CHAPTER 3

THEORETICAL BACKGROUND OF THE SUBJECT

The subject matter of the study is Changes in Capital Structure & in Profitability - A case study of Kulkarni Power Tools,Shirol.Dist. : Kolhapur

3 . 1 . MEANING OF CAPITAL STRUCTURE :

1.The capital structure of a company refers to the various components of the capital of the company and their respective proportion in the total capital.Broadly the capital structure of a company can be divided in the following two categories :

A.OWNERS' FUNDS

B.LOAN FUNDS

In the capital structure the owners funds consist of the following :

1.Equity Share Capital

2.Preferance Share Capital

3.Reserves both Capital & Revenue Reserves

The loan funds consist of all types of borrowings made by the company.Some of the instances of borrowing are :

1.Term Loan from Banks & Financial Institutions

2.Working capital finance from Banks in the form of Cash Credit,Bills Discounting,Letter of Credit etc.

3.Debentures issued by the company

4.Fixed Deposits accepted from the public under section 58 A of The Companies Act,1956

5.Foreign Currency Loans

6.Leasing & hire purchase from Non Banking Financial Companies (NBFCs)

Thus capital structure of a company shows the total funds at the disposal of the company at any given point of time and which are being used by the company in its business.The balance sheet of the company shows its capital structure at a glance under the following headings :

1.Share Capital

2.Reserves & Surplus

3.Loans both secured & unsecured

Capital structure of a company does not remain constant even during the period of one financial year.The capital structure goes on fluctuating as per the needs of the company.The changes in the capital structure may take place over a period of one month or it may take place over a period of one to three months.The real determinant of the capital structure is the financial needs of the business which go on increasing or decreasing as per the business exigencies.

Even though the changes in capital structure take place frequently there is no uniform formula which tells the exact

amount and form in which the change should take place.This is because the changes in the capital structure take place in accordance with the perception of the management regarding the business risks viz.both financial & business risks which are subject to uncertainties & fluctuations.Another difficulty in identifying correct form of capital structure is the very fact that once the decision regarding the capital structure is taken it cannot be reversed in short term. e.g.once a term loan of five to seven years' duration is taken it entails upon the company the obligation to pay interest for the loan period & the obligation to repay the loan.Similarly where fresh shares are issued this decision cannot be reversed.Thus any decision on the mix of capital structure has long term implications which cannot be reversed in the short term immediately.

The existing capital structure of a company is the result of financial policies followed by the management in carrying on its business.Some managements are conservative i.e.they do not rely heavily on loans while the capital structure of some companies are dominated by loans.Prudent financial policy calls for balance between debt & equity i.e.the mix between debt & equity should be such as to result in maximum returns to the shareholders.In other words where the company is earning handsome profits which are growing each year the

management may rely on loans which may not pose a serious threat of non repayment of loans.Similarly companies may opt out for issue of equity shares where the future requirements of the company are likely to be huge.This will help the company raise loans easily form the banks as there will be enough room for loans in the capital structure.

The raising of loans is a double edged sword.The necessity of loans arises because the business cannot be carried on without debt all the time.At some point of time the need for bank finance arises.However the raising of loans entails two types of risks on the company :

1.Financial Risk : This risk represents the risk that the company may not be able to pay the interest and repay the principal.This may arise because of losses incurred or because of non or slow recovery of sales realisations etc.

2.Business Risk : This risk represents the risk that the company may not be able to pay the interest & repay the principal due to the environmental & industry risks

e.g.adverse economic conditions.

Where in order to avoid debt financing own funds and internal generations are resorted to the above risks can be eliminated but the company will lose profitable & prosperous opportunities for want of funds.The fund raising capacity will be limited where no loans are raised.Thus the problem with regard to debt financing is how much of debt financing should be done i.e.what is the right proportion of debt in the capital strucuture.

