C H A P T E R - VI

CAPITAL   MANAGEMENT

The initial fund requirement of a firm may be met by the promoters themselves but improvement of the productivity and expansion for the increased operational activities demand for the larger outlay of investible funds.   Hence, a rational choice has to be made between equity and debt, the two sources of obtaining the fund.   But which of the two and in what proportions the two be used? "The choice of debt or equity has an important influence on the future financial flexibility of the firm."[1]   The use of debt capital increases the expected rate of return but raises the riskiness of the firm's earnings stream.   The higher risk tends to lower the market price of equity shares but a higher expected rate of return raises their market price.   Hence, neither equity capital nor debt capital can be fully substituted for each other at any point of time. However, designing of capital structure[2]   with equity only is possible and permissible also but the same with purely debt-capital is something impossible in corporate organisations as it raises the question of ownership determination.   So, in between the two extremes an optimal choice has to be made keeping in view the objectives of the firm itself.   "The optimal capital strikes a balance between (these) risks and returns and thus maximises the price of the stock"[3] which is possible when the marginal real cost of each source of fund, debt and equity, is the same.   But the determination of an optimal capital structure in reality calls for probing into aspects beyond theory.   It is formidable task.   The proportionality of debt and

equity in financing-mix depends upon the financing decision of the firm and a number of factors influence the financing decision of the management, of which flexibility, solvency, costs (both initial and fresh issue), cash flow, control, size of the firm, scale of operation, market demand, management attitude, lender's attitude, norms set by financial institutions and controller of capital issues, stock exchanges etc. are of prime importance. The discretion and judgement of the management in framing the capital structure decision play the most crucial part. A totally theoretical model cannot adequately take care of all those factors that affect capital structure decision as these factors are highly complex and qualitative. Since capital markets are not perfect and the decision has to be taken under imperfect conditions of knowledge and risk any theoretical model needs adjustment for the realities of life. The proportionality between the debt and the equity varies not only between industries but also between firms within the same industry. With the change of time as the conditions vary, the design of the capital structure also changes likewise. Therefore, at any given point of time, the financing decision should be consistent with the design of the specific capital structure in the mind of the management. If the financial health of an industry or firm is to be probed into, an examination of the capital structure is a must.

The capital structure of Terai tea companies categorically belongs to two groups:

(i) Companies having the equity and retained earnings; and

(11) companies having two different classes of shares
in equity and preference and retained earnings.
$\underline{/}$ Annexures I (1) and I (v) $\underline{/}$

The relative strength of the components, judged on the basis of their probabilities of densities based on the equation:

$$Z = aE + bP + cR \; ;$$

(where, Z = Capital structure; E = Equity share Capital; P = Preference share capital; R = Retained earnings; and, a,b,c = Co-efficients representing probabilities of densities of various sources) are stated below:

TABLE – VI.1

Relative strength of the components of Capital structure.

Capital Structure combination	Number of Companies	Structure (Mean)
I E + R	17	Z = 0.4659E + 0.5341R.
II E + P + R	2	Z = 0.2137E + 0.1276P + 0.6587R.
Total E + P + R	19	Z = 0.4358E + 0.0152P + 0.5490R.

It can be observed that the capital structure as a whole is very simple in its combination and most of the firms belong to the first category.   The technique of financial leverage through the instrument of debt is conspicuously absent. Even the preference share capital is also to the extent of 0.0152 only and

have been adapted by two firms only. The most common source of fund
is the retained earnings and is varying between 0.5341 and 0.6587 and
thereby stands as the largest contributor to the capital structure.
The equity always stands next to first.

The utmost reliance on retained earnings reveals the
economic soundness of capital structures, but by restricting the debt
in capital structure firms have not followed an economically feasible
policy. The firms have been deprived of the benefit of leverage and,
therefore, failed to reap benefits of capital market. But at the
same time, it is to be admitted, that by retaining the earnings the
companies have saved the cost of new issues thereby the substantial
saving in costs which could be prudently used by the management in the
best interest of the enterprises in addition to funds retained.

