CHAPTER II

Review of Literature

This chapter presents the review of literature relating to the study undertaken. The review of literature guides the researchers for getting better understanding of methodology used, limitation of various available estimation procedures and database and lucid interpretation and reconciliation of the conflicting results. These reviews enlighten the existing knowledge of the researcher. Besides this, the review of empirical studies, explores the avenues for future and present research efforts related to the subject matter. Many empirical studies have been conducted by the researchers, economists and academicians in India and abroad on various aspects of capital structure. Most of the studies have concentrated on the theories of capital structure particularly on the validity of Modigliani-Millar (MM) hypothesis. Other studies focused on the factors affecting the capital structures like impact of cost of capital, earning per share, market price per share, dividend policy, tax policy etc., on the capital structure of companies.

It is expected that the examination of the earlier studies would indicate the areas, which need in depth study. The review will also set the necessary guidelines for the research. Thus, different authors have analyzed capital structure in different perspectives. In case of conflicting and unexpected results, the researcher can take the advantage of the knowledge of other researchers simply through the medium of their published works. So the review of this analysis is important in order to develop an approach that can be employed in the context of the study of Indian paper industry.

The present section briefly thrashes out the research carried out so for by the scholars actively engaged in the field. Therefore, a brief review of some important studies relevant to capital structure and profitability is summarized below.

Chakraborty (1990)\textsuperscript{1} studied the rationale of debt equity ratio in various public enterprises and suggested a number of factors that ought to be considered
while deciding on the debt equity ratio of a particular public enterprise. Among other things, he evolved a model for determining the debt equity ratio, taking into account factors like assets structure, gestation period, pricing policy and degree of monopoly or competitiveness. The result of the study largely supported that asset structure systematically affects the capital structure of the firms.

**Uppal Jamshed Yunas (1990)**[^1] made an empirical investigation of debt and taxes in a multi-period framework, developed a multi-period model of capital structure choice when firms are faced with uncertain cash flows. He employed OLS regression using a pooled sample of 19 years of time series and cross-sectional data of 431 companies. The result of the study largely supported the hypothesis that taxes systematically affect capital structure policies and bond market equilibrium. Tests using pooled data indicated no significant relationship between growth and financial leverage. The study also presented evidence that factors other than taxes such as asymmetric information; agency costs affected the financial leverage choice. This suggests that different capital structure theories may compliment rather than compete with each other.

**Schooley Diana Kay (1990)**[^2] examined a sample of 155 large industrial firms for the years 1976-80 to study the relationship between debt ratio and age of the firm, profitability, operating risk, asset composition and non-debt tax shield. He found that debt ratio was negatively correlated to age of the firm, profitability and non-debt tax shield. The asset composition and profit growth were found to be positively associated with debt equity ratio.

**Koralekar (1990)**[^3] analyzed the capital structure of the manufacturing central public enterprises started on or before 1976. The study concluded that the pattern of capital structure of manufacturing public enterprises was not uniform irrespective of their industry class, profitability and size. This study reveals that the capital structure was different within the groups of industry class, profitability or size, due to different debt proportions in their financing. Reduction in the share of government loans, insignificant increase in raising of funds from foreign sources and introduction of new sources of finance like bonds and deposits were noticed as a part of the trend in the financing of the public enterprises.

[^1]: Uppal Jamshed Yunas (1990)
[^2]: Schooley Diana Kay (1990)
[^3]: Koralekar (1990)
Kester and Kolb (1991)\(^5\) analysed the ownership structure of US and Japanese manufacturing firms. The relationship between leverage, capital structure and profitability were studied by applying correlation analysis. The study found that leverage was negatively correlated with profitability both in US and Japan during the study period.

Nazeer Mazhar (1991)\(^6\) conducted a study to examine the extent to which variation of corporate debt ratios can be significantly explained by some specific factors like growth, firm size, asset composition, profitability, dividends, operating leverage and industry class. The study employed linear-regression model on a pooled time-series and cross-sectional data. He also used one-way analysis of variance in order to find mean debt ratio differences both among and within the industries. Profitability was found to be negatively related to debt ratio. Firm size was found to be positively associated to the use of debt. Dividend payments, asset composition and operating leverage in general were found to be unrelated to corporate debt. Industry class was not found to be significant determinant of a firm’s use of debt capital.

Kale, J. Noe and Ramirez (1991)\(^7\) studied the effect of business risk on corporate capital structure and found that there is no single method or technique that enables a company to hit the optimal capital structure. He further elaborated that capital structure is not amenable to neat structured solution. Further, he found that capital structure is very sensitive decision, which can ultimately change the density of the business enterprise.

Sinha (1992)\(^8\) made an attempt to explain the variations in capital structure across industries in India on the basis of capital structure theories using data from Reserve Bank of India Survey of finances of public and private limited companies. The results are broadly consistent with the theory. The most significant explanatory variables for the capital structure patterns are the measures of asset type and profitability.

The study made by Singh and Hamid (1992)\(^9\) is the first large scale research on the pattern of financing of private corporate sector, yields quite unexpected results. The findings state that the corporations in developing countries,
in general, rely mostly on external funds and on new issues of shares to finance their growth of net assets. These results are extremely surprising as they are opposite to what most economists would expect.

**Ghanbari (1993)** studied the prime objective regarding the financial decision of corporate firms. After studying the empirical evidence of capital structure and its impact on cost of capital and the overall market value of a firm, an attempt has been made to estimate the cost of capital of Indian industries and analyzed the possible relationship between capital structure and cost of capital. This resulted that, there is an inverse relationship between pre-tax weighted average cost of capital and the capital structure of a firm. The irrelevancy theorem of Modigliani and Miller does not seem to hold good for Indian industries.

**Jain (1995)** examined the factors affecting capital structure. He found that factors like profitability, liquidity, size and asset structure have a bearing on the design of the capital structure of the firm. These factors differ from one industry to another industry and even from one firm in the same industry.

