

CHAPTER TWO

C H A P T E R T W O

CORPORATE TAKEOVERS : THEORETICAL FRAMEWORK

In a public corporation where ownership and control of corporate resources are not unified, managers could be identified with shareholders to a lesser extent in terms of commonalty of the objectives of the two, providing a fertile area for blossoming of conflicting goals. Therefore, their decisions may digress from maximising shareholders' wealth to their own utilities. However, such digression is supposed to be constrained by the market for corporate control by: (i) invoking proxy mechanism; (ii) depressing the market prices by unloading large stakes; and finally, (iii) posing a fear of takeover. Though, the managerial decision to takeover and being taken over by another firm is a subject of such digression, but the market is observed to have constrained the management to a disputed degree. Hence, an analysis of managerial decisions and its valuation by the market may provide deeper insight into the objectives and consequences of corporate takeovers.

This chapter provides a backdrop to the study by narrating the emergence of managerial capitalism, various theories of firm and their relation with the takeover mechanism in part one. Part two discusses the takeover mechanism in agency theoretical perspective along with the recent developments in the U.S.A. towards realignment of ownership and control. The takeover model developed by Marris (1964) and its

implications for managers and shareholders are discussed in part three.

2.1. THEORIES OF FIRM AND TAKEOVERS

Several theories have been developed to explain the behaviour of the firm and the efficacy of the market to drive the firm to maximise its owners' wealth. Few of them are discussed below.

2.1.1. Classical Theory

Theory of firm and managerial behaviour has been repeatedly innovated since the emergence of managerial capitalism. The classical theory of firm analyses the managerial decisions and its interaction with external environment in a perfectly competitive market conditions. It assumes unification of risk bearing and reward receiving in one or more owner(s) (entrepreneur or partners) who in turn decide(s) the behaviour of the firm¹. The owner is expected to maximise the profit given an active participation of "Invisible Hand" in a market place^{2,3}.

The development of industrial sector in mid nineteenth century demanded expansion of the firm, beyond restraining itself to few owners, to exploit economies of scale. In response to this demand, the ownership of the firm gradually separated from the control over the firm with the emergence of corporate form of organisation.

2.1.2. Emergence of Corporate Capitalism

The corporate form of organisation removed the restraints on scale, size, and financial resources of the firm by spreading the risk over collective owners by issuing shares carrying proportionate ownership and freely tradeable in the stock market. The law also conferred on it the status of a legal person having a separate entity away from its owners . It can sue and can be sued on its own name (Saloman vs Saloman & Co. (1897))⁴.

This privilege of corporate form of organisation led to separation of ownership from controlling of the resources of the firm. The disquieting consequences of this separation was identified long back by Adam Smith (1776), when he castigated the managers of the corporation by warning that

"... being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it. Negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company."

Crystallising the legal position of the directors of the companies, The Report of the High-Powered Expert Committee on Companies and MRTP Acts (1978) succinctly expressed that

"Directors are appointed to act in the interests of the company and an important area of their legal responsibility stems from the law of trust - they have fiduciary relation with the company. The duties arising from the relationship are well defined viz. to exercise their powers for the

benefits of the company, to avoid a conflicts of interests and a duty not to restrict their right (by contract or otherwise) to freely and fully exercise their duties and powers. In addition to their fiduciary duties, directors also owe a duty to care to the company not to act negligently in the management of its affairs the standard .pa being that of a reasonable man looking after his own affairs."

But the history has proved it otherwise. Instead of acting as trustee, these managers have been observed to have acted as owners of the corporate resources and have utilised them in their interests instead of its owners'.

During 1850 to 1900, the U.K. and the U.S.A. witnessed an explosion of 'corporate capitalism' closely related to industrial revolution, stock market boom and merger wave. This culminated into formation of large Corporate Houses controlled by few families (Chandler,1962; Hanah,1976)⁵. The managers of these corporations emerged as new power centers replacing the 'age old feudals of the society reflecting the disquieting features of separation of ownership from control. The statement by the Board of Directors of Pennsylvania Railroad Company Ltd. in 1874 read as:

"... the board and the stockholders had only a negative or veto power on the government of their enterprise and on the allocation of its resources. They could say no, but they had neither the information nor the awareness of the company's situation to propose realistic alternative courses of action (quoted by Mueller, 1987, p.75)".

