REVIEW OF LITERATURE

2.1 INTRODUCTION

Corporate Leverage has remained one of the fascinating fields of research in finance; many researchers have been continuously studying the various dimensions of leverage of a firm. Studies on leverage are abundant and several attempts are made on this topic in foreign countries as well as in India. Brief summaries of such studies are presented in this chapter. Foreign studies precede the Indian studies.

2.2 STUDIES ON LEVERAGE

Modigliani Miller (1958) theorem is concerned with the question of how the market value of a firm is affected by the volume and structure of its debts. The central proposition of the theorem gave a clear answer to the proposition –neither the volume nor the structure of the debts affect the value of the firm, provided that financial markets work perfectly, that there are no taxes and that there are no bankruptcy costs.

Gordon (1962) found that, return on investment was negatively related to debt ratio. He also confirmed the negative association between operating risk and debt ratio. While analyzing the tax effect in the cost capital.

Modigliani Miller (1963) found that in the presence of corporate income taxes but in the absence of the bankruptcy risk, there is a linear relationship between the value of the levered firm and that of its debt. This implies that a firm should maximize its uses of debt in order to enjoy the benefit of tax subsidy on interest payments.

Baxter (1967) reported that leverage would depend on the variance of net operating earnings. Since business with relatively stable income streams are less subject to the possibility of ruin, they may find it desirable to rely relatively heavily on dept financing. On the other hand, firms with risky income streams are less able to assume fixed charge sources of finance. Hence, he concluded that negative association existed between net operating earnings and leverage.
**Gupta (1969)** conducted a study on the financial structure of American Manufacturing Enterprises. The focus of the study was to analyze the industry effect and the growth effect on the financial structural relationship of American Manufacturing Enterprises. It was a cross sectional study for the year 1961-62. The study confirmed that total debt ratios were positively related to growth and negatively related to size. He also found significant industry effect on debt ratio. He further observed that “family pattern of ownership” is an important determinant of leverage in the paper and allied product industry.

**Sarma and Rao (1969)** conducted a study on capital structure and cost capital and found that the cost of capital is affected by debt apart from its tax advantages.

**Toy et al (1974)** reported that the higher the operating risk companies showed, the higher the debt ratio is. They found that debt ratios were positively related to growth typically measured as sales growth and return on investment was negatively related to debt ratio. They also concluded that the corporation size and the industry class did not appear to be determinants of debt ratio.

**Allan .J. Taub (1975)** attempted to examine the factors influencing the firm’s choice of a debt-equity ratio. He dealt explicitly with relationship between overall debt-equity ratio of the firm and its choice of new financing.

The variables were,

- The difference between expected future return in firm’s capital and pure rate of interest
- The uncertainty of the future earning of the firm,
- Size of the firm
- Tax rate
- Firm’s period of solvency as independent variables and the debt-equity ratio as dependent variable.

He investigated the relationship between variables for a total of 89 randomly chosen firms for ten years. The 10 year observations were from 1960-1969. Two statistics used the likelihood ratio and T-test. The empirical results show that differences between return to the
firm and long term rate of interest and size had a positive influence on debt-equity ratio. The uncertainty of the firm’s earning had negative influence on debt-equity ratio. Results for the remaining variables were less than satisfactory.

Chakarboty (1977) conducted a study to investigate debt-equity ratio in the private corporate sector in India. He tested the relationship of debt-equity ratio with age; total assets, retained earnings, profitability and capital intensity. He found that age, retained earnings and profitability were negatively correlated, while total assets and capital intensity were positively related to debt-equity ratio.

Ross and Leland and Pyle (1977) argue that managers are penalized for Bankruptcy on the one hand and rewarded for any rise in the value of the security on the other. The main practical implication of the Ross model is a positive association between leverage and the value of the firm. Leland and Pyle have argued that the promoter stake can be used as a signal of quality. They show that good firms will be more leveraged in equilibrium. The possibility of asymmetric information has opened up various applications to explain the presence of an optimal capital structure. The choice of a capital structure by the firm signals to outside investors the information. This might be available to the insider also.

Joy, stonehil Rammers might and Backbiting (1979) conducted a study on financial structure. They used total sales to represent the size of firm. Their study indicates that neither size nor industry is clearly a determinant of the financial structure.