**Rajan and Zingles (1995)** in their study, “What do we know about capital structure? Some evidence from international data”, have used four determinants of corporate leverage viz., tangibility, growth, size and profitability and tested their influence on leverage. The cost of informational asymmetry is higher for large firms and it is more difficult for them to raise external finance and they have also absorbed empirically a significant positive relationship between size of the firm and debt equity ratios.

**Raj Dhankar and Ajit Boora (1996)** examined whether there exists an optimal capital structure in Indian companies, both at micro and the macro-level and does financing decisions affect the value of a firm. The study reveals that no significant relationship was found between change in capital structure and the value of a firm at the micro-level. This is because of the fact that the value of a firm is affected by multiplicity of factors and capital structure is just one of them, the result being statistically significant and inferred that higher level of debt in the capital structure of these firms will not affect their values adversely. The study also found that the Indian companies do not employ a specific model for computing the
cost of capital and have no scientific model for determining their target capital structure. It implies that when the capital markets are imperfect, the companies have no definite way of determining their optimal capital structure.

**Ramkumar Kakani and Reddy (1996)** made an empirical examination of the widely held existing theories on the determinants of corporate capital structure and their maturity. They tested a new theory on capital structure for large manufacturing firms in developing economies such as India. For the different empirical and managerial implications with regard to different periods of debt instruments, they analyzed the measures of short-term and long-term debt rather than only an aggregate measure of total debt. The study also empirically analyses the implications of liberalization of Indian economy, the determinants of capital structure of the firm. Some of the results were found contrary to the classical financial theory.

**Chatrath Chaudhry et al., (1997)** in their paper investigated the relationship between the cost of capital, financial leverage and dividend policy for a sample of New York Stock Exchange firms over the 1973-90 period. Annual and interval data is fitted to a simultaneous equation model that allows for a non-linear relationship between cost of capital and financial leverage. The result from a three stage least estimation procedure clearly indicate the significance of cost of capital on dividend policy and financial leverage. Firms with higher average cost of capital were associated with lower dividend yields and lower debt-to-total capitalization ratios. However, these relationships are found to be temporarily unstable over the internal relationship between cost of capital and financial leverage. The evidence is inconsistent with the theories that predict unique interior optimum capital structure.

**Ramesh K. Singla (1996)** made an empirical examination of the corporate capital structure planning and its determinants of Indian Private Corporate Sector Companies. Multiple regression technique has been applied to test the relationship between debt-equity and the selected independent variables. The study concluded that the variables like asset composition, business risk,
growth rate, earning rate, industry class and ownership pattern are the most important determinants of capital structure of Indian Private Corporate Sector.

Jinesh Panchali and Nisar Desai (1997)\textsuperscript{17} tried to predict the relationship between ownership structure and financial performance of Indian corporate sector. They found that there exists a direct relationship between ownership structure and financial performance but with mixed evidences. The ownership of corporate bodies showed consistently positive relationship with profitability, while financial institutions equity holdings generally showed positive relationship with asset creation and rest of the ownership categories showed no consistent relationship with any of the variables.

Pandey (1997)\textsuperscript{18} attempted to determine the empirical relationship between cost of capital and capital structure. He incorporated four explanatory variables, viz., size, growth, dividend payout ratio and liquidity to study their influence on the cost of capital and leverage, using multiple regression models. He found that the co-efficient of leverage variable was negatively related with the cost of capital. The study also reveals that the practicing managers generally preferred to borrow rather than using other sources of funds because of the cheaper cost of debt, due to interest tax deductibility and complicated procedures for raising equity capital.

Babu and Jain (1998)\textsuperscript{19} has evaluated the choice between debt and equity assumes significant for finance managers in a private sector company due to the fact that their decisions are expected to maximize wealth for shareholders. Debt is considered to be cheaper, but it is likely to eat away profits and impose a high interest burden. On the other hand, equity could lead to lower earnings per share. A survey was undertaken among the finance managers of 91 private sector companies listed on the Bombay Stock Exchange. The purpose was to gauge their preference for debt or equity and the reason thereof. It was found that the preference for equity has a marginal edge over debt.

Macwan (1999)\textsuperscript{20} conducted a study on debt equity ratio of ICICI assisted industries. The objectives of the study were to analyze the trends of debt equity ratio of ICICI assisted industries of private corporate sector for the periods from 1990-91 to 1994-95 and to make a comparison of observed debt-equity ratio of
sample industries with the standard norms. The study concluded that debt equity ratio of small industries were well below 1:1. There is much scope to increase the debt finance in the capital structure of these industries. The management should make more use of debt particularly the institutional borrowing and debentures to enjoy the fruits of trading on equity.

Ramesh (1999)\textsuperscript{21} studied the impact of liquidity and profitability on productivity of firms in Goa and found that both short-term and long-term financing decisions should be equally considered to plan the sources of finance. He also found that there exist a positive correlation between debt equity and profitability of the concerns.

Wald (1999)\textsuperscript{22} examined the characteristics of firms in relation to leverage and found that these characteristics were not similarly correlated with leverage across countries. He demonstrated that institutional differences could contribute to the differences in capital structure. His results indicate that institutions may significantly influence firms’ capital structure decision and that agency and monitoring problems existing in every country, may create different outcomes. He found that tangibility is positive in the US, Japan, UK, Germany and France. The study also found that there is a positive relationship between growth opportunities and debt in developed countries because fast growing firms use more debt in its capital structure.

Kakani (1999)\textsuperscript{23} in his study “The determinants of capital structure: An econometric analysis” has found that profitability and capital intensity are negatively associated with leverage, but absorbs no significance of firms’ diversification strategy and size in deciding the leverage of the firm.