The status of the board of directors and the shareholders has not changed substantially over more than hundred years when the corporate raider Carl Icahn's sarcastically observed in 1985 that

"You get there (to a board meeting) early in the morning, and everybody is reading the newspaper. The first thing is that everybody looks at their check, puts it in their pocket, smiles big, and then goes back to reading the newspaper. The meeting starts, you get the room dark and a few guys go to sleep. Then they put a slide machine up with a lot of numbers that even Einstein wouldn't understand (quoted in Mueller, 1987, p.76)."

In India corporate capitalism, characterised by concentration of economic resources in the hands of a few managing agents and business houses had raised concern. Hazari (1966) documented this concern by stating that

" Against Rs. 1 crore provided by controlling individuals, the investing public subscribed Rs. 37 crores (out of Rs. 98 crores expansion by selected companies from 1951-58). If inter corporate investment and public participation have to grow, the powerful instrument of control has to be kept free of abuses (p.310)."

Despite the abolition of managing agency system in 1970 and enactment of Monopoly and Restrictive Trade Practices Act , 1969, the economic power substantially got concentrated in the private sector corporate enterprises. Singhanian (1980) also found a rise in the concentration of economic power of private corporate sector during 1961-71 owing to inter-corporate investments. Evidencing the problem of separation of ownership from control Roy (1992) reported that performance of management controlled firm was worse than the owner controlled firm and profit rate was found to be negatively related with institutional holdings (See also, Mehta and Shekhar, 1983).

2.1.3. Corporate Capitalism and Separation of Ownership from Control

Post world war period entered into an economic slump. The dismal performance in this phase resulted in increasing disenchantment with the efficacy of the market mechanism and called for greater governmental interventions. In the context of separation of ownership from control of firm, Berle and Means (1932) made the following propositions :

- (i) The economic power, in terms of control over physical assets, tends to concentrate in few large manufacturing corporations.
- (ii) The assets of large corporations are increasingly shifting under the centralised control of small self perpetuating groups of professional managers with small ownership of assets they control. They highlighted the changing character of private property from individual possessory holdings to "power systems".
- (iii) The constraints placed on managerial behaviour by capital market are increasingly ineffective because of change in financial policies of corporations.
- (iv) There is a desirable tendency of managers to develop a corporate conscience which lead them to pursue policies quite different from profit maximisation.

They decried this as violation of basic property rights *i.e.*, one who owned the asset should have right to control it, and feared that this would breed inefficient utilization of the social resources which is less likely to be policed effectively due to dispersed holdings of shares. They warned

against development of corporate form of organisation and suggested that these organisations should be closely monitored by the Government.

Manne (1965) upholding the validity of the classical theory of firm, argued against the Berle and Means proposition by rehearsing that a share in corporation is similar to other private property, fundamentally represents an asset in the form of proportionate corporate control freely traded in the stock market. Arguing for the supremacy of the market forces, he did not recognise the separation of ownership from control as a problem even if the shareholdings are widely dispersed. He emphasised that market through its pricing mechanism would initiate takeover (by proxy contests or purchase of controlling stake in the target or merger) or fear of takeover (by the raider) which in turn will blur the separation problem.

Williamson (1969) doubted the efficacy of the pricing mechanism of market forces as suggested by Manne (1965) and advanced the proposition that (i) proxy machinery favours existing management (also Knanth, 1948); and (ii) raiders' motive are regarded with suspicious by the market (also Rustow, 1959).

