REVIEW OF LITERATURE

Review of literature gives an insight about problem. It was regarded as the backbone of any research work. It has rightly been observed that the key of the vast storehouse of published literature opens door to the sources of significant problems and provide helpful orientation for definition of problem, background for selection of procedures and comparative data for interpreting results.

Before we analyse theoretical and empirical aspects of financing pattern and value of the firm, it is desirable to review the existing literature on the subject. There are number of studies, relating to the capital structure, cost of capital and value of the firm. A brief review of some of the important studies conducted in Indian and abroad is provided in the following paragraphs:-

Durand\(^1\) pioneered in providing conceptual and theoretical framework on the cost of debt and equity for a business enterprise in his article “Cost of Debt and Equity Funds for Business”. In this study, he developed two approaches Net operating Income approach and Net Income approach. He concluded that as per the net operating income approach, leverage is not effective in influencing value of the firm but, it has certainly positive bias when it is evaluated as per the net income approach. He accepts that judicious combination of debt-equity mix may help in framing an optimum capital structure, with the increased financial leverage; there would be decline in the overall cost of capital and increase in the value of firm. The basic lacuna of his work is that it is purely a theoretical framework and is not supported by empirical evidences. Therefore, it cannot be put in the category of scientific study.

Franco Modigliani and Merton H.Miller\(^2\) from the Graduate School of Industrial Administration, Carnegie Institute of Technology created an excitement in the world of financial management through their article “The cost of capital,
corporate finance and the theory of investment". They departed from the traditional version of capital structure and stated that the value of the firm is independent of the capital structure. The cost of capital and value of the firm are constant for all degree of leverage. The total value is derived by capitalizing the expected stream of operating income at a discount rate appropriate for its risk class. As per their version, the overall cost of capital increase in a manner to offset exactly the use of the lower expensive debt financing. He opined that weighted average cost of capital is constant irrespective of the type of capital structure used in a business enterprise. However, their observation is based on certain assumptions like perfect capital market, the expected operating earnings for all future periods are the same as the present operating earnings; the firms can be categorized into equivalent return classes and all the firm within a class have identical business risk, the absence of corporate taxes; hundred per cent dividend payout, etc.

Durand and others criticized the M.M. hypotheses on several grounds like arbitrage is not ordinarily possible in corporate securities, absence of perfect market, practical difficulty in hundred percent payouts, incorrect assumption like the firms and individual can borrow and lend at the same rate of interest, personal home-made leverage is perfect substitute for corporate leverages. The existence of transaction costs and institutional restrictions will impede the working of arbitrage. The absence of corporate taxes is purely a hypothetical exercise and has little relevance with practical reality.

The learned authors revised their theory by accepting the existence of corporate taxes in their revised article published in 1963. The deduction of profits will prevent the arbitrage process from making the value of all firms in a given class proportional to the expected returns generated by their physical assets instead it can be shown that the market value of firm in each class must be proportional in equilibrium to their expected return net of taxes. The tax advantage of debt may well
tend to lower the optimum size of the reserve, but it is hard to believe that advantage of size contemplated under this model could justify any substantial reduction.

Solomon Ezra attempted a theoretical exercise in his paper “Leverage and the cost of Capital” to test the M.M. thesis that apart from the tax effect, a company’s cost of capital is independent of the degree of financial leverage in its financial structure. As described in his theoretical framework that in the early or moderate phase of leverage, cost of equity capital declines, because of market imperfections as leverage exceeds the limits acceptable to debt market, pre-tax marginal cost of borrowing rises rapidly and the tax advantage of even highly leveraged unit is offset by the rising cost of each incremental debt. When pre-tax marginal cost of borrowing rises above pre-tax overall cost of capital, any further increase in leverage will cause increase in pre-tax overall cost of capital. As far as leverage effect alone is concerned, there is clearly a definable optimum position at the point at which the marginal cost of additional debt is equal to or greater than a company’s average cost of capital. Soloman’s views are based on traditional concept that overall cost of capital is U-shaped. However, he restricted his work within the parameters of theoretical exercises. The theoretical discussions were not tested with the prevailing practices in the area of capital structure and its impact on cost of debt financing and overall cost of capital.