Patra (2000)\textsuperscript{24} analyzed the effect of debt financing in capital structure decision with the help of a case study of TISCO Limited. He finds that the capital structure of TISCO Limited was conservative. The company maintained its debt equity ratio at a low level. The assumptions as made in the theory are not applicable in case of TISCO Limited. So the relationship between debt equity ratio and weighted average cost of capital and earnings per share did not follow any accepted norm.
Graham Hall et al., (2000)\textsuperscript{25} in their work on “Industry Effects on the Determinants of Unquoted SME’s Capital Structure” studied 3500 unquoted, UK Small and Medium sized Enterprises (SME’s). The objectives of the research were to test various hypotheses concerning the determinants of SME capital structure and to establish the relationship of these determinants to continue long-term and short-term debt varied between industries. Long-term debt was found to be related positively to asset structure and company size and negatively to age; short-term debt was related negatively to profitability, asset structure, size and age and positively with growth variable. Significant variation across industries was found in most of the explanatory variables. The effect of growth on short-term debt, however, was consistent across industries while profitability had no effect on long-term borrowing in any industry.

Alan, A. Bevan and Jo Dan bolt (2000)\textsuperscript{26} made an empirical study of capital structure and its determinants in UK by using decompositional analysis, focused on the difficulties of measuring gearing, and tested the sensitivity of Rajan and Zingales results to variation in gearing measures. Based on the analysis of the capital structure of 822 UK companies, they found Rajan and Zingales’ results to be highly definitional-dependent. In particular, they found significant difference in the determinants of long-term and short-term debt. They argued that the analysis of capital structure is incomplete without a detailed examination of all forms of corporate debt.

Bhattacharya, Malay Banerjee and Ashok (2001)\textsuperscript{27} have made an empirical study of determinants of capital structure to find the influence of three factors viz., taxes, contracting costs and information costs of the capital structure of Indian firms covering eight different industries. They concluded that all these determinants play an effective role in deciding the capital structure decisions of all the industries.

Booth et al., (2001)\textsuperscript{28} were among the first to provide a comprehensive empirical study to test the explanatory power of capital structure models in developing countries. The study used the data from ten developing countries to assess whether capital structure theory was portable across countries with different
institutional structure. They investigated whether the stylized facts, which were observed from the studies of developed countries, could apply only to those markets or whether they had more applicability that is in general. The results provided evidence that firms’ capital choice decisions in developing countries were affected by the same variables as they were in developed countries. Their findings suggest that although some of their insights from modern finance theory are portable across countries, much remain to be done to understand the impact of different institutional features on capital structure choices.

**Veni and Narayana (2002)** examined the leverage position of firms to know the impact of fixed charges on EBIT and EPS. They also analysed the capital structure policies and dividend policies and its impact on market price per share. They found that there is no considerable relationship between leverage and EPS. They concluded that fluctuations in the market price of the share influences the capital structure decisions and dividend decisions to some extent.

**Voulgaris, F. Asteriou and Agiomirgianakis (2002)** applied dynamic panel data techniques to study the capital structure, asset utilization, profitability and growth of the Greek manufacturing sector. The findings suggest that asset utilization, gross and net profitability and total assets growth have a significant effect on the capital structure of LSEs. This has straightforward policy implications. Following recent economic developments, Greek firms are exposed to a stronger competition in the European Union and global markets, but also to new opportunities. In order to improve their capital structure, Greek manufacturing LSEs need to achieve higher asset utilities and profit margins through economies of scale attained mainly by higher exports. Moreover, governmental measures aiming to support LSEs efforts should focus their impact on alleviating taxation, reducing bureaucratic burdens, minimizing market imperfections and subsidizing applications of new technology.

**Samuel Gui Hai Huang and Frank Song (2002)** employed a new database, which contains the market and accounting data from more than 1000 Chinese listed companies up to the year 2000 to document the characteristics of these firms in terms of capital structure. As in other countries, leverage in Chinese
firms increases with firm size, non-debt tax shields and fixed assets, and decreases with profitability and correlates with industries. It is also found that ownership structure affects leverage. Different from those in other countries, leverage in Chinese firms increases with validity and firms tend to have much lower long-term debt. The static tradeoff model rather than pecking order hypothesis seems better in explaining the features of capital structure for Chinese listed companies.

Alan, A. Bevan and Jo Danbolt (2002)\textsuperscript{32} analysed the dynamic capital structure of UK companies from 1991 to 1997. They observed significant changes in the relative importance of the various debt elements over time, as well as changes in the relationship between gearing and the level of growth opportunities, company size, profitability and tangibility. The results suggest that the nature of the credit market in the UK has changed significantly during the 1990s, with large companies using less bank finance, and banks increasingly lending to smaller firms. At the same time, bank debt appears to have become more closely related to corporate profitability and collateral values.

Maheshchand Gang and Chander Shekhar (2002)\textsuperscript{33} studied the problems of debt and equity financing in Indian private corporate sector to meet their fund requirements. The results demonstrated that asset composition, collateral value of assets, life of the company, and corporate size are the important determinants of capital structure.

Gavin Cassar and Scott Holmes (2003)\textsuperscript{34} investigated the determinants of capital structure and usages of financing for small and medium sized enterprises. Hypotheses utilizing static trade off and pecking order arguments are empirically examined by using a series of firm characteristics including size, asset structure, profitability, growth and risk. The hypotheses developed are tested using a large Australian nationwide panel survey. The results suggest that asset structure, profitability and growth are important determinants of capital structure and financing. The results generally support static trade-off and pecking order arguments proposed by theoretical models.

Jitendra Mahakud and Bhole (2003)\textsuperscript{35} used dynamic panel data model, more specifically, the General Methods of Moments (GMM) model for an
empirical study of the capital structure in case of private corporate sector in India. The result suggests that the variables like the lagged leverage ratio, the cost of borrowing, the cost of equity, the size of the firm, the collateral value of assets, the liquidity and the non-debt tax shields are the major determinants of corporate capital structure in India.