Suspecting the correction by the market forces Wildsmith (1973) added further that

- (i) there is a little evidence to suggest that the rate of return which could be achieved by raider will be

- greater than that achieved by existing management (Williamson, 1967; Rose and Newbould, 1967; and Singh, 1971);
- (ii) the raiders with the highest potential profit rate for the victim will tend to be those who have higher alternate rate of return on assets already under their control; and finally
 - (iii) the raider's need of financing increases with the sum required for the acquisition and his finance supply curve will be less than perfectly elastic; hence bigger the firm, lesser the danger of being taken over (Singh, 1971).

Singh (1971), supplementing the Berlian proposition and warning against assumed corrections by market forces, decried that

"the takeover by itself may be simply a wasteful reshuffling of managerial path, which reduces efficiency instead of increasing it and takeover threat may put pressure on management to improve performance but does not wipe off the managerial discretion (p.75)."

The evidences of failure of the market mechanism to uphold the propositions of classical theory relating to the managerial behaviour and takeover mechanism led to the development of alternative theories explaining survival of firms digressing from maximisation of owners' wealth.

2.1.4. Organisation and Managerial Theories of Firm

In contrast to the classical model, in the a organisation theory, the firm is viewed as an organisation which is

coalition of sub-groups whose individual goals may be inherently contradictory rather than as an "abstraction". Each sub-group will bargain for higher side payments (in classical model, the owner is identified with the firm and wages and the cost of other factors of production are considered side payments - a price paid to sacrifice personal goal to organisation goal (Cyert and March, 1963). This bargain over side payments normally defines the organisation goals which may be conflicting and inconsistent. Despite this the organisation remain viable due to "organisation slack" that arises from the disparity between resources available to organisation and payments required to be made to maintain the coalition. This in turn, is the result of passivity of one or more groups in coalition.

Major digression of organisation theory from classical theory is that the former recognises behavioural aspects such as desire for leisure, security, status, power etc. which add to organisation slack. Another significant diversion is the recognition of internal efficiency besides allocative efficiency⁶, to which Leibenstein (1966) termed as X-efficiency. The presence of organisation slack and X-inefficiency provide an explanation for persuasion of an organisation for a goal other than profit maximisation.

The managerial theory of firm focuses on managerial discretion to sacrifice the wealth maximisation of owners. It implies that with minimum level of accepted profit, it is proposed that managers maximise while owners satisfies

(Baumol, 1965; Williamson, 1969; and Marris, 1964)⁷.

Baumol (1969) proposed that once minimum profit is achieved the managers are tempted to maximise the sales revenues which in turn increases the funds available for financing further expansions. This would mean not only the bigger size of the firm but also imply more security, prestige, and salaries to managers. These attributes are more closely related with sales instead of profit. Remarkably, if product and capital market conditions are assumed perfectly competitive, then Baumol's minimum acceptable profit would be maximum profit and thus the model converges to classical model.

Williamson (1969) suggested, while advancing the managerial discretion maximising model, that the firm is operated to maximise discretionary profit which he defined as the earnings exceeding a minimum performance constraint. The minimum performance constraint of Williamson is similar to Baumol's minimum profit level which is required to prevent shareholders from mobilising their forces to resist against managerial discretion. The behavioural determinants deciding the manager's preference for discretionary profit are : (i) to expand staff and emoluments; and (ii) to derive satisfaction from self fulfillment and organisational achievement. Similar to Baumol he also found that in limiting case - managerial discretion model converges to classical model i.e. lead to profit maximisation.

2.1.5. Theory of Growth of the Firm

The above discussion deals mainly with the level of profit the managers would try to achieve under given market conditions. It assumes that the firm operates in static environment and therefore ignores the crucial managerial decision that at what rate it should grow in real dynamic environment.

Once the minimum level of profit is earned, the managers are more concerned, not with the ultimate size at which the organisation should settle down but at what rate it should grow. Digressing from various theories discussed above, Growth theory of the firm analyses the effect of rate of growth on the profitability of the firm - one of the crucial decisions the finance manager should be preoccupied with. The decision to grow requires the finance manager to evaluate the alternatives regarding : (i) where to grow, and (ii) how to finance the growth. The former requires exploration of profitable fields of growth. The latter requires to decide how much to retain and how much to distribute to the shareholders from the available profits. This in turn affect the retention and therefore dividend policies of the firm. The variation in dividend policies along with the profitability of the expanded activities may affect the stock market valuation of the firm reviving the link between managers and shareholders.