Barges in his work titled, “The effect of capital structure on the cost of capital” tried to test M.M. hypothesis. The relationship between the overall cost of capital and leverage and the yield and debt equity ratio using cross-section data from three different industries namely rail roads, departmental stores and cement industry having contrast characteristics. He disagreed with Modigliani and Miller on the point that leverage should be measured with the market value and used book value as a measure of leverage. He provided three reasons for using book value as a measure of a leverage (i) Book value measures are controllable by the management. (ii) Heterogeneity in data would not result in a systematic variation in the yields (iii) Book values are very much used by investors.
Pandey I.M. in his study, “Capital structure and cost of capital” tested the M.M. hypothesis using Indian data. He selected four industries—cotton, general engineering, chemical and electricity for the years 1968, 1969 and 1970. He also supported the traditional view that average cost of capital first declines then starts rising. But the effect of leverage on cost of equity differs, in some cases cost of equity declines, in others it starts rising and in some cases it does not have any effect. Pandey was of the opinion that arbitrage would fail to work in practice as homemade leverage and corporate leverage is not perfect substitutes. He observed that institutions like Insurance Company, Pension funds; Unit Trust of India, etc. do not tent to equalize their personal leverage with the corporate leverage. If the institutions do not equalize the leverage, it seems inconceivable that private investors would do so.

Weston in his study, “A test of cost of capital proposition” tried to verify the two propositions of Modigliani and Miller that regardless of the degree of leverage employed by the company, its cost of capital will be the same and the cost of capital function of a firm will be unaffected by the leverage. But in his work, he had excluded the 42 oil companies used by M.M. because of diversified nature of the units suffering from the problem of non-homogeneity of an industry, which was classified as the same risk class industry in the MM study. As a consequence, his empirical test was confined to electrical utility industry with a sample size approximately 30% larger than the MM sample size. He questioned the validity of the MM’s assumption that business risk is constant but he himself did not provide any answer for this problem. He was also silent on the impact of payout ratio on the business risk. The size of the sample and time coverage of the study may also be stated as the weaknesses of his study.

Chakraborty S.K. in his work “Corporate capital structure and cost of capital” tried to evaluate debt-equity financing pattern in private sector of Indian industries and also to examine whether the cost of capital, a resultant of capital
structure, has any affect on debt-equity ratio or not. He tested the linkage of company’s cost of capital and financial leverage with various variables viz. sales growth, assets growth, retained earnings, operating profits/gross assets, gross fixed assets/sales, tax/profits and age of the firms as independent variables. The limitation of study, as frankly admitted by Chakraborty himself was the size of the sample was too small. He has taken the data of 775 public as well as private companies but a sample of 22 companies only for the year 1963, 1966, 1969 and 1971 had been taken to compute the cost of capital. On the basis of this sample it will be unfair to make generalized conclusions about inter firm and inter industry group variations.

Porwal, L.S.\textsuperscript{10} in his book titled “Capital Budgeting in India”. This book contains a chapter on “Capital Expenditure Decision Making-II (Cut off point and sources of funds)”. The point to emphasis here is the use of cost of capital as a rate of discount. He points out companies with low profitability favour the overall cost of capital for determining the cut off points. High profitability companies prefer ‘Cost of funds (specific) used to finance expenditure’ more than the overall cost of capital. Presumably, because it is relatively easy for such companies to arrange funds (either their own or borrowed) to finance capital expenditure proposals as and when needs arises. Further, he has stated that half among small size companies covered in his study adopted weighed average cost of capital method, but around two-fifths of large size companies use the cut-off point arbitrarily established by management.