The study made by Bhole and Jitendra Mahakud (2004)36 analyzed the trends of the corporate capital structure in respect of selected public limited companies and private limited companies indicates that the trend of debt equity mix have increased significantly. The result also shows that dependence on debt is more in case of public limited companies than private limited companies.

Bevan and Danbolt (2004)37 tested the inconsistencies in the estimation of U.K. capital structure determinants with the help of correlation and regression techniques. They have taken leverage as dependent variable and profitability as independent variable. They found that there was a negative relationship between leverage and profitability.

Keshar, J. Baral (2004)38 made an attempt to examine the determinants of capital structure; size, business risk, growth rate, earning rate, dividend payout, debt service capacity and degree of operating leverage of the companies listed in Nepal Stock Exchange. Multiple regression models have been used to assess the influence of defined explanatory variables on capital structure. In the preliminary analysis, manufacturing companies, commercial banks, insurance companies and finance companies were included. However, due to the unusual sign problem in the constant term of the model, manufacturing companies were excluded in final analysis. This study shows that size, growth rate and earnings rate are statistically significant determinants of capital structure of the listed companies.

Gupta (2004)39 investigated the pattern of asset financing by Indian companies and the influence of various factors affecting their capital structure decisions. The study found that there was a significant variation in debt ratio’s in the industrial sectors. The study also revealed that the volatility of earnings was directly related to leverage. The inverse relationship detected between the measures of volatility and debt ratios indicates that firms try to maximize financial
risk if the volatility of earnings increases. However, increase in the business exposure is financed by short-term liabilities. Therefore, the segregation of the short-term and the long-term liabilities is important.

Deesomsak, Audyal and Pescetto (2004) investigated the determinants of capital structure of firms operating in the Asian Pacific Region, in four countries (Thailand, Malaysia, Singapore and Australia) with different legal, financial and institutional environments. They found that capital structure decisions of firms are influenced by the environment in which they operate as well as firm specific factors identified in the existing literature. The findings are in line with the view that liquidity of firms exerts a significant negative impact on firms’ borrowing decisions.

Chen (2004) examined the determinants of capital structure of Chinese listed companies to find the factors that influence the capital structure of firms. The finding shows a positive relationship between leverage and tangibility. A positive correlation between the growth of total assets and leverage also indicate that firms specifically with growth opportunities tend to hold more debt, as a result which contradicts a great ideal of literature. Capital structure models also suggest that managers use leverage to signal firm prospects to poorly informed outside investors who believe these signals, because they are prohibitively costly for weak firms to mimic.

Sharma, Thenmozhi and Preethi (2004) found that firms using non-traditional debt have higher leverage and presence of traditional debt has a positive influence on financial leverage. The relationship is robust to control the determinants of leverage and accounting for non-traditional debt increases the ability of the model to explain cross sectional leverage. They also found that the firm’s size, cash constraint, profitability, market to book ratio, volatility of earnings and bankruptcy costs determine firms with non-traditional debt and also those without non-traditional debt.

Joshua Abor (2005) in his article, “The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana”, analysed the impact of leverage on profitability. Correlation technique was applied and the findings of
the study evidenced that there was a positive correlation between leverage and profitability during the study period.

**Philippe Gaud et al., (2005)** in their study “The Capital Structure of Swiss Companies: An Empirical Analysis Using Dynamic Panel Data” analyzed the determinants of the capital structure for a panel of 104 Swiss companies listed in the Swiss stock exchange. Dynamic tests were performed for the period 1991-2000. It was found that the size of companies and the importance of tangible assets are positively related to leverage, while growth and profitability are negatively associated with leverage. The sign of these relations suggest that both the pecking order and trade-off theories are at worth in explaining the capital structure of Swiss companies, although more evidence exists to validate the latter theory. The analysis also showed that Swiss firms adjust towards a target debt ratio, but the adjustment process is much slower than in other countries.

**Falguni, C. Shastri (2005)** in his empirical study “Capital Structure of Indian Corporate Sector” with reference to the listed joint stock companies in the Bombay stock exchange over a period of 10-years found that the results did not support the NI approach and the second version of MM Hypothesis. However, the conclusions drawn on the basis of the hypotheses supported the Net operating income approach and the first version of the MM hypothesis. This implies that the maneuverability 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. Furthermore, the valuations of the companies are not completely dependent factor on the degree of financial leverage, overall cost of capital and P/E ratio collectively.

**Sudhansu and Omkarnath (2005)** made an attempt to examine whether any shift has taken place in the financing pattern of the Indian corporate sector after the implementation of financial liberalization in early 1990s. Finally, the study discusses the factors that determine the debt-equity choice of Indian private sector firms. They have used the method of ordinary least square to empirically analyse the given objective. They found that Indian context presented a very different result, as compared with the findings of literature in the developed
countries on capital structure. They concluded that the profitability and asset structure were found to be the most significant factors deciding the capital structure, instead of firm size and growth opportunity.

**Chandra sekar Mishra (2005)** found that the capital structure of the profit making public sector units are affected by asset structure, profitability and tax, unlike the suggestion of pecking order hypothesis, growth is positively related to leverage. As predicted by the theory, asset structure and profitability are respectively positively and negatively related to leverage. In contradiction to the theory, tax and leverage are negatively related. Firms with less effective tax rate have gone for more debt. None of the other variables like Non-debt tax shield, volatility and size were found to be significant.

**Chenchuramaiah, Bathala and Ramash Rao (2005)** studied the inter-relationship between debt, dividends and cost of capital. They have developed an econometric model to study the interdependence between these variables. They found that there was a negative relationship between debt, dividends and cost of capital. The evidence suggests that use of debt leverage and dividend payout can lower the firm’s cost of capital. Higher beta stocks tend to have higher cost of capital and firms with higher cash flows have a lower cost of capital. The larger the firm size, the lower the cost of capital. Firms in the financial sector, technology and utilities have higher cost of capital than those in the excluded set.

