relationship between the incidence of profit maximization and size" (Hornby, 1994; p20) This is due to the likelihood that as firms increase in size it is expected that there is an increasing division between ownership and control, therefore larger firms are more likely to be controlled by managers and are unlikely to aim for a maximum level of profits (according to the managerial theories).

Hornby found no support for this hypothesis. The second hypothesis to be tested, directly compared owner-controlled firms to managerially controlled firms, again there was no statisically significant relationship between the ownership of the firm and the business objectives followed.

A final hypothesis was constructed to gain insight into the likelyhood of firms operating with a minimum profit constraint. Baumol's (1959) model specifically claims that managerially controlled firms will operate with a minimum profit constraint, and it was implicit in most other "alternative theories of firm behaviour". Hornby (1994) found that owner-controlled firms were significantly more likely to have a minimum profit constraint than managerially controlled firms. The managerial theories of the firm predict the exact opposite relationship to the one found by Hornby. Hornby found no support for any managerial theory of firm behaviour.

Shipley (1981) cannot offer any support for managerial theories. He finds that larger firms, as measured by the number of employees, are more likely to profit maximize and are less likely to profit satisfy than smaller firms. These results, like Hornby's, also represent the opposite of the prediction made by managerial theories of the firm.

Jobber and Hooley's (1987) results differ from Hornby's. They found a statisically significant relationship between firm size and profit maximization, with large firms less likely to profit maximize than small or medium sized firms. This offers some support for the managerial theories of the firm. Although Jobber and Hooley are looking at firm size and not ownership and there is no evidence as to the percentage of the "large" firms which were managerially controlled. The evidence from the data is marginal, with 39.2% of large firms claiming to profit maximize, while 45.3% of small firms claim to profit maximize.

There has been little evidence in support of managerial theories of the firm. Hornby's study, which offered the most evidence against managerial theories, was the only one that actually looked at the difference between owner-controlled and managerially controlled firms. The other studies look at size, measured by turnover (Jobber and Holly) and number of employees (Shipley). This would suggest that Hornby's findings are likely to be the most rigorous. However, Hornby's study has it own limitations, most apparently the small size of the sample (77) and study population (200).

Behavioural Theories of the Firm (Quantitative Studies)

Hornby, (1995) found that 51.9% of firms could be classified as satisfiers by his definition. That is, "once an objective or target had been reached there was no impetus to improve on this". Shipley (1981) found that 52.3% of firms could be similarly classified. What if this target or objective was profit maximizing? These results suggest that the firms were not consequently seeking to improve on their current performance but they do not tell us what their current performance is. Also, there is no mention of time period. Were they satisfying over a period of one year or forever?

The behavioural theories have claimed that satisfying action was due to individuals within the model having different objectives. These results do not offer any insight into this question and as a consequence do not validate the theory.

Econometrics Studies

A number of Econometrics studies have been undertaken, to ascertain if there is a statistically significant relationship between managers' salaries and the growth of firms. The assumption being that if managerial salaries are linked to firm growth and not profits, this adds support for managerial theories of the firm.

If there is a link between firms' growth and managers' salaries this does not prove that managers put sales before profits, only that they get rewarded more for doing so. Did the managers in question have access to the relevant information to understand that their salary was linked more to sales than profits? Sales and profits are often linked; as the firm grows so might its profits. The studies do not adequately deal with this multicollinerity.

These studies tend to look at the CEO salary, although it is board of directors of a firm that determines the overall corporate strategy of the firm and not one of these researchers is suggesting that their salaries are linked to sales not profits.

Winn, Daryl and Shoenhair (1988) found that CEO's (Chief Executive Officer) pay was linked to growth, but in a negative direction. The board of directors is more interested in the rate of growth of profits, not sales, and impose financial penalties on CEO's (managers) who appear to aim for sales (Revenue) and not profits. Meeks and Whillington (1975), Ciscel and Carroll (1989), Dunlevy (1985), all offer similar results. These findings support managerial theories of firm behaviour, as the board of directors is penalising the CEO (managers) for not pursuing profit maximization. The motivation for pursuing sales revenue growth is not financial, as the mangers (CEO) are beening penalised, therefore the motives must be nonpercuniary e.g. power, prestige etc.