Manju\textsuperscript{11} worked on “Cost of capital and value of the firm” tried to describe the relationship of leverage with cost of capital and value of the firm using two industries namely general engineering and cotton textile. The main objectives of this study were:-

(i) To study whether cost of capital declines with leverage or not.
(ii) To study the effect of leverage on cost of equity capital.
(iii) To Study the effect of leverage on value of the firm.
This study was limited to private sector only. The 40 companies (non-traditional industry) were selected from general engineering industry and 39 from Cotton Textile (traditional industry). The data was collected for three years i.e. 1978-1980. This data was collected from Bombay Stock Exchange Official Directory. She used the following regression models to test the relationship of cost of capital with leverage and cost of equity with leverage respectively.

Cost of Capital and Leverage:
Model-I
\[ K_0 = b_0 + b_1 L_1 + b_2 L_1^2 + b_3 DP + b_4 \log S + b_5 G + b_6 BR + U \]
Model-II
\[ K_0 = b_0 + b_1 L_2 + b_2 L_2^2 + b_3 DP + b_4 \log S + b_5 G + b_6 BR + U \]

Cost of Equity and Leverage
Model-III
\[ K_e = b_0 + b_1 L_3 + b_2 L_3^2 + b_3 DP + b_4 \log S + b_5 G + b_6 BR + U \]
Model-IV
\[ K_e = b_0 + b_1 L_4 + b_2 L_4^2 + b_3 DP + b_4 \log S + b_5 G + b_6 BR + U \]

Where
- \( K_0 \) = overall cost of capital.
- \( L_1 \) = Long term debt and short term debt to total long term capital.
- \( L_2 \) = Long term and short term debt plus preference capital to total long term capital.
- \( K_e \) = Cost of equity capital.
- \( L_3 \) = is the ratio of long term plus short term debt to equity plus preference capital.
- \( L_4 \) = is the ratio of long term plus short-term debt plus preference capital to equity.
- D.P. = is the dividend payout ratio.
- S = is the size index of the firm.
- G = is the logarithmic growth rate of the EPS over a period of five years.
- BR = Business risk.
- U = error term
- \( b_0, b_1, \ldots, b_n \) are the regression coefficients.
Manju stated that it can validly be concluded that the average cost of capital to a firm is invariant to changes in capital structure. Regarding the relationship between cost of equity and leverage, she observed that no generalization can be made. One of her major findings was that, high dividend paying companies and or large size companies have less average cost of capital and cost of equity capital.

General observation:-

1. Dividend payout ratio has a strong negative influence on average cost of capital ($K_o$) and cost of equity ($K_e$).
2. Size has a strong negative influence on $K_o$ & $K_e$.
3. Growth has a weak negative influence on $K_o$ & $K_e$.
4. Leverage has no influence on $K_o$.
5. Business risk has no influence on $K_o$ & $K_e$.
6. Leverage influence $K_e$ differently in different cases i.e. $K_e$ either rises or declines with leverage or remains constant. But in a majority of the cases, $K_e$ initially rises at a very slow rate with leverage than becomes constant.
7. Even after adding dividend payout ratio, size, growth and business risk, the regression co-efficient of leverage and leverage square in both the equations do not improve. However, $R^2$ becomes significant after adding these explanatory variables. This shows leverage is not perceived as a proxy for financial risk in India while dividend payout ratio and size are the main determinants of the cost of capital.

Sarkar J.B. worked on "An analysis of the nature and change of the capital structure of central government companies" to identify the change in the capital structure of the government companies from 1960-61 to 1969-70 and compared the results with private sector companies. He examined that capital mix was decided by the concerned ministries in the government companies. Therefore, the management was not able to frame the proper capital structure in consonance with the basic goals
of the financial management viz. minimizing the cost of capital and maximizing the value of the enterprise. The study showed that initially equity played dominant role in the capital structure of the government companies but gradually the position shifted in favour of the debt capital and resultant by the uniform debt-equity ratio of 1:1 could hardly be honoured by the companies. As per the study, retained earnings played a negative role because of poor profitability almost throughout the period of the study. The study admits a wide difference in the capital mix between government and private sector companies.