**Karamjeet Sing (2006)** investigated the capital structure pattern and its determinants of electronic industries in India. Auto-regression analysis was applied to study the relationship between debt-equity and size and growth of companies and determinants of capital structure. The study concluded that there was a significant relationship between capital structure and size of the companies and the growth factor influences only small and medium-size companies.

**Ramachandra Gowda et al., (2006)** examined the debt equity and EPS trends in the diversified companies. The sample for the study was selected from different industries viz., pharmaceutical, consumer goods, cement and fabric. The analysis suggests that in the diversified companies, debt is not used properly for the purpose of increasing the earnings to shareholders. The companies are looking
forward for employing trading on equity. The regression analysis also suggests that the change in the EPS is not only due to the debt equity factors. There are certain other variables which have an impact on the EPS of the firms.

**Vungale Narender and Abhinav Sharma (2006)** made an attempt to study the capital structure policies adopted by the profit making central public enterprises. It is found that the tangibility of assets plays a significant role in determining the leverage of the public enterprises for expansion and development; public enterprises are using internal resources instead of debt. The study also revealed that public enterprises are mobilizing long-term resources for meeting short-term requirements. They concluded that the public enterprises are following pecking order theory for framing the capital structure policies.

**SriRam and Shankar (2006)** found that the companies were relying more on internally generated funds and they have only a small portion of debt in their capital structure. The major factors, which were influencing the capital structure decision are composition of fixed assets and the earning potential of the organization. The capital structure decision has an effect on the profitability of the organization.

**Tran Dinh Khoi Nguyen, Ramachandran and Neelakantan (2006)** examined the determinants influencing the capital structure of Small and Medium sized Enterprises (SMEs) in Vietnam. The empirical result shows that SMEs employ mostly short-term liabilities to finance their operations. A firm's ownership also affects the way a SME finances its operations. The capital structure of SMEs in Vietnam is positively related to growth, business risk, firm size, networking and relationship with banks; but negatively related to tangibility. Profitability seems to have no significant impact on the capital structure of Vietnamese SMEs. The strong impact of such determinants are ownership, firm size, relationship with banks and networking reflects the asymmetric features of the fund mobilization process in a transitional economy like that of Vietnam.

**Dugas and Alan (2006)** studied an incentive-aligning role of debt in the presence of optimal compensation contracts. Empirically, the analysis predicts a negative relationship between leverage and market-to-book that is reversed at
extreme market-to-book ratios, a negative relationship between leverage and profitability, a negative relationship between leverage and pay-for-performance and a positive relationship between pay-for-performance and investment opportunities.

**Brounen, Dirk, De Jong, Abe, Koedijk and Kees (2006)** conducted an international survey among 313 CFOs on capital structure choice. They documented several interesting insights on how theoretical concepts are being applied by professionals in the UK, the Netherlands, Germany and France and they directly compared the results with previous findings of the US. Their results emphasize the presence of pecking-order behaviour. Overall, they find remarkably low disparities across countries, despite the presence of significant institutional differences. The findings revealed that private firms differ in many respects from publicly listed firms, e.g. listed firms use their stock price for the timing of new issues.

**Hari Bahadur Khadka (2006)** tested the MM’s propositions about the relationship between leverage and cost of capital in the context of Nepalese capital markets. The main objective of the study was to determine whether the firms’ overall cost of capital and cost of equity decline with the increasing use of leverage. The results showed a negative but insignificant beta value of the relationship between leverage and the overall cost of capital. Therefore the leverage may not be regarded as contributing variable to the cost of capital function of Nepalese firms. It is further concluded that the cost of capital declines not only with leverage because of the tax deductibility feature of interest charge. The relationship between the cost of equity and leverage is also strongly negative. Besides, leverage, the size and the dividend payout ratio are the other important variables that affect the cost of capital in Nepalese context.

**Syed Tahir Hijazi and Yasir Bin Tariq (2006)** made an attempt to determine the capital structure of listed firms in the cement industry of Pakistan. The study finds that a specific industry’s capital structure exhibits unique attributes which are usually not apparent in the combined analysis of many sectors as done by Shah and Hijazi (2005). The study took 16 out of 22 firms in the cement sector
listed at the Karachi stock exchange for the period 1997-2001 and analyzed the data by using pooled regression in a panel data analysis. Among the four independent variables i.e. firm size (measured by natural log of sales), tangibility of assets, profitability and growth, the firm size is found to be highly significant.

**Huang and Song (2006)**\(^{58}\) studied the determinants of capital structure of Chinese companies for the periods of 1995 to 2004. They have applied regression analysis to study the relationship between leverage and profitability. They found that there was a negative correlation between leverage and profitability of Chinese listed companies during the study period.

**Martin Hovey (2007)**\(^{59}\) studied liquidity, profitability and ownership structure of listed firms in China. Regression analysis was used to find the relationship between the variables like liquidity, profitability and ownership structure during the periods 1997 to 2005. The study concluded that leverage has a significant relationship with profitability.

**Mallikarjunappa (2007)**\(^{60}\) in his study “Factors Determining the Capital Structure of Pharmaceutical Companies in India”, made an attempt to test the important determinants of the capital structure of companies taking profitability, collateral value of assets, growth, debt services capacity, size, tax rate, non-debt tax shield, liquidity, uniqueness and business risk as the determinants and the Debt-Equity Ratio (DER) as the dependent variable. Multiple regression models were used for the pooled data of pharmaceutical companies in India. The period of study was from 1993 to 2002. The result indicated that the regression was a good fit and the independent variables together determine the capital structure of companies.