Kishore (1978) discussed how the fundamental aspects were neglected while determining the debt-equity ratio of a Public enterprise. He urged doing away with the rule of thumb of the bureaucracy in decision regarding financing of the PEs and applying reasoning. Instead, he suggested that debt-equity ratio of a particular PE should be analyzed measured thought difference models. The utility of Cash Flow Ability Approach and the implications of a fundamental factor like recession net cash flow ability approach and the implication of a fundamental factor like recession Net Cash Flow (NCDs) in reckoning the debt limit are discussed in the study.
Ferri and Jones (1979) examined the determinants of financial structure. The objective of their study was to investigate the relationship between a firm’s financial structure and its industrial class, size, variability of income and operating leverage. They found that the industry class was linked to the firm’s leverage, but not in a direct manner as was suggested in other researches. Secondly, a firm’s use of debt is related to its size, but the income could not be shown to be associated with the firm’s leverage. Finally, operating leverage does influence the percentage of debt in a firm’s financial structure and the relationship between these two types of leverage is similar to the negative linear form which financial theory suggests.

Sarkar (1980) carried out a comprehensive study on the background of the central government companies in respect of their capital structure and the change over 1960-61 to 1969-70 and found that government agencies played a major role in the finance of PEs. He pointed out that the distinctive forms of public undertaking required serious notice while financing their modus operandi.

De Angelo and Masulis (1980) demonstrated that with the presence of corporate tax shield substitutes for debt (e.g. depreciation, depletion amortization and investment tax credits), each firm could have “a unique interior optimum leverage decision with or without leverage related costs”.

Bhat (1980) studied the impact of size, growth, business risk, dividend policy, profitability, debt service capacity and the degree of operating leverage on the leverage ratio of the firm. He used multiple regression models to find out the contribution of each characteristic. Business risk (defined as earnings instability), profitability, dividend payment and debt service capacity were found to be significant determinants of the leverage ratio.

Ho and Singer (1982) argued that even if short-term and long-term debts have the same priority in bankruptcy, short-term debt has a higher effective priority outside bankruptcy, because it is paid first. Thus, issuing short term debt to finance new investment projects offer potential benefits that are similar to those from issuing secured debt for controlling the underinvestment problem.
Venkatesan (1983) investigated the determinants of financial leverage by analyzing the relationship between seven different variables and the financial structure of the firms. The variables included were industry categorization, size, operating leverage, debt coverage, cash flow coverage, business risk, and growth ratio. Industry influence had been examined on the grouping of firms based on various leverages classes. He found a statistical relationship between industry class and leverage, but the relationship was not significant and conclusive. The impact of the remaining independent variables on the dependent variable was examined in two sample classifications, viz. Intra-industry and Inter–industry, through multiple regression analysis. In summation, only debt coverage ratio was found to be the important variable significantly affecting the financial structure of the firm.

Titman (1984) argues that the liquidation or financial distress imposes a substantial cost on the user of the product. Therefore, customers might be interested in the financial position of a company if they pay for a product or service that is durable in nature. Thus, more debt in a company’s financial structure gives a negative signal in the product market and impairs the competitive edges. As a result, companies with high debt are likely to experience financial difficulties, which might lead to bankruptcy. This implies that the firm’s operating income crucially depends upon the firm’s capital structure.

Boquist and Moore (1984) findings did not support the tax shield hypothesis at the firm level; however, they did find weak evidence in support of the theory at the industry level. They however, like other researchers, found that total leverage especially debt leverage varied across industry groupings.

Myers and Majluf (1984) have argued that if managers have better information about the future investment opportunities of the firm than the potential investor, they might find it difficult to get external finance. This is because outsiders ask for a premium in order to compensate for the possibly of finding a bad firm. If the firm tries to finances its new projects by issuing equity, then the under-pricing may be so severe that a good firm may find it profitable to reject some of its projects even with positive Net Present Value (NPV). Thus the firm will always try to choose a security, which minimizes this problem known as Lemon problem. The internal sources of funds, however, do not suffer from such a problem.
Similarly, debt will preferred to equity because the possibility of under-pricing is much less here. Thus, capital structure choice will be driven by a hierarchical performance. First, internal funds are selected, and then the risk debt and, finally equity. This hypothesis, known as “pecking order Hypothesis”, is valid for the corporate financing pattern of the developed countries where internal funds occupy the first position in the pecking order of funds.