On the whole, the average capital structure is not
encouraging. In general the use of leverage indicates the acquisi-
tion of external sources of fund at a given cost (rate) using the
equity as the credit base. So long as the expected rate of return
on investment is higher than the required rate of return on fund for
leverage, the impact of trading on equity is favourable from the stand
point of cost and thereby the yield on investment. Mathematically
it stands as follows:

Let, $V_u = V_L$ and $A_u = A_L$, where,

$\therefore$ $V_u = A_u = V_L = A_L$, V = value of total fixed capital.

Therefore, in unlevered firm, L = Levered firm.

$V_u = E_u$ u = Unlevered firm.

or $\dfrac{V_u}{E_u} = 1$ $\qquad$ E = Equity Capital.

Now, in the case of unlevered firm,

$\qquad V_L = E_L + P + D$; $\qquad$ P = Preference Capital.

$\qquad\qquad\qquad\qquad\qquad\qquad$ D = Debenture.

or $\dfrac{V_L}{E_L} = 1 + g$; $\left(\dfrac{P+D}{E_L} = g\right)$;

$\qquad\qquad\qquad\qquad g = \dfrac{P+D}{E}$ = gear ratio.

or $\dfrac{E_L}{V_L} = \dfrac{1}{1+g}$; $\qquad$ NOI = Net operating Income.

$\qquad\qquad\qquad\qquad\qquad$ NI = Net Income.

$\qquad\qquad\qquad\qquad\qquad$ i = Interest rate on D.

$\qquad\qquad\qquad\qquad\qquad$ j = Contractual rate on P.

$\qquad\qquad\qquad\qquad\qquad$ t = tax bracket of the firm.

or $E_L = E_u \left(\dfrac{1}{1+g}\right)$; (since $V_L = V_u = E_u$)

Therefore, $E_u > E_L$

or $\qquad\qquad E_u > E_u \left(\dfrac{1}{1+g}\right)$

(Keeping $V_u = V_L$ constant, the E_u is to diminish to the extent of $\left(\dfrac{1}{1+g}\right)$ to become equal to E_L).

Now, taking earnings into consideration,

NOI remains unchanged as $A_u = A_L$.

In the case of unlevered firm,

$\qquad$ Yield on share $\qquad = \dfrac{NOI\ (1 - t)}{E_u}$

In the case of levered firm,

$$\text{yield on share} = \frac{(NOI - iD)(1 - t) - iP}{E_L}$$

$$= \frac{(NOI - iD)(1 - t) - iP}{E_u \left(\dfrac{1}{1 + g}\right)}$$

Therefore,
$$\frac{(NOI - iD)(1 - t) - iP}{E_u \left(\dfrac{1}{1 + g}\right)} > \frac{NOI(1 - t)}{E_u}$$

The greater the value of 'j', the greater would be the inequality and thereby the higher would be the expected rate of return on equity capital.

The conservative policy adapted by the management has deprived the firms of the effect of gains from trading on equity.

EQUITY CONTRIBUTION.

The absence of debt in the capital structure indicates the dominance of Equity sources. Such a simple structure is preferred to by the management as well as by the share holders. The acceptance of such a simple structure seems reasonable considering vacillating earnings of the firms /¯Annexure - I (xxix) and I (xxx)_7. To judge this reasonability in an indepth way, the contribution of the owner's equity has been calculated in terms of the following equation:

$$\text{Equity contribution} = \frac{E + R}{NW}$$

(where E = Equity Capital ; R = Total Reserves and surplus; and NW = Net worth).

The results so obtained (Table-VI.2) disclose domina-
tion of the owners' capital as ratio values always exceed the unity.
(The negative value in the last year (1981) is due to negativity of
the denominator). The decrease in the ratio values (1974-78) was
noticed as net operational contribution inflated the NW and the 1
increase in ratio values indicate just the opposite. Though the
strong equity base may provoke gearing of the capital structure for
profit motive, severity of fluctuating earnings desist the manage-
ment from decision to gearing. The shareholders in tea also do not
appear averse to such a decision.