Clarifying the effect of excessive growth on the profit, Penrose (1959) argued that too high growth rate tends to

reduce the profit and therefore growth maximisation would not necessarily lead to maximisation of the profit (Penrose effect)⁸. Therefore, excessive growth may reduce the market valuation of the firm making it susceptible to takeover by the raider.. Meade (1969) cautioned that the managers must seek out 'profitable' fields of expansion, and those who sacrifice the profit for growth face takeover threat.

Hence, the determination of the sustainable growth rate of the firm and the permissible extent of managerial discretion to avoid takeover are the crucial decision variables for the management. Therefore, the crucial task of the management during the different phases of life cycle of the firm is to ensure growth rate that maximises shareholders' wealth leading to maintain shareholders and management coalition. This coalition is a nature of agency relationship between the shareholders and the management, where the latter for agency cost maximises the profits of the former. If the management indulges in maximising its own utilities at the cost of the shareholders, this coalition will get converted into the collusion. This leads the shareholders to sell their shares to competing management driving the firm to market for corporate control.

2.2. AGENCY THEORETICAL PERSPECTIVE

In contrast to earlier theories, Agency theory views the firm as a legal fiction which serves as a nexus of a set of contracting relationship among individuals. Extending the

theory of agency relationship⁹ (Wilson, 1969; Berhold, 1971; Rose, 1973; and Hekkerman, 1975) Jensen and Meckling (1976) criticised the personalisation of firm by earlier theories (implied by asking question such as "what should be the objective of the firm" or does firm have social responsibility") was misleading because the firm is not an individual but a focus for complex process in which the conflicting objectives of individuals are brought in to equilibrium, within the framework of contractual relation. Thus, when shareholders and managements, both are utility maximisers, the agent may not always act in the best interest of principals. In limiting this digression, the principals incur agency costs in the form of monitoring cost and provide incentive to act in their interests. The relationship between shareholders and managers of the corporation fit the definition of agency relationship. Thus, the controversy related to the separation of ownership from control is intimately associated with the general problem of the agency¹⁰.

In this context, according to Jensen and Meckling (1976) as ownership of the agent in the company falls, his (agents) fractional claims over profits falls which may drive him to appropriate larger amount of corporate resources in the form of perquisites, rather than to distribute them to the principals.

2.2.1. Agency Theory and Market for Corporate Control

In agency theoretical perspective, the competition among the agents to acquire the control over the corporate resources of the target firm acts as an efficient remedy to reduce the agency cost through takeover mechanism. How is takeover mechanism is activated? What is the nature of the interaction between the market and the agents? In what manner the competition among competing managements and efficient functioning of the market is related? What is the impact of the takeover process on the wealth of the shareholders of the target and the bidder? These issues are addressed below.

It is quite clear that competing management, if uses the existing resources of the target more efficiently than the existing one, it creates value. Given the efficiency and existing management of targets, the management of bidder may be in a position for creating higher value due to the synergy emanating from the combined control of the resource of the two organisation. In both these cases, there is room for improving the wealth of shareholders of the target (in the form of reduced agency cost or value addition).

If the market is assumed to be efficient then the share price of the target is expected to reflect appropriately the proportionate value of the target. This pricing provides the competing agent a yardstick to compare its own valuation ratio with that of market valuation ratio. With the given assumptions, it will be beneficial to the competing agent to activate takeover mechanism if the valuation ratio of the

agent after adjusting the anticipated cost of control to the agent is higher than what is prevailing in the market. If the market value of the target is sufficiently low, then the agent will activate takeover mechanism to acquire the required percentage of shares to takeover the target. This arrangement may take the form of open market purchases, tender offer to existing shareholders, negotiated deal with institutional or major shareholders, proxy contest or combination of any of them.