**Pascal Nguyen and Chander Shekhar (2007)**\(^{61}\) studied the capital structure of Japanese firms using a partial adjustment model. The results showed that Japanese firms have adjustment speeds comparable to the US firms. More interestingly, access to collateral and cash flow generating potential have a greater influence on the capital structure of highly leveraged firms. In general, the result showed that the capital structure decisions are based on the firm’s creditworthiness and the industry segment.
Joshua Abor (2007) investigated the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange (GSE). The results revealed a significantly positive relationship between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. With regard to the relationship between total debt and return rates, the results showed a significantly positive association between the ratio of total assets and return on equity. Further, profitability, collateral value of assets, growth, size, tax rate and uniqueness do not have significant co-efficient and therefore, are not the significant determinants of the capital structure of companies. The co-efficient of the variables, debt service capacity, non-debt tax shield, and liquidity and business risk are significant and therefore, these variables are the important determinants of the capital structure of pharmaceutical companies in India.

Ying Hong Chen (2007) analysed the factors influencing a firm’s leverage. They used market capital ratio, book capital ratio and book debt ratio as measures of leverage. They compared the factors influencing firm’s leverage using unbalanced panel data of seven countries: Canada, Denmark, Germany, Italy, Sweden, UK, and the US. They found the firm size, tangibility are positively related to leverage while profitability shows a negative relationship on leverage across all seven countries. More profitable firms tend to borrow less. Evidences found from the seven countries are consistent with the findings in conventional capital structure theories, for example the pecking order theory and the static trade-off theory, i.e. risky firms borrow less.

Attaullah Shah and Safiullah Khan (2007) made an attempt to find the determinants of capital structure of KSE listed non-financial firms for the period 1994-2001. Pooled regression analysis was applied with the assumption that there is no industry or time effect. They used six explanatory variables to measure their effect on leverage ratio. Three of the variables were significantly related to leverage ratio whereas the remaining three variables were not statistically significant in having relationship with the debt ratio. The results approved the prediction of trade-off theory in case of tangibility variable whereas the earning volatility and depreciation variables fail to confirm to trade-off theory. The growth
variable confirms the agency theory hypothesis whereas profitability approves the predictions of pecking order theory. Size variable neither confirms to the prediction of trade-off theory or asymmetry of information theory.

Sumitra Das and Malabika Roy (2007) investigated empirically whether inter-industry differences exist in the capital structure of Indian firms. The analysis covers the pre and post-liberalization periods separately to indicate if there was a clear break in the financing pattern of the Indian firms due to the policy change. The conclusion is that, though differences in firm size contributes to the existing variation in financial leverage ratio across industry-classes to some extent, the nature of the industry itself or more precisely the differences in the fund requirement of industry groups based on the technology used was the major source of the existing variation. However, it is hard pressed to find tight evidence of the existence of credit constraints on firms, especially in a developing country like India.

Yanmin qian (2007) examined the determinants of the capital structure. They used static panel data models for the analysis of the firms’ capital structure with both unobserved cross-sectional and time effects as well as industry effects. The results showed that in the publicly listed Chinese firms the adjustment process was very slow. It is also found that firm size, tangibility and ownership structure are positively associated with firm’s leverage ratio, while profitability, non-debt tax shields, growth and volatility are negatively related to firm’s leverage ratio. Lastly, they found that lagged profitability has a negligibly small and positive impact on firm’s leverage ratio.

Zelia Serrasqueiro and Paulo Macas Nunes (2007) critically investigated whether the main capital structure theories: Pecking order, Trade-off, Agency, and Signalling theories could explain the determinants of debt for which a panel data covering 162 Portuguese companies for the period 1999-2003 was taken for the study. A better understanding of the determinants of debt in a relatively small, open and industrialized economy of a less developed country may shed further light on Portuguese companies’ capital structure decisions. The results have mixed evidences. A negative relationship between profitability and debt confirms
the Pecking order theory while a positive relationship between size and debt confirms the trade-off and signaling theories. On the whole, the results seem to support the theories in explaining the determinants of corporate debt.

The study conducted by Laurence Booth et al., (2007) assessed whether capital structure theory is portable across countries with different institutional structures. Their findings suggest that although some of the insights from modern finance theory are portable across countries, much remain to be done to understand the impact of different institutional features in capital structure choices.

Boopen Seetalan, Kesseven Padachi and Rishi Ronoowah (2007) made an attempt to investigate the determinants of capital structure for the small Island developing state of Mauritius, using firms listed on the stock exchange of Mauritius over the years 1994-2004. The results of the study revealed that certain firm-specific factors which explain capital structure in developed countries, are also relevant to a small Island economy like Mauritius. The analysis showed that most important firm-specific factors that influence capital structure choice are profitability, size, tangibility and liquidity. Other factors like business risk, non-debt tax shield effects and growth opportunities do not seem to affect the capital structure decision of corporate firms. The result also showed that, there was an inverse relationship between pre-tax weighted average cost of capital and the capital structure of a firm. In case of cost of capital the irrelevancy theorem of Modigliani and Miller does not seem to hold good for Indian industries.

Santi Gopal Maji and Santanu Kumar Ghosh (2007) investigated whether the pecking-order theories explain the capital structure of Indian companies. The analysis was based on 160 Indian companies selected from nine manufacturing sectors for a period of 14 years. The result indicates that neither the trade-off theory nor the pecking-order theory fully explains the capital structure though evidence provides support in favour of the trade-off theory.

Christina (2008) conducted a research to determine the nature of capital structure across non-finance industries in Indonesia, whether they prefer to use debt or equity as their source of financing. The findings of the study confirm that, first of all capital structure varies across industries. Each industry would have
different decisions regarding its optimal capital structure depends on several factors. This leads to the second findings in which it proves that there is negative significant relationship between profitability and leverage, positive significant relationship between company’s size and leverage and negative relationship between dividend payout and leverage. Finally, this research also verified that there was no relationship between leverage and company’s growth of share price, which means that the growth of share price was not influenced by the company’s capital structure decision.