TABLE - VI.2

Structural Ratios

Year	Equity contri-bution.	Pref. Capital density.
1974	1.1658	0.0290
1975	1.0026	0.0236
1976	1.1527	0.0248
1977	1.1072	0.0205
1978	1.4206	0.0281
1979	1.5369	0.0324
1980	3.1404	0.0743
1981	(-) 3.310	(-) 0.0710

PREFERENCE SHARES.

The presence of preference share capital in the
financing-mix of tea companies is also not favoured by the owner

investors and the management. The all-India picture also discloses that "Preference shares of tea plantation companies are not only dead stocks from the point of view of trading; but also are uninspiring in terms of dividends they yield and the market values they fetch.

At the current market prices, the preference shares of tea plantation companies stand on an average, 45.0 per cent depreciated over their paid up values. Shares which are quoted at or above par are not many.

From among the 30 quoted preference shares, there are 12 shares with more than 50.0 per cent depreciation in values. ... The trading pattern of preference shares of tea companies reveals that a large number of them have been inactive with no buyers or sellers"[4].

Similar is the condition in Terai also. Only two companies out of a sample of nineteen, 73.08 per cent of the finite population, display preference capital as an element of capital mix.

The rate of preference dividend in Terai varies between 6.42 per cent and 11 per cent. All these preference shares are cumulative but non-redeemable and are not tax-free. The density of preference capital (Pref. Cap/NW) swings in between 0.0205 and 0.0743 (Table-VI.2). The negative value of the ratio (1981) is due to negativity of the NW itself.

RESERVES AND SURPLUS.

The reserves and surplus are the largest component in the capital structure (Table-VI.1). The increasing dependence upon

this source becomes evident from its average weightage. Besides other advantages (mentioned earlier) this cost-less (save that of opportunity cost) source of fund is being duly and freely utilised by the firms because of absence of any attachment, right or claims of the interest-groups within firm save that of the owners. As accumulation of reserve funds normally inflates with the elapse of time, it is used by the management for long-term uses.

The reserves in Terai tea companies emanate mainly from its components — capital reserves, depreciation reserves, statutory development reserves and general reserves. The significance of reserve as a source of fund can be observed from the table presented below (Table- VI.3).

TABLE - VI.3

Total Reserve funds and its distribution.

Year	Density in NW	Component and size				
		Capital Reserve	Develop-ment Reserve	General Reserve	Depreciation Reserve.	Sinking Fund.
1974	0.6213	0.1780	0.1064	0.6181	0.0966	0.0060
1975	0.5621	0.1288	0.0868	0.6825	0.0967	0.0060
1976	0.7069	0.1096	0.0584	0.7259	0.1002	0.0060
1977	0.7492	0.1637	0.1243	0.5838	0.1231	0.0052
1978	0.8963	0.1856	0.1762	0.4718	0.1611	0.0060
1979	0.9525	0.1769	0.2074	0.4334	0.1861	0.0080
1980	1.7846	0.2117	0.2486	0.3503	0.1786	0.0108
1981	1.8806	0.2180	0.1993	0.3792	0.1933	0.1000
Mean	0.6740	0.1709	0.1509	0.5306	0.1407	0.0073

The Reserve funds as internal sources of fund provided stimuli to the owner's equity and thereby also to the Capital structure. The conspicuous non-use of the gearing due to the over-whelming exuberance of Reserves become much apparent from the average contribution of reserve funds to NW (0.6740), which never fell below the level of 0.5621 and sometimes surpassed the value of NW itself (1980 and 1981). The negative value during 1981 is due to negativity of the NW. A steady increase in ratio value throughout the period, including a fall in 1975, was because of inflated denominator. The size of numerator also reduced because of the use of fund to compensate capital losses, stated more precisely, during first half (1974-78), the rising value of the ratio was due to increase in the value o numerator and for the rest of the period (1978-81) the shrinkage in denominator was caused by an alarming decrease in earnings [Annexure -1 (xxx)]