Rao\textsuperscript{13} conducted a research on “Debt-Equity analysis in chemical industry”. He selected 30 companies and examined correlation between debt equity ratio on the one hand and age, size, retained earnings and profitability on the other. He observed significant negative correlation between age and debt equity ratio with the indication that possibly younger age of chemical companies tended to be associated with higher debt equity ratio. The negative correlation between retained earnings and debt equity ratio indicated that a company with higher volume of retained earnings had low debt equity ratio. He observed that in case of high debt equity ratio, the profitability declined due to large payment of interest. However, he observed a positive correlation between debt equity ratio and the size measured in term of total assets and net assets. Apart from this he also examined the trend and pattern in the debt equity ratio.

Wippern\textsuperscript{14} worked on “Financial structure and value of the firm” to attempt the relationship between the cost of capital and leverage by affecting two important changes. He selected 50 firms out of seven industries and performed cross-sectional analysis for the year 1956, 1958, 1961 and 1963. He attempted to reduce the conceptual and estimation difficulties associated with the measure of leverage. That is, bypassed the commonly used debt equity ratio and redefined leverage as the ratio of fixed charges to cash flow properly adjusted for downside risk.

\[
\text{Leverage} = \frac{FC}{E-2S}
\]
Where, FC represents the current level of fixed charges and E stands for recent years cash flow operating income determined by regressing (logarithmically) income over ten year period and 2S denotes two standard error around the regression line. This, Wippern concludes that his results support the traditional view that the shareholders wealth can be improved by a judicious use of debt financing.

Sharma and Rao\textsuperscript{15} worked on “Leveraged and value of the firm” tried to test MM’s model under Indian conditions and to test whether influence of the debt on the value of the firm is independent of its capital structure after allowing for the tax advantage if specifications are correct. They obtained a sample of 30 engineering companies and ran the regression for three cross-section years 1962, 1964 and 1965 as the period was free from major economic disturbance. The authors computed coefficients that supported the prudent use of leverage, even after proper adjustments for taxes, and concluded in agreement with the traditional view.

Goyal\textsuperscript{16} studied on “Measurement of the cost of capital in selected Indian industries”. He tried to measure the cost of capital on the data of 28 companies selected out of seven important Indian industries for the year 1979 and 1985. He tested the relationship between the cost of capital and three independent variables namely, operating profits/capital employed, sales/assets and dividends/earnings per share through regression analysis. He observed that cost of capital declined in all the industries and in all the size groups except the cement industry during the study.

Chital\textsuperscript{17} analyzed the financial practices of 1650 companies (RBI data of large and medium private sector companies) and 417 ICICI aided companies. The following results were obtained:-

1. Expansion or diversification of productive capacity by the established companies is carried out primarily through internal resources.
2. High debt equity ratio (exceeding 2:1) shown by 10 to 15 per cent of the 417 ICICI aided companies indicates that new as well as sick companies are obliged to rely heavily on borrowed capital and on financial institutions.

3. Working capital is financed through short term external sources; trade credit and current liabilities, public deposits and bank credit.

4. Corporate sector as a whole is not overburdened with the load of borrowings. However, fund flow analysis indicates a distinct trend in favour of greater recourse to borrowings.

Sudhakar\textsuperscript{18} tested the financial behaviour and practices of different segments of the Indian private corporate sector with a view to bringing out the differences between:–

(1) Public and private limited companies.

(2) Medium, large and small companies.

(3) Indian and foreign companies.

(4) Companies in other categories.

He made the following results:–

(a) The private limited companies were more dependent upon borrowed capital as compared to public limited companies. However, small companies had higher proportion of borrowings.