**Stulz and Johnson (1985)** demonstrated theoretically that secured debt reduced firm’s opportunities to engage in asset substitution. Firms with proportionately more tangible assets, which can serve more easily as collateral find it difficult to shift to riskier projects when specific assets secure their debt.

**Pandey (1985)** reveals that the levels leverage in the Indian Industry is moving upwards and that the large majority of companies leverage decisions seem to be independent of their size profitability growth and industrial variations.

**Brander and Lewis (1986)** showed that the oligopolies had a tendency to increase business risk by adopting a more aggressive products market strategy supported by a positive debt level. This result in this model was driven by the fact that due to limited liability, equity; holders of leveraged firm received pay-off only in good conditions. Given the assumption that the marginal product was higher in good condition the leverage created an incentive to product more.

**Sarig (1988)** argued that firm’s whose workers have easily transferable skills should have more debt. **Maksimovic and Titman (1991)** have held that firm’s that manufacture products that are unique or require service, and firm’s for which a reputation for producing high quality products is important, may be expected to have less debt, other things being equal.

**Lewis (1990)** argues that if optimal debt-assets ratios and debt-maturity structures are chosen simultaneously, they do not affect optimal debt structure.

**Kuvalekar (1990)** analyzed the capital structure of the manufacturing central Public enterprises started on or before March 31, 1976, taking a period from the inception of such PEs till 1986-87. In addition to macro analysis of the capital structure pattern in the PEs. He
has done a micro analysis in respect of 95 PEs. Such microanalysis has been carried out to identify the dominant independent variables. This could have been conducted for planning the capital structure by the PEs, and to identify any relationship between such variables. In this work case studies have been made in respect of two PEs to see whether the existing finance mix is adequate, and to suggest an alternative for the shortfall if any. For this purpose, the author used a number of financial ratios. Applying F-test, this study concluded that the pattern of capital structure in all manufacturing PEs was not uniform irrespective of their industry class Profitability and size. The study on applying t-test also revealed 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 the razing of funds but PEs firm foreign sources, and introduction of new sources of financing like bonds and deposits were noticed as a part of the trend in the financing of the PEs.

Chakraborty (1990) studied the rationale of debt-equity ratio in various Public enterprises (PEs) and suggested a number of factors that ought to be considered while deciding on the debt-equity ratio of a particular PE. Among other things, he evolved a model to determine the debt-equity ratio, taking into account factors like assets structure, gestation period, pricing policy and degree of monopoly or competitiveness.

Haris and Raviv (1991) and Stulz (1990) have shown a link between managerial control of voting right and the firm’s capital structure. They have suggested that the optimal capital structure is determined by the strategic role of the debt in providing the managers with crucial resources to acquire voting rights particularly when the managers are liquidity-constrained to buy enough of the votes in large firms. Thus, the incumbent managers may use the capital structure as an “anti takeover device” by exploiting the fact that common stock carries voting right but debt does not. For a given amount of increment in shares, the manages control over voting right increase with the increase in the amount of debt or other non-voting securities life preferred stock in the firm’s capital structure.

Sengupta, Nitish (1994) observes that financial restructuring constitutes the very core of the reform process for the PEs and it is necessary to have a fresh and total look at the
capital of each of the Public enterprises (PEs), substantially reduce or sometimes enhance the share capital base convert equity in many cases into loan with a modest interest rate, and in other cases to convert loan into equity so as to reduce the substantial cash outgo from the enterprises on an annual basis by way of repayment of the interest burden. The author also feel that it is necessary to reduce the government shareholding in all cash to less than 50% so that the PEs are, by and large, free from vexatious day to day control from various ministries and organizations like the planning commission, Bureau of Public Enterprise (BPE), etc.

Athreya (1994) observes that the trend, all over the world, is to leave economics activity to market forces and restrict government’s role to the minimum. The emerging and desired corporate response to this is also widely believed to be ‘restructuring’. The private corporate sector in India, as elsewhere in earlier periods, is responding with one, two or all the three dimensions of restructuring. i.e., Business Restructuring, Organizational Redesign and Financial Engineering. All three dimensions are also relevant to the PEs. Financial engineering involves and includes activities like changing the debt-equity ratio, reducing wastages, cutting costs, improving margins, profitability and market capitalization.