Gunasekaran (2008)\textsuperscript{72} in his article studied the major factors influencing the capital structure of Indian industries. He found that 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, asset structure and corporate size in IT industry; collateral value of assets in leather industry; liquid assets and asset structure in paper industry have affected the capital structure. 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 the private sector companies.

Ayesha Mazhar and Mohamed Nasr (2008)\textsuperscript{73} discussed the determinants of capital structure of Pakistani firms. They have selected a sample from Pakistani companies registered on Islamabad stock exchange. They divided the samples into two sub-samples of private and government owned companies to make companies between both sectors. The sample comprise of 91 Pakistani companies out of which 80 companies are private and 11 are government owned covering the period of 1999-2006. Tangibility, size, growth rate, tax provision, return on assets and profitability are used as independent variables, while leverage is the dependent variable. The results imply that government owned companies employed more leverage than private companies.

Parameswaran, Annamalai and Vijayakumar A. (2008)\textsuperscript{74} examined the capital structure of companies with a view to identify the factors determining the
capital structure. They found that proper and efficient management of capital structure yields two advantages: (i) maximization of profit and wealth of shareholders and (ii) minimization of the cost of capital. Therefore, it was concluded that the financial manager is confronted with the task of determining the determinants of capital structure of the firm, which on the one hand maximizes the wealth of the owners and on the other hand minimizes the cost of funds.

Shanmugasundaram (2008)\textsuperscript{75} made an attempt to explain the variations in the capital structure of pharmaceutical companies to see whether there was any shift in the capital structure in the same period. The results were broadly consistent with the capital structure theories. The most important explanatory variable for the capital structure pattern was the asset type measured by the proportion of fixed asset to total assets. This showed a positive significant relationship with debt equity ratio in domestic pharmaceutical companies, an insignificant relation in case of multinational companies.

Yuanxin Liu and Jing Ren (2009)\textsuperscript{76} identified the determinants of corporate financial structure for the IT industry in China which is a promising service industry but is facing challenges and risk in the Global financial turmoil. They analyzed the determinants of the capital structure for a panel of 92 IT companies listed in the China stock exchange. Six traditional explanatory variables were adopted in the study including size, profitability, tangibility, liquidity, growth rate and growth opportunity. It was found that the size of companies is positively related to leverage, while growth, profitability, liquidity, profit growth rate and opportunity are negatively associated with leverage. The sign of these relations suggest that both the pecking order theory and trade-off hypothesis are at worth in explaining the capital structure of IT companies in China.

Balram Dogra and Shaveta Gupta (2009)\textsuperscript{77} examined the sources of funds of SME sector operating in the state of Punjab. For this purpose, a survey of 50 SMEs was conducted. The study brings into light that a majority of SMEs are still relying on their own funds and comparatively less on borrowed funds. The decision to rely on own funds was not influenced by any of the factors, other than their attitude towards external funds. The Pearson Chi-square statistics in this
regard revealed that there was a highly significant association of capital structure with type of the firm, age of the firm, growth of the firm, degree of competition and level of capital investment but not by owner’s qualification.

Malabika Deo and Jackine (2009)\(^7\) concluded that the firms do not have a specific norm or preference for debt choices. Based on the quantity of requirement of funds and the firm’s repayment ability, the debt choices of the firm differ. It was found that the firms that have higher profitability and higher tangibility preferred long-term debt. The study also concludes that, the ratio of total debt in the firm’s overall capital structure depends mainly on the major determinants such as collateral value that is the tangibility of the firm, its profitability and the bankruptcy costs are associated with the debt ownership structure.

Mihaela Dragota and Andreea Semenescu (2009)\(^7\) in their study entitled, “Debt Equity choice in Romania : The Role of Firm Specific Determinants”, selected four explanatory variables for analysis of the capital structure determinants based on linear multiple regression model in the Central and Eastern European countries. The dependent variable is the leverage and the independent variables are assets structure, firm size, profitability and market-to-book ratio. Results indicate that Romanian Listed companies finance their assets through equity, commercial debt and other financial debt. Pecking order theory seems to be more appropriate for the Romanian Capital market but signaling theory was not entirely rejected.

Mahdi Salehi (2009)\(^8\) studied the relationship between capital structure measures and performances of firms which are listed in Tehran Stock Exchanges in Iran. The variables studied are capital structure, return on investment and return on equity. The results of correlation concluded that firms’ profitability is negatively correlated with financial leverage.

Sanjay Bhayani (2010)\(^8\) made an attempt to explain the determination of variables of capital structure in the pharmaceutical firms of India. The study has tried to understand the role of knowledge capital and other intangible assets in capital structure decision of Indian pharmaceutical firms. The empirical results
indicate that the regression was a good fit and independent variables together determine the capital structure of firms. Further the results showed that the leverage was negatively related to tangibility of assets, non-debt tax shields and intangible assets. Research and development expenditure and profitability are positively related to leverage. Intangible assets are important variable among the determinants of capital structure of Indian pharmaceutical firms.

Virani Varsha (2010)\textsuperscript{82} studied the empirical evidence of capital expenditure decisions and dividend decisions in primary Pantaloons India Limited. The study finds that there was a positive relationship between debt-equity ratio and earnings per share. The study concludes that the degree of financial leverage have positive impact on capital structure decisions.

Bidjut Jyoti Bhattacharjee (2010)\textsuperscript{83} conducted an empirical investigation into the determinants of capital structure of Indian industries. Panel data methodology has been applied to determine to what extent the macro-economic determinants affect debt equity ratios under various grouping such as size, growth, profitability, liquidity and dividend pay out. He found that liquidity and growth in terms of performance of the firm have significant influence on debt equity ratio. Further, the results from econometrical analysis reveal that determinants are industry specific which imply that the weight of the explanatory variables varies from sector to sector.