3 . 2 . IMPORTANCE OF BALANCED CAPITAL STRUCTURE :

The above problem of right mix of debt in the capital structure is addressed by the concept of Balanced Capital structure.The concept of balanced capital structure advocates that the capital structure of any company should be so built that the returns to the shareholders should be maximum.As stated above there is no uniform formula to lay down the right mix of debt & equity in the capital structure which is applicable for all times.However there are some considerations which should be taken into account while formulating a policy of capital structure.They are as follows :

3 . 2 . (i) PROFIT EARNING FORECAST :

Any decision on the capital structure is essentially related to the profit earning capacity of the company.This is be-

cause where loans are raised the earnings of the company should be sufficient to satisfy the obligation of interest & loan repayment.Similarly the earnings should be stable over the period of loan i.e.there should be no violent fluctuations in the earnings of the company.The loans should be resorted to so long as the rate of return on the investment exceeds the cost of finance i.e.the after tax cost of the debt.This can be explained as follows :

Where the loan is raised at the interest rate of 16 % rate the cost of debt will be 9.6 % assuming the tax rate @ 40 % i.e. (1- tax rate) * 16 % i.e. (1 - .4) * 16.So long as the project earns returns in excess of 9.6 % the loans should be raised.

3 . 2 . (ii) MANAGEMENT PERCEPTION OF BUSINESS :

While deciding on the right mix of capital structure the perception of the management of the futute business considerations should play a major role.In this regard the perception of the management for the following matters should be considered :

a. The future funds requirements of the company :

Where the company plans major expension in the next three or four years there should be adequate shareholders funds in the company which will facilitate the raising of loans and a satisfactory Debt Equity Ratio.This factor should be kept in

mind while deciding on the existing form of capital structure i.e own funds or debt.

b. The condition of capital & money markets :

The position both existing & future in the capital markets should be considered before deciding on the mix of capital.Where the capital markets are likely to be sluggish the company would not be able to issue shares in the open market which will hamper its fund raising capacity jeopardising the prospects of the entire project.Similarly where the company has decided to raise Foreign Currency loans to finance its expansion the movements in the Rupee Dollar Exchange Rates should be studied in detail alongwith the domestic interest rates on loans.

c) Position of Competition in the Industry :

The position of competition both present & future should be studied in detail to decide on the right mix of capital structure.e.g.In India since the liberalisation of economy competition in the economy has increased considerably both on account of opening of the economy by reducing the Import Tariff as well as due to creation of new production capacities in all sectors.In such a case the capital structure should tilt prudently in favour of own funds rather than high proportion of debt.The exact quantum of debt in such a case will depend largely on the perception of management.

3 . 2 . (iii) Flexibility in capital structure :

The capital structure should be so positioned that the raising of loans should pose no problem.This implies that the capital structure should have equal amount of owned funds to debt.This will make raising of loans easier as the Debt Equity Ratio can be kept within the permissible level.Where the loans dominate the capital structure the funds required have to be arranged only from owned funds which prove to be inadequate to the requirements.

3 . 2 . (iv) Size of the company :

It is seen that the size of the company also determines the mix of capital structure to a large extent.in case of small & medium companies and in case of non manufacturing companies the proportion of debt in the capital structure is found to be higher.On the other hand in case of large manufacturing & multi national companies the proportion of owned funds represented by share capital & reserves is quite high. One of the reasons for higher proportion of owned funds may be that such companies go on expanding continuously & sufficient owned funds facilitate raising of new loans.

3 . 3 . IMPORTANCE OF LEVERAGE IN CAPITAL STRUCTURE PLANNING :

The single most factor which has to be considered in capital structure decision is the financial leverage.In fact with

out considering the effect of financial leverage the decision on the right mix of capital structure cannot be taken.

3 . 3 . (i) CONCEPT OF FINANCIAL LEVERAGE :

The term Leverage means simply use of funds having fixed cost in the business e.g.loans or redeemable preference shares.These funds are deployed in the business to achieve the objectives of a company and after the fixed cost obligations are satisfied the owners can lay their claim on the remainder of the earnings i.e.Net Profit after interest and dividend to preference shareholders.Thus leverage can be defined as the obligation to meet a fixed cost for employing the funds.

A company is said to be highly leveraged when the debt funds dominate the capital structure and vice versa.A highly leveraged company incurs obviously high risk of repayment of loan and payment of interest.This increases the total risk of the company.As stated above raising of loans or financial leverage is a double edged sword.It increases the risks of the company & at the same time it can result in higher returns to the owners.This is because the interest on loan is deductible for income tax purposes whereas dividend payments are appropriations of the profits.The reason why the returns to the owners increase is that the owners get additional returns on the same investment.The following

example illustrates the point :

A company plans expansion of Rs.50 lacs.The effect of Leverage can be shown under two options either by financing the expansion by share capital or by debt. Interest rate on loans is assumed at 16 % p.a.