Carelton and Siberman (1997) concluded that higher the variability in the rate of return on invested capital, lower will be the degree of financial leverage adopted. Hence it is the variance, not the rate of return that is the ultimate determinant of leverage. They also found return on investment to be negatively related to debt ratio.

Mathew (1997) had made an attempt to analyze the relationship between ownership structure and financial structure with a view to know whether the former had any impact on the latter. The analysis was based on three hypothetical relationships that existed between ownership structures on one hand and unsystematic risk, non-manufacturing expenses and profit appropriation policies on the other hand. He concluded that where the management stake is high, leverage will be low and vice versa and there existed a significant relationship between ownership structure and financial structure of firms.

Garvey and Hanka (1997) shows that the impact of the possibility of takeover on a firm’s capital structure decision. They conclude that firms, which are facing a threat of
takeover from rival firms, opted for a capital structure with high leverage of debt. On the other hand, firms with a low takeover threat tend to go for an equity heavy capital structure. The author tested this theory by considering asset of firm’s US before and after the.

Chandra Sekar (1997) conducted a study to determine the factors that influenced the leverage and their effect on cost of capital and shareholders’ return, financial, profitability dividend policy, debt service capacity, and growth in sales. Growth capacity earning per share in dividend per share growth in total assets and cost of capital were chosen for study. The study reveals that debt service capacity and dividend policy have been significantly associated with financial leverage.

Schiantarelli and Sembenelli (1997) argued that the firms tend to match assets with liabilities, and more profitable firms have more long-term debt. Long-term debt has a positive effect on firm’s performances. But this is not true when a large fraction of that debt is subsidized. In spite of all these discussions it is unfortunate that only very little debt financing is available to early stage entrepreneurs, because lenders expect loans to be paid back in a pre-defined and timely manner with interest. Furthermore, lenders expect borrowers to demonstrate their credit –worthiness by providing collateral, which in essence guarantees repayment. Due to their inherent high risk and lack of liquidity early-stage companies are not considered sufficient collateral for debt financing.

Pandey (1997) attempted to determine the empirical relationship between cost of capital and capital structure, using data on four industries namely cotton, chemicals, engineering and electricity generation. He incorporated four explanatory variables, viz, size, growth, payout ratio and liquidity, to study their influence on the cost of capital and leverage. He found that the coefficient of leverage variables negatively related with the cost of capital. Such confidence was also statistically significant. This study used a sample of 131 companies. Further, it state that the practicing managers generally preferred to borrow rather than to use the other sources.

Ram Kumar Kakani (1999) in his study on “Determinants of Capital Structure” attempted to find out the determinants of the capital structure and its maturity in India and he
had analyzed measure of short-term and long-term debt rather than an aggregate measure of total debt. He also analyzed the empirical implications of liberalizations of the Indian Economy ‘on the determinants of capital structure of the firms’.

Booth, Aiazian, and Kunt demirgne, and maksimoie (2001) found that optimal capital structure choice in developing countries is strongly influenced by factors such as size, asset structure, profitability and short term financial distress cost.

Bradley, Jarroll and Kim (2002) found that debt to asset ratio is negatively related to the volatility of annual operating earnings and advertising and Research and Development expenses.

Fama and French (2002) argued that dividend and debt convey information about profitability, which clearly shows the tax effects of finance decision. They have discussed how a firm’s value is related to dividend and debt. Accordingly, simple tax hypothesis says that firm value is negatively related to dividend and positively related to debt. With a good control for profitability, one can show how the taxation of dividend and debt affect the value of a firm.

Saumitra N Bhaduri (2002) attempted to study the capital structure choice of developing countries through a careful study of the Indian corporate sector. He used factor analytical model to determine a minimum number of unobservable common factors by studying the co-variance among a set of observed variables. He found that growth, size cash flow, uniqueness, and industry character influenced a capital structure of variation of corporate firms.