There are a number of problems with drawing this conclusion from this type of study. The most fundamental is that there is no evidence that managers are more interested in power, prestige etc. The results show that the CEO's whose firms increase sales revenue are not rewarded (to the same degree) as CEO's who increase profits. These results offer no insight into the aims of the CEO's. It is possible that they are trying to increase profits but that they are not very successful.

There are issues concerning the definition of ownership. When is a firm owner controlled and when is it managerially controlled? Studies of this nature pick an arbitrary figure [no more than 15 percent of share owned by one person, see Winn, Daryl and Shoenhair (1988)] and use this to classify the firms. What happens if a small number of people own ten percent each, are they running the firm or are they leaving this to managers? The mangers are often shareholders as well. The issue of corporate governance is more complex then just picking a figure, a more detailed analysis of share ownership and its spread needs to be conducted so that firms can be correctly categorised.

Winn, Daryl and Shoenhair's (1988) findings suggest that the boards of directors have control, or at least influence, over the mangers (CEO) " ... the results suggest that Boards of Directors have goals, as revealed by their compensation polices for the CEO, which are consistent with accounting profit maximization, and that are not consistent with revenue maximization. In the context of agency theory, these findings support the view that owners, operating through their Boards, have a degree of control over these firms' mangers for these time periods." (Winn, Daryl and Shoenhair 1988; p44)

This contradicts the main argument in support of managerial theories of the firm, which is that, due to separation of ownership from control, mangers can persue their own objectives because shareholders are powerless. These results may also offer some insights into why managerial theories of the firm may not hold true. It is taken as given that these firms must all suffer from weak corporate gonverence; that shareholders cannot influence the management of a firm and that mangers have a free rein. This is not necessarily the case; it is possible that shareholders could influence the decisions of managers.

Other authors who undertook similar studies produced results which did not support these findings. Many studies followed on from Larner (1966) and Radice's (1970) seminal papers where the authors failed to prove the hypothesis that owner-controlled firms were more likely to profit maximize than managerially controlled firms. Similar results are recorded by various studies e.g. Qualls (1972), Kamerschen (1973) and Sorenson (2002).

These studies also suffered from a number of weaknesses. It is difficult to define ownership and control due to the issue of corporate governance. The difference between realised profits and the level of profits that the firms were aiming to achieve also has to been taken into consideration

These studies will all suffer from simultaneous equation bias due to the two-way nature of the reliance between profits and growth. It is expected that growth of profits and growth of sales have a positive correlation, it is therefore difficult to tell if a firm is aiming for sales growth or profit growth purely by analysis of their figures (a problem which could be overcome by asking the managers this question directly).

The methodology of this type of analysis is seriously flawed. It is only analysing mathematical links. For example, managers who make higher profits get bigger wages, it does not follow that any manager who gets lower wages is aiming to increase sales at the expense of his own earnings.

Predicting the behaviour of firms has a long tradition in economics, originating with Marshall (1890). Hall and Hitch's (1939) famous critque of the standard economic theory, developed by Marshall, resulted in the search for new theories that could explain the behaviour or large joint stock companies. The models developed by Baumol (1959), Marris (1964) and Williamson (1964) were developed around the assumptions that managers of firms would have a different, and quantifiable, set of objectives than the owners of a firm. The results of survey based research have been mixed, with more evidence against the validity of these models, than in support of these models. Similarly, studies into the accuracy of the behavioural theories of the firm have resulted in ambiguous findings. There is, evidently, a need for further research in this field.

Conclusion

Throughout this paper the microeconomic theories relating to business objectives have been evaluated and critiqued. A summary of quantitative research has been used to gain an insight into the validity of the classical, managerial and behavioural theories of the firm.

The findings from the quantitative studies are ambiguous and do not offer strong support for any of the current theories. This suggests that there is a need for further research, to determine to what extent the problems lie with the quantitative research methods used, the authors interpretation of the theories or, in fact, if the problems are more deeply embedded within the theories themselves.

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