A Company (Rs. in Lacs)

	Share Capital	Debt Funds
Profit Before Interest & Tax	12	12
Less : Interest	-	8
Profit Before Tax	12	4
Less : Tax @ 40 %	4.80	1.60
Net Profit	7.20	2.40
Share capital of Rs. 10 each		
Existing	50000	50000
New	500000	-
Total Shares	550000	50000
Earnings per share	1.31	4.80

Thus with the use of debt funds in the above example the total returns to the shareholders comes to Rs.4.80 per share whereas the returns in the first option is only Rs.1.31 per share.

Conversely the effect of financial leverage can be negative i.e the Earning Per Share may be less in case of a leveraged company.This happens when the returns on the investment are not sufficient to cover the interest.In this case the financial leverage will prove dangerous for the company.

The concept of financial leverage essentially aims at maximising the returns to the owners in the form of Earning Per Share by using fixed cost of debt i.e. interest.Where the effect of financial leverage is favourable it is also called as 'TRADING ON EQUITY '.The meaning of Trading On Equity is that the basis of raising loans is the equity share capital of the company & to that extent the equity share capital is traded.

However to make the financial leverage favourable i.e. to maximise the shareholders' returns it is essential the returns on the investment of the company should exceed the fixed charges.The extent of financial leverage in a company can be ascertained by the following formula :

$$\text{Financial Leverage} = \frac{\text{Earnings before interest \& tax (EBIT)}}{\text{EBIT - INTEREST i.e. PBT}}$$

A high ratio signifies higher risk to the company since a higher ratio means high amount of interest in the EBIT.Where

this policy of High Financial Leverage is adopted the company may find itself in difficult financial position if the earnings go on decreasing over a period of time.

3 . 3 . (ii) CONCEPT OF OPERATING LEVERAGE :

Another aspect related to financial leverage is the Opearting Leverage.It shows the extent to which the fluctuations in the sales revenue cause fluctuations in the operating profit i.e.EBIT.The degree of fluctuations in the operating profit depends upon the proportion of fixed costs in the total costs of the company.Where the fixed costs e.g.interest are substantial in the total costs the fluctuations in the sales revenue will cause still greater fluctuations in the operating profit and vice versa.This is known as Operating Leverage.

The operating leverage can be calculated by following formula :

$$\text{Operating Leverage} = \frac{\text{Sales} - \text{Variable Costs}}{\text{Sales} - \text{Variable \& Fixed Cost}}$$

$$\text{OR} = \frac{\text{Contribution}}{\text{Operating Profit}}$$

The fluctuations in operating profit as a result of fluctuations in sales can be ascertained by the following formula :

$$\text{Degree of operating leverage} = \frac{\%\text{ change in operating income}}{\%\text{ change in sales}}$$

This concept can be illustrated by the following example :

	Company A	Company B
Sales	4000	4000
Less : Variable Cost	2400	2400
Contribution	1600	1600
Less : Fixed Cost	400	1200
Operating Profit	1200	400
	1600	1600
Operating Leverage	1200	400
	1.33	4.

The operating leverage for company A is 1.33 and for company B is 4.This signifies that for company A variation in sales of 10 % will result in variation of 13.30 % in the operating profit whereas variation of 10 % in sales of company B

will result in variation of 40 % in operating profit.

Thus where the proportion of fixed costs in the total costs of a company is higher the operating leverage ratio also becomes high.A high operating leverage is also dangerous for the company since if the sales are reduced by even a small percentage the operating profit gets reduced by a still higher percentage.This is because of higher proportion of fixed costs which have to be incurred even if the sales are reduced or becomes nil.

3 . 3 . iii . SIGNIFICANCE OF BOTH THE LEVERAGES :

A combined ratio of both the financial & operating leverages can be worked out by the following formula :

$$\text{Financial Leverage} * \text{Operating Leverage}$$

$$\frac{\text{EBIT}}{\text{PBT}} * \frac{\text{Contribution}}{\text{EBIT}}$$

i.e.

$$\frac{\text{Contribution}}{\text{PBT}}$$

e.g if the combined ratio is 10 & if the increase in sales is assumed to be 5 % the profit before tax will increase by 50 %. Thus a high operating leverage is risky for the business since with reduction in sales by 5 % the profit before tax will decrease by 50 %.