Mohanty (2003) found that leverage is negatively related with profitability and value of the firm both within industry as well as within the Indian economy. It has been found that companies that spend a large sum of money on advertisement and Research and Development expenditure are least levered.

Narasimhan and Vijayalakshmi (2003) in a study carried out from 1989-2002 of ten major industries, found that business risk has increase from 1996-97. The study found a decline in ROCE (Return on Capital employed) in Industries where there was heavy
competition. Firms require more funding and have to decide whether to raise capital or not. Since debt rate is lower than equity it has preference over equity. Firms, which expect higher growth in the future, use less debt capital initially so that they do not have any problem for funds when required. In this study, it has been found that firms are not aware of business risk. They were increasing the debt when ROCE was declining and the dividend payout ratio has increased in the given time period, inferring that firms were not taking steps to plough back internal capital.

Sharma, Thenmozhi and Preethi (2004) found that firms writing non-traditional debt have higher leverage and presence of non-traditional debt has a positive influence on financial leverage. The relational ship is robust to controlling for determinants of leverage and accounting for non-traditional debt increase the ability of the model to explain cross sectional leverage. They also establish that the firm size, cash constraint, profitability, market to book ratio, volatility of earnings and bankruptcy cost discriminate firm with non-traditional debt and those without non-traditional debt.

Fakher, Bufern, Kenbata, Bangassa&Lynn, HodgkinSon (2005) provided evidence to Capital structure with reference to the Libyan business environment. The dependent variable was leverage ratio and the independent variables were size, tangibility, growth opportunities and profitability. The sample consisted of thirty two public companies and twenty three private companies. To test the relationship between the level of debt and their explanatory variables they used ordinary least square regressions. The result indicated that private companies tested to have a higher average growth rate and tangible assets than the public ones. The private companies had higher average debt ratios than the public companies. The tangibility and growth variables had a positive correlation with short term debt and a negative correlation with long-ten debt. Profitability and size had a negative correlation with short tem debt and total debt ratios. This implies that growing companies and companies with high levels of tangible assets tend to use short term debt rather than long-term debt and large and profitable companies tend to use less debt overall.

Chandra Sekhar Mishra (2005) in his study on a sample of 41 profit making manufacturing PSUs, found that the capital structure (total Borrowing to total Asset) of the
profit making PSUs is affected by asset structure (net fixed Assets to total Assets or NFATA), profitability (Return on Assets or ROA) and Tax. Unlike Suggestion of pecking order hypothesis, growth (defined as growth in sales) is positively related to leverage. As predicted by theory. Net Fixed Assets to Total Assets and ROA are respectively positively and negatively related to leverage. In contradiction 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 (NDTS), volatility and size were found to be significant.

Vunyale Narebder abd Abhinar Sharma (2006) made an attempt to analyze a capital structure policy adopted by the profit making central public enterprises. The study has been conducted for the period 1994-1995 to 2004-2005. It is found that the tangibility of asset influenced the leverage in the price earnings ratios. Their results for NDTS and TAX lead us to infer that Price earnings are not utilizing debt to pay less tax; price earnings used internal sources for its expansion and financing. It can be used long term sources for short term requirements. And further it is inferred that the price earnings are following the pecking order theory in the process of mobilizing fund.

Malabika Deo and Jackline (2009) examined the determinants of debt predicted ownership structure the objective of their study was to investigate the relationship between a firm’s debt ownership structure and agency cost, bankruptcy cost, non-tax shield, growth, profitability and collateral value. They found that the firm that has higher profitability and higher tangibility preferred long- term debt and the short- term debt in emergency, finally and bankruptcy cost associated with debt ownership structure is mainly determinants such as collateral value, profitability and a bankruptcy cost associated with debt ownership structure of selected sample units of this study.