The largest contributers to the total Reserve fund are general and special reserves and these by and large, run inconsonance with the net operating result. The minor variation in the trend pattern of this ratio value with that of PAT[Annexure-1 (xxx)] is due to the depreciation which is customarily not added to the 'Total reserves and surplus' [Annexure-I (v)]. Barring this, general reserves reflect the net operational results. The general reserves decreased during the later half (1978-81) and, therefore, also the ratio value of this component. The size of this component again emphasises the economic stability and thereby influences the use of non-gearing in the capital structure.

The low contribution of depreciation points towards the size of depreciatable assets and, thereby, the nature of this industry. The size of FA is large; but the small flow of liquidity from fixed zone to current zone points towards the labour intensity of this industry. The contribution of depreciation is the lowest in the total reserves (mean 0.1407). A sudden jump in ratio values during 1978 reflects the enthusiasm of the enterpreneurs for renewals and modernisation of the machinery due to profit-taking (1977) has rightly been signalled by the statutory development reserve ratio. The increasing value of the ratio (1978-81) is because of decreasing value of the denominator the sum total of 'depreciation' and 'total reserve and surplus' and 'sinking fund' /Annexure-I (xxxi, v and xviii)_7.

The contribution of Capital Reserve /Annexure-I (ii)_7 as a source of equity funds is comparatively small and can be grouped along with the depreciation. The use of this fund to mitigate capital losses has duly been reflected by its sharp fall in 1976. The lesser scope to add to this fund is the chief cause of its small size in absolute terms. Save that of two years (1977 and 1978) the capital reserves have not been capitalised. The sudden improvement in the value of this ratio is due to revaluation of assets by a single firm only; otherwise the movement in the value of this ratio is due to fluctuation in the value of its denominator which has largely been shaped by the general and special reserve sources.

The sinking Fund /Annexure - I (xviii)_7 as a component of total reserve funds is quite negligible. The ratio value shows

an increasing trend save that of two years - 1977 and 1981. The
deviation in the trend in former year is not due to reduction in
liabilities but due to inflated value of the denominator. But
decrease in the value in the last year indicates reduction in lia-
bility due to payment of claims on account of employees retirement.

In Terai tea, internal sources play a pivotal role.
The very role and its importance as an internal source saved the
firms from the risk of involvency that might have been arisen had
the firms' capital structure were levered. Considering the liquidity
aspect of the firms, it can rightly be emphasised that larger contri-
bution of reserve funds saved the firms from bankruptcy.

COST OF CAPITAL.

Funds are obtained by the firms for use and, thereby,
it signifies the demand for it. Likewise, investors also supply the
funds provided they obtain a premium for foregoing their liquidity.(5)
Thus, cost of capital may be defined as the equilibrium point of
demand for and supply of funds. Generally, this cost is expressed
as percentage rate.

The cost of capital from the view point of investors
is the rate of discounting the future flow of returns that equates
with its present value because of time function of the return.
Besides, parting away with funds entails various degrees of uncer-
tainty. As funds are obtained by firms from different sources each
is likely to have a different cost depending on the exact terms of

contract.

The cost or the return centre round the same aspect but from different view point. The former entails the receiver of the fund and the latter enjoins the supplier — but both relates to future happenings in terms of the planning of capital structure. Hence, the future value need be considered to make a real analysis of this aspect. But as our function is to make post mortem, we are concerned with the historical costs. Therefore, in formulating and analysing the cost principles we shall be concerned with the historical cost.

The question of determining the cost of capital is difficult. There are substantial disagreements[6] about theories of capital structure and, thereby, the methods of calculating a firm's cost of capital. There is, however, substantial agreement that it is a rate at which a firm is to discount its future cash flows in order to ascertain their present value. The cost of equity is the cost of floatation and dividends. It is the cost of the estimated stream of net capital out-lays derived from equity sources.