Thus study of both the above leverages is essential before deciding on the correct mix of capital structure.In order to achieve a balanced capital structure the following rules of the combinations of the two leverages should be followed :

Operating Leverage	Financial Leverage	Remarks
High	High	As already stated this combination should be avoided always since it exposes the business to tremendous risks.
High	Low	The risks undertaken in high operating leverage i.e.high percentage of fixed costs in the total costs are nullified by the lower interest costs.
Low	High	This combination shows the desirable capital structure.The EPS will be maximum since the lower fixed costs alongwith the high interest will enable Trading on equity to the fullest extent.

Low	Low	The lower fixed cost alongwith lower interest shows that the capital structure is tilted in favour of equity.Even though the low operating leverage is desirable low financial leverage implies that the company might have lost some good opportunities by not expanding by resorting to loans.

Thus the study of both the leverages over a period of time will bring out succinctly the policies followed by management in regard to the capital structure.The ideal situation for the management will be where the company operates at a high break even point i.e. lower fixed costs or in other words higher contribution and a high incidence of interest. The management of a company should frame its capital structure from time to time based on both the leverages in order to minimise the risks.A high operating leverage will be advantageous omly in combination with low operating leverage.

3 . 4 . THEORIES OF CAPITAL STRUCTURE :

The theories of capital structure address the issue if there

exists an optimum or ideal capital structure and whether such a capital structure can be achieved by a company by interchanging the equity & debt.As stated above the objective of a management is to maximise the wealth of the shareholders i.e.the value of the company should be highest or the cost of capital should be low.The value of a company can be arrived at by capitalising the earnings of the company by a suitable capitalisation factor.The real issue is whether by using the above concept of financial leverage the value of a company can be changed i.e. whether it is possible to minimise the cost of capital by interchanging in the equity & debt & thereby to maximise the value of a company.The financial leverage however affects the shareholders' earnings but it does not affect the total expected earnings of a company since the total expected earnings are dependent upon many expectations and variables.

There are three theories which address the above issue.

3 . 4 . (i) NET INCOME METHOD :

According to this approach the value of a company as also the cost of capital of a company can be changed by making changes in the financing method i.e.equity or debt.This approach rests on the premise that as the leverage increases the average cost of capital decreases and the value of the increases.This is because of the tax deductibility of interest on debt.Thus optimum capital structure can be achieved

at that point where the average cost of capital is the minimum.For the purpose of achieving optimum capital structure the company should have higher proportion of debt in its capital structure.A this point the value of the company will be maximum.

The following example will illustrate this approach :

A company

	Existing		Raising new debt
EBIT	100000		100000
debt @ 16 %	500000		700000
(After tax 8 %)			
capitalisation rate	10 %		10 %
EBIT	100000		100000
Less : Interest	40000		56000
	60000		44000
Value of shares			
60000 / .10	600000	44000/.10	440000
Value of debt	500000		700000
Total value	1100000		1140000
Average cost			
PBT / TOTAL VALUE	60000		44000
	1100000		1140000
	5.45 %		3.86 %

Thus with the addition of debt the value of the company increases and the average cost of capital comes down.

However certain conditions must exist to achieve the results advocated by this approach.In fact these assumptions can be held as shortcomings of this approach since these assumptions do not exist in reality.Some of the prominent assumptions are as under :

i) There are only two types of capital i.e debt & equity and these can be interchanged easily by selling equity & repaying debt & vice versa.The total assets of the company remain the same.

ii) The operating earnings of the company remain constant.

iii) The business risk is assumed to be constant and independent of capital structure or financial risks.

iv) The corporate income taxes do not exist.

v) All the earnings of the company are distributed in the form of dividend.

3 . 4 . (ii) NET OPERATING INCOME METHOD :

This method is the reverse of the net income method.According to this approach the value of a company does not change with the changes in the capital structure.The value of a

company is arrived at by capitalising the overall net operating income.In this method the capitalisation factor is based on the business risks of the company & therefore it remains constant even though there are changes in the mix of the capital structure.As stated in the financial leverage considers only the financial risks and the business risks cannot be taken care of by either increasing or decreasing the leverage.

The conclusions of this method can be seen by taking the above example :

A company

	Existing	Raising new debt
EBIT	100000	100000
Less : Interest	40000	56000
Net Income	60000	44000
Value of company 100000 / .10	1000000	1000000
value of equity	1000000	1000000
Less : Debt	500000	700000
	500000	300000
Cost of equity 60000 / 500000	12 %	44000/300000 14.66 %

Thus even though the proportion of debt increases in the capital structure and cost of equity increases the value of the company remains same.