Once the takeover mechanism is activated publicly or privately it tends to create abnormal disturbances in the rate of returns on security of the target unless it is kept as a closely guarded secret. A typical takeover process preceded by a number of information leakages, relating to the entry of competing bidder, terms of offer, value of the target, etc. and the market in semi-strong form is expected to immediately adjust the price of the target on the basis of its evaluation of information releases/leakages. Given this, the competition among the agents will push up the price to an extent, where ideally there will not be any difference between the valuation ratio of the agent and the valuation ratio of the market. At this point, the shareholders' wealth is maximised and the resources of the economy would be utilised most efficiently.

2.2.2. Historical Reversion of Corporate Capitalism

Whether the takeover mechanism can help to achieve that point or reduce the difference between v_{ij} and v_{im} . If yes, then

under what circumstances and to what extent. The process seems to have started in corporate America in the form of buyouts realigning the ownership with the control of the firm.

In this context, Jensen (1988) suggests takeover as a strong mechanism to resolve the central weakness of the corporate form of organisation - the conflict between shareholders and managers. This competition in market for corporate control became more intensive with faster development of stock market in late 1970s and early 1980s which according to Kitching (1989) led to historical reversion in corporate capitalism. In 1980s, American corporate sector witnessed an unusual phenomenon which went unheeded fifty years back, solving central weakness of public corporation by realigning the ownership with control. With agency cost, organisation slack and managerial discretion reaching to an unbearable proportion, the American market for corporate control called for corporate buyouts and going private transactions which forced the American managers to become more competitive and efficient in managing resources at their disposal. Jensen (1986) and Hirschey (1986) suggested that realigning the ownership with the resources available through replacement of debt for equity have yielded remarkable results.

During 1980s market for corporate control in U.S. witnessed the historical transformation of U.S. corporations by buyout or going-private transactions. It reminded of the scathing criticism of Berle & Means (1932) on corporate form of

organisation. It strived to slash unbearable agency cost of these public corporation. The total value of buyout rise to \$1.3 billion in 1979 from \$ 77 million in 1988; forty per cent of annual corporate financing of U.S. were observed to have funded by private placement (Jensen, 1988). Moreover, the average equity value of firms going private increased from \$33.1 million in 1980 to \$224.3 million in 1988. Jensen (1988) further reported that these new arrangements are making remarkable gains in operating efficiency, employee productivity and shareholders wealth. Shareholders of these buyouts earned on an average thirty to forty per cent premium over their ruling market price.

Thus, to retain control over the firm, the management has to determine the sustainable growth rate and retention ratio at a given valuation ratio of the most dangerous raider, v_{ij} . This will also help them in identifying the permissible extent of managerial discretion they may indulge in. The takeover model in following section attempts to chart a way by which the management may avoid takeover.

2.3. TAKEOVER MODEL: VALUATION RATIO AND MANAGERIAL UTILITIES

To remain in saddle, and to maintain the coalition of different stakeholders, the management from time to time would take decisions regarding acquisition, operation and disinvestment of corporate assets. This will help in ensuring the planned disinvestment and ward off forced disinvestment

through takeovers. This part discusses the monitoring of sustainable growth rate in the context of maximising the managerial utilities.

2.3.1. Valuation Curve

To avoid the takeover threat the manager has to decide the rate of growth which should be consistent with the safe minimum valuation ratio¹¹ that signals the stock market approval (as discussed in para 2.1.5).- Lower the required minimum ratio larger the room for managerial discretion and wider the scope for maximising the managerial utilities. Marris (1964) developed a takeover model which assists in determining the growth rate and minimum valuation ratio to avoid takeover. His model is based on the following assumption :

- a) Investors are aware of the financial policies companies are going to pursue and their rates of return.
- b) Policies, once decided, will not be changed.
- c) The absence of taxes and transaction costs. d) Financial policy consists of the choice of an appropriate retention ratio.
- e) Growth is always possible through retention of profits.