Sumikhare and Saima Rizvi (2011)\textsuperscript{84} focused on capital structure characteristics for BSE 100 index companies in India. The panel data methodology, which incorporates both time series and cross-sectional data, has been applied to the actual data to find determinants of leverage ratios for each firm with in the period of 2000-2009. The empirical findings revealed that returns on asset and profit margin on sales significantly affects firms leverage value. Therefore, profitability is one of the most important determinants for leverage. Results also showed that depreciation over operating profit, growth opportunities, size and tangibility do not explain leverage needs. Also, tangibility is found to be negatively affecting leverage.
Shilpa Peswani (2011)\textsuperscript{85} compared high and low leveraged FMCG companies in India. The study found that there was substantial difference in the capital structure of BIL and Marico. The difference was due to the source of financing of these two companies for their expansion project. BIL has low degree of leverage and MIL has comparatively higher degree of leverage. Though profitability of the company is not entirely dependent on the sources of financing but the return to equity holders vary according to the sources of capital funding adopted by the company.

Javed, Attyia Yasmin and Imad Qaisar (2012)\textsuperscript{86} investigated the determinants of the various components of short-term and long-term debt and their categories in the case of non-financial listed firms in Pakistan for the period 2008–10. They made a significant distinction between these determinants depending on the components of debt issued. The results show that large firms are more likely to have access to long-term debt borrowing than small firms and due to supply constraints, small firms resort to short-term debt. Firms with higher potential for growth prefer using less long-term debt as well as debt with fewer restrictive arrangements in order to become more financially flexible. Firms with sufficient fixed assets can generate external finance more easily and at lower cost by using these assets as collateral, which supports the tradeoff theory. Firms generating high levels of profit, however, may choose to finance their investments using internal resources rather than by raising debt finance, which conforms to the pecking order theory.

Alicia, Robb and David Robinson (2012)\textsuperscript{87} studied capital structure choices that entrepreneurs make in their firms’ initial year of operation, using restricted-access data from the Kauffman Firm Survey. Firms rely heavily on external debt sources, such as bank financing, and less extensively on friends and family-based funding sources. Many startups receive debt financed through the personal balance sheets of the entrepreneur, effectively resulting in the entrepreneur holding levered equity claims in their startups. This fact is robust to numerous controls, including credit quality. The reliance on external debt underscores the importance of credit markets for the success of nascent business activity.
Zhi Da, Re-Jin Guo, Ravi Jagannathan (2012) argued that the empirical evidence against the capital asset pricing model (CAPM) based on stock returns does not invalidate its use for estimating the cost of capital for projects in making capital budgeting decisions. Because stocks are backed not only by projects in place, but also by the options to modify current projects and undertake new ones, the expected returns on stocks need not satisfy the CAPM even when expected returns of projects do. They provided empirical support for arguments by developing a method for estimating firms' project CAPM betas and project returns. The findings justify the continued use of the CAPM by firms in spite of the mounting evidence against it based on the cross section of stock returns.

Xueping Wu and Chau Kin Au Yeung (2012) found that growth type parsimoniously predict significantly dispersed and persistently distinct future of leverage ratios. As economic and market conditions improve, low growth type firms are keener to issue new debt than equity, whereas high growth type firms are least likely to issue debt and keenest to issue equity. These findings demonstrate that firms rationally invest and seek financing in a manner compatible with their growth types. Consistent with a generalized Myers and Majluf framework, growth type compatibility enables distinct growth types and hence specifications of market imperfection or informational environments to persist. Growth type is apparently a fundamental factor for capital structure persistence.

David, McMillan and Omar Camara (2012) used dynamic panel estimators to test whether there are differences in the speed of capital structure adjustment between US-based multinationals and domestic corporations and why such differences may occur. The results show that average domestic corporations adjust to target leverage faster than multinationals. This provides support for the market-timing, pecking order and dynamic trade-off theories of capital structure. Further they identified the overall relatively faster capital structure adjustment speed of domestic corporations to relatively higher equity returns for multinational corporations, relatively lower incidence of under-leverage for domestic corporations and the relatively higher incidence of above-target leverage for domestic corporations. Further, tests show that agency costs, financial flexibility
and capital investments have different effects on adjustment process for multinational corporations relative to domestic corporations.

**Research gap**

From the synoptic appraisal of aforementioned findings on the subject under reference, it is clear that different authors have approached capital structure in different ways in varying level of analysis. These different approaches helped in the emergence of more and more literature on the subject overtime. It gives an idea on extensive and diverse works on capital structure. It has been noticed that the studies on capital structure of various sectors provide divergent results relating to the study period overlap or coincide. The main reason for the divergence in the result is the difference in the method used for the measurement of factors especially profitability and capital structure. It is observed from the existing literature on capital structure that there is not a single comprehensive and intensive study touching upon various aspects of capital structure of paper industry yet. However, with regard to other industries in India, a few scientific and detailed studies have been undertaken by different researchers and institutions.

After going through various studies conducted by way of research articles, journals, magazines, Ph.D theses and various books yet there is a gap where the analysis of capital structure must to be found out. Unfortunately the paper industry has not been able to draw the attention of researchers to any noticeable event. Thus, this piece of work is a fresh and original study carried out to offer a detailed examination of the trends and determinants of capital structure, cost of capital and profitability of selected large scale companies in Indian paper industry. Though there are various approaches, only a few of them are considered in this study. The approaches that are included in this study cover the analysis of the trends and the pattern of capital structure, analysis of profitability, analysis of the size and growth of capital structure, impact of capital structure on profitability, estimation of the cost of capital and its relationship with the capital structure and an empirical investigation of the determinants of capital structure of the selected large scale companies in Indian paper industry during the period under study.
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