The assumptions of this method are as under :

i) The value of a company as a whole is capitalised i.e.the debt & equity components of the capital structure are not relevant.This is because the use of debt increases the risks of the owners and they therefore hike their earnings expectations from the company.This in turn increases the capitalisation rate of equity which offsets the advantage of low cost debt and decrease in cost of capital.

ii) The Earnings before interest & tax are capitalised rather than earnings available to the owners.

iii) The corporate income taxes do not exist.

iv) The rate at which the value of debt is calculated i.e. debt capitalisation rate is assumed to be constant.

3 . 4 . (iii) TRADITIONAL METHOD :

This method is a compromise between the above two methods. It advocates that the value of a company can be increased or the cost of capital can be reduced by increasing debt in the capital structure but only upto a certain point.Before this point is reached any increase in debt results in decrease in overall cost of funds due to the lower cost of debt financing.Upto this point the debt is regarded as reasonable and

advantageous to the company.Accordingly the value of the company rises because the average cost of capital decreases as stated in point above.

At this point of time the value of the company will be maximum or the cost of capital will be minimum.At this point any increase in the leverage i.e. debt will not result in corresponding decrease in cost of capital since the advantage of low cost debt will be offset by increase in the cost of equity caused by added financial risks.

After this point any increase in leverage is perceived as dangerous to the company i.e. the financial risks increase so much that the value of the firm decreases.Similarly the cost of capital increases rather than decreases because the capitalisation rate for equity also goes up due to the increasing leverage.In other words the expectations of earnings for owned funds increase with the addition of debt funds after this point resulting in increase in cost of capital.

The traditional theory assumes that the form of financing i.e. debt or equity changes the value of a company.Similarly it assumes that the cost of capital decreases upto a point by the use of debt funds in the capital structure.

3 . 4 . (iv) MODIGLIANI - MILLER APPROACH :

The approach of Modigliani & Miller is similar to the Net Operating Income approach discussed above.This approach was

advocated in 1958.The basis of this approach is that in the absence of corporate taxes the marker value of a company & its cost of capital are not influenced by changes in its capital structure.As per their agrument the market value of a company can be determined by capitalising the Net Operating Income at a rate appropriate to its class of risk.Thus for companies in the same risk class the market value is independent of its capital structure.This is because if the market values change the process of Arbitrage will take place & their market values will become same.The process of Arbitrage can be explained as follows :

i) There are two companies one of which is leveraged and the other is un leveraged.

ii) If the market values of the companies become different at some point of time investors in the overvalued company will sell their shares and invest in the undervalued company.This will enable them to obtain the same return on smaller investment.This investment of additional funds is made by the investors by borrowing on their personal account.This process of Arbitrage will continue till the market values of the firms become equal.

This theory in addition to perfect market conditions assumes that the Net Operating Income of both the companies remain the same.

3 . 4 .(v) SHORTCOMINGS OF THE THEORIES OF CAPITAL :

The above theories suffer from many shortcomings.They assume certain prerequisites which do not exist in reality.The major shortcomings can be stated as follows :

i) The corporate taxes exist all over.This fact alongwith the tax deductibility reduces the cost of debt substantially.As a result it is wrong to assume that the method of financing has no effect on the market value of a company.In fact the market value of a leveraged company will be higher than that of a unleveraged company because of low cost of capital & high earnings.

ii) Perfect market conditions do not exist.As a result the expected behaviour from the investors does not materialise.

iii) The main limitation for the working of the process of Arbitrage is that the investors cannot borrow funds at the rates at which they will earn returns from the company in which they invest.In addition the transaction costs also reduce the actual returns.

The above limitations bring out the fact that the theories of capital structure suffer from serious limitations.It is wrong to assume that the financing pattern does not affect

the cost of capital.The tax deductibility of interest goes a long way in reducing the cost of capital of a company.A company can earn better and higher profits by effectively using the concept of Trading on Equity.Similarly even though two companies operate in the same industry & on the same scale the market values of the companies will not be the same since the expectations of the investors regarding the following factors will determine their values :

i) The efficiency & image of the management
ii) The growth prospects & expansion plans
iii) The stability of earnings
iv) The degree of competition faced
v) The relative business risks