Given these assumptions, valuation formula $(v)^{12}$ is derived as

$$v = (p-g)/(i-g) \quad \dots (2.1)$$

Where,

v = valuation ratio

p = rate of return

i = discount rate

g = growth rate.

In the formulation of the financial policies, the managers have complete control over retention ratio and therefore on the growth rate (g), but not over the discount rate (i) as it is decided by the market. The rate of return (p) depends more on firm's inherent efficiencies, and therefore remains an endogenous variable rather than decision variable.

Therefore at a given growth rate and rate of return, the managers have to determine the retention ratio, consistent with the safe valuation ratio. The lower limit of the valuation ratio is given by

$$V_{im} > V_{ij}$$

V_{im} is the market valuation ratio of the firm, given the existing management's policies on (g) and (p). V_{ij} is the valuation set by j , the raider who has the highest valuation ratio for i , based on the policies he would pursue, if successful in taking over the firm. Therefore, the firm is likely to be raided when $V_{ij} > V_{im}$ subject to imperfections in the market (Marris, 1964).

From the valuation formula (2.1) the valuation curve in Fig.2.1. can be obtained by relating growth and valuation function $v(g)$ with general dividend function, $(D(g))$, and present value function, $(Y(g))$;

where,

$(D(g)) = p(g) - g$, and $p(g)$ is the growth-profitability function,

$(Y(g)) = 1/(i-g)$.

Alternatively, (2.1) can be written as,

$$v = v(g) = D(g) \cdot Y(g) \quad \dots (2.2)$$

Therefore,

$$v = v(g) = (p(g)-g)/(i-g) \quad \dots (2.3)$$

The $v(g)$, thus, depends on $D(g)$ and $Y(g)$.

Since,

$$dD/dg = dp/dg - 1 \quad \dots (2.4)$$

and given that dp/dg is always negative (due to Penrose effect), it follows that dD/dg is always negative.

Given that g is always less than i , because faster the dividend is expected to grow, greater the value of the share, therefore,

$$dY/dg = 1/(i-g) \quad \dots (2.5)$$

will always positive.

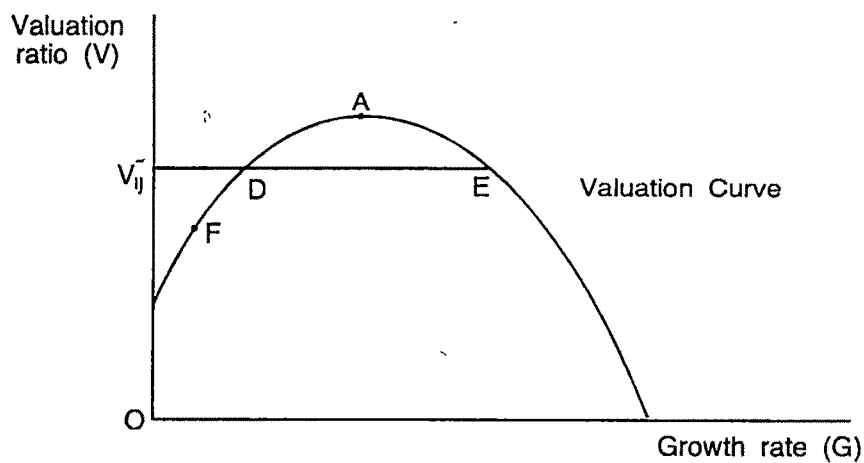
Thus,

$$dv/dg = dD/dg \cdot Y(g) + dY/dg \cdot D(g) \quad \dots (2.6)$$

which may either be positive or negative. The valuation curve, therefore, may also have a positive maximum with respect to g , implying the minimum growth rate requires to survive.

The valuation curve in Fig.2.1 gives the best obtainable valuation ratio, for a given growth rate, **assuming optimal rate of return and retention ratio**. The implications of the valuation curve for the managers and the shareholders are :

- (i) To the shareholders, the values given on the curve is the stock market's reaction to firm's performance. The classical solution - maximising shareholders' welfare - is at A in Fig. 2.1.