(b) Reliance of foreign companies on borrowed capital is significantly lower than any of the domestic companies.

(c) Industries known for their very high profit margins such as silk and rayon, textiles, chemicals, medicines and pharmaceuticals have lower proportion of borrowed funds.

(d) Industries with high profit margins and those with large depreciation, development rebate, investment allowance, etc. have a relatively lower order of indebtedness. They rarely relied on bank borrowings.
Fisher\textsuperscript{19} studied the relationship among share prices and dividend per share retained earnings and size in five industry samples over a period of five years. The following equation was used:

\[ P/d = b_0 + b_1 \log S + b_2 u/d + e. \]

Where \( P \) is price per share, \( d \) is dividend per share, \( \log S \) is the size of index, \( u \) is undistributed profits. It was witnessed that variations in the last declared dividend per share play a significant role in changes in prices. Undistributed profits also have an influence in the price fluctuations.

Arditti\textsuperscript{20} studies the influence of debt/equity ratio and dividend payout ratio on the required rate of return. Finally he considered all the variables together:

\[ R = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + e \]

Where \( R \) is the rate of return. \( X_1 \) is the variance of distribution of the required rate of return, \( X_3 \) is the correlation coefficient between the stock's return and return from other stocks which comprises the share holders portfolio. \( X_4 \) is the debt equity ratio and \( X_5 \) is dividend earnings ratio of the firm. This study reveals inverse and significant relationship between required rate of return and leverage.

Devenport\textsuperscript{21} examined the cost of capital and leverage relationship. He tested his analysis in three industries, chemical, food and metal manufacturing for 1961, 1962 and 1963. He also supported the traditional view.

In a study entitled "Capital Structure of Indian Corporate Sector" by Falguni C.Shastri \textsuperscript{22} reveals the results of this empirical study for the listed joint stock companies with the Bombay Stock Exchange over a period of 10 years. He did not support the NI approach and the second version of M.M. Hypothesis. However, the conclusions drawn on the basis of the hypotheses testing with the help of 5 per cent level of significance supported the Net Operating Income Approach and the first version of the M.M.hypothesis. This implies that the manoeuverability of financial
leverage in the capital structure of the companies is an independent factor and does not have a conclusive functional relationship with the cost of capital, the P/E ratio and the valuation of the firms separately. Further more, the valuation of the companies is not completely dependent factor on the degree of financial leverage, overall cost of capital and P/E ratio collectively.

Edger\textsuperscript{23} in his study entitled “Factors Affecting Capital Structure Decisions” has used surveys to test some of the qualitative assumptions and conclusions in the capital structure literature and also to indicate practitioner’s perceptions when making capital structure choices. Taxes, market concerns and management’s desires for financial flexibility are found to affect capital structure choices.

The paper entitled “Effects of Globalization on Capital Structure of Listed Companies – A survey” by Suresh Babu\textsuperscript{24} reveals that Indian private corporate sector firms are moving towards more equity oriented capital structure for various reasons, in the wake of liberalization and globalization. The findings are also of relevance to the investor community, both national and international, for their investment portfolios.

In a study entitled, “Capitalization and Capital Structure in Indian Industries” by Rajesh Mohnot\textsuperscript{25}, five units form private sector and five units from public sector were chosen for the study. The study reveals that there was heavy over-capitalization in the public sector undertakings whereas the private sector showed the position of under-capitalization. The study also reveals that public sector units had high percentage of equity shares accompanied with low volume of reserves and surpluses. In contrast to this the private sector units are having very thin equity share capital accompanied with high reserves. Due to very heavy interest burden and low profitability, the financial leverage in the public sector was very high as well as volatile. On the other hand, in the private sector, the leverage ratios were relatively lower and more stable.
Suresh Babu tried to evaluate “Capital structure practices of private corporate sector in India.” He examined the capital structure practices of the foreign controlled companies in India, vis-a-vis, that of the domestic companies. The study reveals that the foreign controlled companies differ significantly from their domestic counterparts in their capital structure practices. While the foreign controlled companies in India have an equity oriented capital structure; the domestic companies have a debt dominated capital structure. The study proved that there exists a difference in the capital structure of the corporate firms based on the type of industrial class/group it belongs, size of firm and age of firm. The study also reveals that financial risk, operating risk, debt service capacity and size of the firm are some of the important and major parameters in a designing capital structure of the private corporate sector in India.