COST OF SPECIFIC SOURCES OF FINANCING.

1. Cost of Equity Capital:

Though there are variations in the methods[7] followed in calculating the cost of equity capital these do not materially differ from each other. In general, the methods are either to find a rate that will equate the present value of all future

dividends per share to the current market price, or to find a rate substituting earnings for dividends. The latter is known as earnings model. Mathematically the former can be expressed as :

$$K_e = \frac{D_1}{P_0} + g \qquad \text{(where } g = br\text{)}$$

and the latter as : $K_e = \frac{E(1 - b)}{P_0} + g$

(where $b = (1 - \frac{D}{E})$ = Retention Ratio and $g = br$).

where,

K_e = Cost of equity capital;

D_1 = Current dividend paid at the end of period 1;

P_0 = Market price per share;

E = Earnings per share;

b = Retention ratio;

r = Rate of growth of earnings/dividends.

The cost of equity need be weighed in terms of its density in the capital structure.

Mathematically,

$$(K_e) \text{ (Weights of Equity)} = K_{ew}$$

2. The cost of preference capital:

The preference share holders get dividends (D_p) and the rate of dividend is a contractual one. The cost of preference share can be shown as $K_p = \frac{D}{I_0}$; $\lfloor$ where, $b = (F_v) (r) \rfloor$

where, F_v = face-value of preference share;

r = contractual rate of dividend;

D = stated annual dividend; and

I_o = net proceeds of the preferred share.

3. Cost of retained earnings:

The cost of retained earnings (K_r) is "the rate of return stock holders require on firm's common stock." (8)

K_r is identical to K_e; therefore, stated mathematically:

$$K_r = \frac{D_1}{P_o} + \text{expected } g \; ; \; (g = br).$$

4. The cost of debt-capital:

The computation of cost of debt capital is a simple one. The interest on debt is tax admissible cost. So, the benefit of tax need be adjusted while calculating this component cost though actual contractual rate of interest has to be provided to debt suppliers.

If 'i' denotes interest on debt,

tax - adjusted cost of debt capital (K_d) can be expressed as follows:

$$K_d = (1 - t) (i).$$

(where, t = marginal rate of tax).

The aggregate cost of component elements or the cost of capital structure, as it may be termed, on assigning the probabilities of densities (w), can be expressed as :

$$K_o = K_{ew} + K_{pw} + K_{dw} + K_{rw} \; ;$$

In assigning weights sometimes market value weights are preferred to the book value weights, for market value represents true expectation of the investors. In the case of unquoted shares the book value is the only alternative.

In Terai tea industry most of the companies are unquoted. The only alternative to ascertain the rate of return on equity and, thereby, the cost of equity is the book value of equity shares. Again, there are certain practical difficulties in determining the cost of equity as a component, as well as the overal cost of capital. The determination of the former, as well as the latter is further complicated by the fact that dividend in kind (manufactured tea @ 0.5 kg per member) is given to the persons attending meeting including proxies. Such distribution of dividend in kind does not permit calculation of dividend in kind per share. At the same time calculation of money value alone would be a misleading cost of equity capital and thereby the overall cost of capital.

The cost of equity calculated on the basis of dividend paid in cash only can be observed from the table below (Table-VI.4). A number of companies have not paid any return to equity shares during the period under review. Only one of them (New Champta Tea Co. Ltd.), paid dividend to an extent of 26.91 per cent on one occasion only.

TABLE - VI.4
Dividend Pattern

% Dividend paid	No. of Companies
0	6
1 - 5	6
6 - 10	2
11 - 15	0
15 - 20	4
above 20	1
Total	19

The yield on equity and, thereby, its cost for the Terai as a whole is also widely fluctuating $\int$ Annexure I (xxxv)$\_\int$. The average return on equity in terms of its book value vis-a-vis the cost of equity ranges from 0.0061 to 0.1011. The yield on equity indi-cates that fund, through enlargement of equity base by new issues, is very difficult to obtain as the average rate of return is much lower than the market rate where investment can be made at risk-free rate of 12 per cent per annum. And as an alternative, by accepting a minimum risk, investment can be made at 15 per cent per annum even in corporate sector with the expectation of capital gains besides the interest receipts. The present holders in tea shares are reluctant to invest in Tea. The acquisition of most holdings is through inheritance and sentimental value thereto help to preserve holdings rather than disposing of. The reasons for such an attitude becomes much more apparent from 'average return on equity' for the period under review which comes to 0.0436 and much below the return on investment in any other industry.