The Valuation Curve

Fig.2.1

(ii) To the managers, the valuation curve can be applied in two ways :

- (a) It enables the formulation of growth maximising model subject to a security constraint. The intersection of the horizontal line at $v = v^*$ with the valuation curve at E in Fig.2.1 indicates the maximum safe growth rate. The intersection at D implies that there is also a minimum safe rate of growth: thus a firm at F would have to grow faster in order to survive. The v^* , the crucial variable is determined by j , the raider.
- (b) It can be viewed as a constraint subject to which managerial utility may be maximised.

2.3.2. Managerial Utility Function

Marris (1960) extended the valuation formula to show that whenever managers maximise their utilities, they invariably grow at a rate, which results in less than profit maximising valuation ratio leading sacrifice of the shareholders' welfare. A model of managerial utility function is specified as,

$$\text{maximize } U = U(a, b) \quad \dots (2.7)$$

$$\text{subject to } V = V(g) = D(g) \cdot Y(g). \quad \dots (2.8)$$

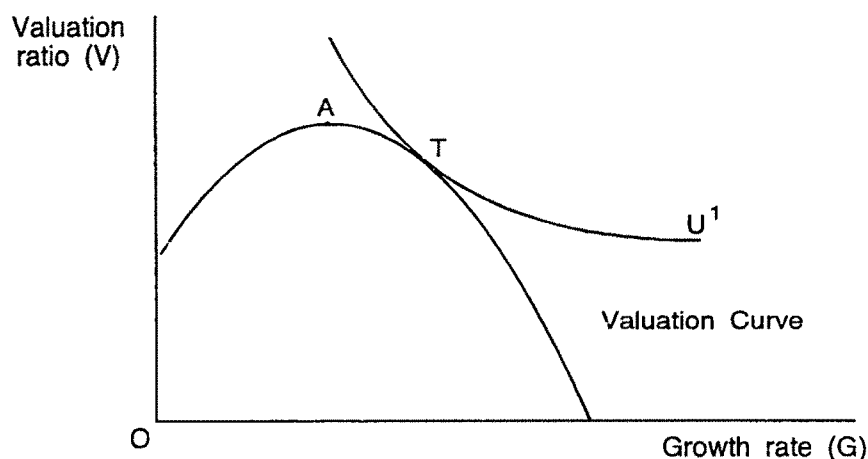
Where, a stands for the satisfactions derived from power, prestige and salary (which is assumed to increase with growth

rate), and b stands for satisfaction of security from takeover and stock market approval for survival (which is assumed to increase with the valuation ratio). Both the variables, normally, have positive marginal utilities with respect to growth rate and valuation ratio respectively. Therefore they will yield negatively sloped indifference curve. U is one of such managerial indifference curves in Fig. 2.2.

The constrained maximum utility occurs at T , where the valuation curve is tangent to one of the possible indifference curve U . If no utility is attached to growth, the indifference curve will be horizontal and tangency will occur at A , where, market valuation is maximised. It is at this point Marris' model converges to classical model, where product market or capital market conditions are competitive and managers are not allowed to pursue the growth of the firm at the expense of profit. However, in short term, if the management is decisively pursuing maximisation of managerial utilities, the takeover attempt will lead eventually to restructuring and disinvestment.

The conclusions emerged from the model are:

- (i) The managerial utility maximisers require to grow at a faster growth rate than profit maximisers.
- (ii) The managers maximising their utilities grow at a lower profit rate than the managers maximising owners' utilities.



Managerial Utility Function

Fig.2.2

(iii) For firm in growth industries, the tangency T is likely to move in a north-easterly direction.

Thus, the model implies that if the firm starts growing at a rate which is higher or less than the corresponding valuation ratio than competing managements in the market may offer higher price to the shareholders for the target shares and may replace the existing management. This process have yielded substantially high returns to the American and Britain shareholders. What is the experience of the Indian shareholders in the market for corporate control? Whether they have gained or lost due to the competition among the agents to acquire the control over corporate resources and to what extent; and whether the Indian market for corporate control is reasonably efficient or not. These issues are addressed in the following chapter.