Misra, R.N. and Sahu Chinmay studied “The preferred debt equity mix among Indian industries” for a period of covering from 1992 to 1999. The result indicated that financial leverage is a double edged sword. Financial leverage is beneficial and useful for maximizing return to the owners of the firm only when a favourable economic factor exists. It can however, produce the opposite results in conditions of economic recession. In adverse economic conditions, lower financial leverage is preferably as it would minimize the chance of lose of wealth. Thus the analysis of empirical evidence, we come to the conclusion that Indian Industry believes that lower levels of debt in capital structure would help maximize the value of the firm, if indeed that is their ultimate objective.

Babu Suresh and Jain, P.K. studied “The computation of cost of capital empirical evidences from Indian private corporate sector firms.” The study brings to force that there are varied practices among corporate firms in India as far as computation of specific costs and overall cost of capital is concerned – some seem to
conform to sound financial management principles while some others completely disregard them.

In the wake of opening up of the economy the business environment has changed dramatically, investment opportunities have expanded; competition both domestic and inter-national has heightened; financing options have widened and dependence on capital market has increased. Therefore, to equip these organizations to face the challenges of the new economic and financial environment, there is a need for introspection on the part of corporate finance managers.

Morine, Josheph and Paulson in their paper entitled “Cost of Capital: The Management Perspective” explore as how senior executives in the U.S. firms as compared to the Japanese firms perceive the problem of cost of capital. In particular, the authors addressed three issues:

1. Is the cost of capital an important source of competitive disadvantage?
2. If, so, how do the firms manage the problems?
3. What accounts for the differences in views on the cost of capital?

The study suggests that difference in the time of horizons of the US and the Japanese firms are deeply rooted in the industrial structure and the culture of the two countries. The authors suggest some measures in enhancing or preserving the US technology leadership.

Chamboli, in his research paper entitled “Panorama of Capital Structure Planning of Indian Cement Group” aims at analyzing the pattern of finance mix in Cement Group and to compare the prevalent debt equity norm with the standard norms of 2:1, fixed by the controller of capital issue. The payout ratios are to be pushed up by financial future expansion with the help of long term debt and not with the help of addition to equity. Also, general reserves should be used to pay dividend on ordinary shares.
Gunasekaran.M in his study “Determination of Capital Structure: An Empirical Study on Indian Industry” reveals the result that major factors influencing the capital structure in Indian industries are collateral value of assets and liquid assets in aluminum industry, corporate size, liquid assets and business risk in automobile industry, growth rate and liquid assets in cement industry, profitability and trading on equity in chemical industry business risk and debt service capacity in electronics industry, trading on equity in engineering industry, trading on equity, assets structure and corporate size in I.T. Industry, collateral value of assets in leather industry, liquid assets and assets structure in paper industry, assets structure, profitability and corporate taxes in pharmaceuticals industry, profitability, trading on equity and assets structure in steel industry and trading on equity, liquid assets and assets structure in sugar industry.

All the components of capital structure have significant relationship with other components of capital structure. Reserve and surplus is having significant negative relationship with equity share capital, debentures and long term debt.

There is significant difference between the industries with respect to preference share capital, equity share capital and debentures. As regards the other components the difference between the industries is not significant.

The variation in the components of capital structure among the public sector companies is less than the private sector companies.

The collateral value of assets has maximum influence on the capital structure among the public sector companies and asset structure has similar influence on capital structure among private sector companies.
REFERENCES