The overal cost of capital ($K_{\tilde{d}}$) of the Terai tea industry based on the components and their weight can be calculated as below:

$$K_{\tilde{d}} = K_{ew} + K_{pw} + K_{rw} ; \qquad \cdots\cdots (p = p_1 + p_2)$$
$$= (0.0436) \ (0.4358)$$
$$+ \left\{ (0.0642) \ (0.0114) + (0.11) \ (0.0038) \right\}$$
$$+ (0.0436) \ (0.5490) ;$$
$$= 0.0441$$

Compared to present yield on investment in corporate bodies the cost of capital in Terai tea industry is obviously lower.

The payment of minimum expected rate of return and thereby the incurring of minimum required rate of cost is obvious if fund is to be kept and to be continued in the firm. The apparent satisfaction of the management because of low cost of capital might endanger the future availability of fund even from its largest short-term suppliers, the commercial banks. The latter have already been cautioned by the Reserve Bank of India. [9] The management should get lessons from such *action of the Reserve Bank of India and should redesign their planning.*

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References and notes:

1. Van Horne, James C., "financial management and policy", third edition, Prentice-Hall of India Private Ltd., New Delhi, p.260.

2. "Financial structure refers to the way the firm's assets are financed : it is the entire right-hand side of the balance sheet. Capital structure is the permanent financing of the firm, represented primarily by long-term debt, preferred stock, and common equity, but excluding all short-term credit. Thus, a firm's capital structure is only a part of its financial structure." "Weston, J. Fred., and Brigham, Eugene F., "Managerial Finance", sixth edition, Holt, Rinehart and Winston, Inc., The Dryden Press, Illinois, 1977, p. 663.

3. Brigham, Eugene F., "Financial Management - Theory and Practice", second edition, Holt, Rinehart and Winston Inc., The Dryden Press, Hinsdale, Illinois, 1979, p. 512.

4. The Economic Times. The 25th March, 1981", "Special Survey - Tea Co., Shares."

5. "The amount of money desired for speculative purposes is primarily a function of the rate of interest; the higher the rate of interest which one must forego if one holds cash instead of earning assets, the less is the amount of cash which one is prepared to hold for speculative purposes". Hansen Alvin H., "A Guide to Keynes", McGraw Hill Book Co. Inc., New York (Asian Students' edition, Kogakusha Company Ltd., Tokyo) 1953, p.130.

6. There are several major contributions to the theories of capital structure. Amongst the notables are David Durand, Eli Schwarb, Ezra Solomon, Franco Modigliani and Merton H. Miller, Gordon Donaldson, etc. Basically there are two opposite schools one is advocated by Ezra Solomon and the other by Modiglinani and Miller.

7. According Modigliani and Miller:

$$K_e = \frac{D}{P} + br \; ;$$

and, according to Ezra Solomon :

$$K_e = \frac{E(1 - b)}{P} + br \; ; \quad \underline{/} \text{where, } E(1 - b) = D \; \underline{/}$$

where, K_e = cost of equity;

   D = current divident;

   P = market price per share;

   b = retention ratio;

   r = growth factor.

8. Weston, Fred J., and Brigham, Eugene F. "Managerial Finance", sixth edition; Holt, Rinehart and Winston Inc. The Dryden Press, Hinsdale Illinois, 1977, p. 701.

9. "Report of the Committee on Financing of Tea Industry", Reserve Bank of India, Bombay, 1981, pp. 100-01.