Notes and References

1. The risk, in classical firm, is taken up by a limited number of individual and that too for unlimited liability, unlike the public limited corporation.
2. Cyert, R.M. and March, J.G., (1963), *A Behavioural Theory of Firm*, Englewood Cliffs, N.J. : Prentice Hall, p.30.
3. Since under perfect competitive market, marginal cost equals the price, and average cost is minimised, the firm operates at its at most efficient level. (Wildsmith, J.R., 1973, *Managerial Theories of the Firm*, p.34].
4. A Partnership firm is not separate from its partners and cannot sign as a separate person through its agent (Land Credit Co. of Ireland's case (1873)).
5. The pattern of the evolution of corporations is similar in the U.K. and the U.S.A. (See Chandler, 1962 for the U.S.A.; and Hanah, 1976 for the U.K.).
6. According classical theory, allocative efficiency means a given output is achieved at minimum price constrained by factors of production and input prices. While internal efficiency means achievement of given output at zero organisation slack (X - efficiency; Wildsmith, 1973, p.27)
7. The managerial models proposed by Baumol (1965) and Williamson (1969) are static models; while Marris (1964) proposed dynamic model introducing theory of growth of the firm.
8. Normally, the scale of the firm (K) and the expansion cost (G) increase steadily with growth rate (g), and therefore cost per unit of scale i.e. G/K remain constant. But the Penrose effect implies that doubling the rate of growth of the assets would not double the output due to rise in operating costs due to lower efficiency. Thus, G/K is an increasing function of g and therefore, it increases more than proportionately.
9. An agency relationship is a contract under which one or more person(s) (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating of some decision making authority to the agent (Jensen and Meckling, 1976).
10. The problem according to Alchain (1969) was still not the dispersed shareholding as commonly perceived. He opined that the reduced ability of the owners to revoke and reassign the power of decision making was the cause that afforded an opportunity to the managers to maximise their own utilities than the wealth of shareholders.
11. Valuation ratio is ratio of market value of the firm to its book value.

12. On the basis of dividend capitalisation model the current value of share is :

$$D/(i-g_d) \quad \dots \text{equation 1}$$

Where, D = value of stream of dividends
 i = rate of discount
 g_d = annual growth rate in dividend.

From equation 1, $1/i-g_d$ can be defined as the present value function ($Y(g_d)$) of stream of future dividends. To avoid the growth stock paradox, g_d is assumed to be less than i ($g_d < i$) if allowed otherwise (if $g_d > i$) there is no convergence and present value of the dividend will be infinite. Thus,

$$dY/dg_d > 0 \text{ and } d^2Y/d^2g_d > 0$$

Now, if new share issues take place at the rate of f , at a given overall growth rate (g), then

$$g_d = g - f \quad \dots \text{equation 2}$$

Therefore, market value of the firm (M) will be

$$M = F * D/(i-g+f) \quad \dots \text{equation 3}$$

Where, F is the total number of shares and $F * D$ is the total dividend payout and $1/(i-g+f)$ is the discounting factor. Alternatively,

$$M = (1-r)p.k/(i-g+f) \quad \dots \text{equation 4}$$

Where r = retention ratio
 k = book value
 p = rate of return.

But, the valuation ratio (v) is equal to

$$v = M/K \quad \dots \text{equation 5}$$

$$\text{or} \\ v = (1-r)p/(i-g+f) = (p-rp)/(i-g+f) \quad \dots \text{equation 6}$$

Recapitulating from dividend capitalisation model (equation 1), when growth is internally financed, the growth rate (g) will be :

$$g = rp \quad \dots \text{equation 7}$$

Accommodating contribution of new funds through new share issues (assuming) at market price, vf , then the overall growth rate would be

$$g = rp + vf \quad \dots \text{equation 8}$$

Substituting, $rp = g - vf$ in equation 6 and cross multiplying, yields

$$v = (p-g)/(i-g)$$