Ruchi Trehan and Aarti verma (2009) studied the relationship between cost of capital and optimal capital structure to maximize the earning per share. The study is based on the analysis of 5 years annual reports of HPCL i.e. firm 2004-2005 to 2008-2009. He found that HPCL should use more and more of debt as a source of capital which will reduce overall cost of capital and it can leverage its brand value in acquiring long term debt at softer rate or issued debenture to public.
Ayesha Mazhar and Mohamed Nasr (2011) attempted to examine the factors influencing the firm’s choice of a debt-equity ratio. They selected a sample of Pakistani companies registered on Islamabad Stock Exchange. The sample comprised 91 Pakistani companies out of which companies are private and 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. For analysis purpose descriptive statistics, Spearman’s correlation and Regression analysis are used. The result implied that government owned and private companies of Pakistan use different patterns of financing and that government owned companies employ more leverage than private companies. Further, he concluded that variables like size do not matter in determination of capital structure of Pakistan companies. The results suggest that asset tangibility (Ta) profitability (PF) and ROA is negatively correlated with debt. Where size (SZ), Growth rate (GT), and Tax rate (TAX) is positively related with leverage.

2.3 STUDIES ON LEVERAGE AND INVESTMENT

Several authors have studied the impact of financial leverage on investment. They reached conflicting conclusions using various approaches. Modigliani and Miller (1958) argued that the investment policy of a firm should be based only on those factors that would increase the profitability, cash flow or net worth of a firm. Many empirical literatures have challenged the leverage irrelevance theorem of Modigliani and Miller. The irrelevance proposition of Modigliani and Miller will be valid only if the perfect market assumptions underlying their analysis are satisfied. However, the corporate world is characterized by various market imperfections costs, institution restrictions and asymmetric information. The interaction between management, shareholders and debt holders will generate frictions due to agency problems and that may result to under-investment or over-investment incentives.

According to Myers (1977), high leverage overhang reduces the incentives of the shareholder-management coalition in control of the firm to invest in positive net present value of investment opportunities, since the benefits accrue to the bondholders rather than the shareholders. Thus, highly levered firm are less likely to exploit valuable growth opportunities as compared to firm with low levels of leverage. A related under investment theory centers on a liquidity effect. That firm with large debt commitments invests less no
matter what their growth opportunities are. Theoretically, even if leverage creates potential underinvestment incentives, the effect could be reduced by the firm corrective measures. Ultimately, leverage is lowered if future growth opportunities are recognized sufficiently early.

Another problem which has received much attention is the overinvestment theory. It can be explained as investment expenditure beyond that required to maintain assets in place and to finance expected new investment in positive NPV projects whereas. Here there is a conflict between managers and share holders. Managers perceive an opportunities to expand the business even if that means under taking poor projects and reducing shareholders welfare. The managers’ abilities’ to carry such a policy is restrained by the availability of cash flow and further tightened by the financing of debt. Hence, leverage is one mechanism for overcoming the overinvestment problem suggesting a negative relationship between debt and investment for firm with low growth opportunities. Does debt financing induce firms to make over-investment or underinvestment? The issuance of debt commits a firm to pay cash as interest and principal. Managers are forced to service such commitments. Too much debt also is not considered to be good as it may lead to financial distress and agency problems.

Hite (1977) demonstrates a positive relationship between leverage and investment, because given the level of financial leverage an investment increase would lower financial risk and hence the cost of bond financing.

Deangels and Masulis (1980) claim a negative relationship since the tax benefit of debt would compete with the tax benefit of capital investment.

Dotan and Ravid (1988) also show a negative relationship because investment increase would raise financial risk and hence the cost of bond financing how the investment increase affects financial risk and the sub suitability between tax shields and hence; financial leverage may depend on firm-specific factors.

Jensen (1986) points out that liabilities can help avoid overinvestment by reducing the cash flow left up to corporate manager’s own discretion and constraining investment in investment projects that might be desirable for corporate mangers but not desirable for companies’ future profitability. Jensen argues that whether liabilities restrain overinvestment depends largely on whether companies have growth opportunities. In short, Jensen points out
those liabilities have not only the negative effects of restraining overinvestment by low-growth companies.

Jensen (1986), Stulz (1990) and Hart and Moore (1995) argue that liabilities effectively restrain overinvestment. They reason that increased liabilities, by enlarging repayment obligations, not only curtail free cash flow but also raise the possibility of corporate bankruptcies, thus prompting corporate managers to reduce investment and sell off unprofitable business divisions.

Daddon and Senbets (1988) hypothesis on the relationship between bond financing and capital investment which is conditional on specific variables such as tax shield, retention ability, capital intensity and insider equity ownership.

Whited (1992) has shown how investment is more sensitive to cash flow in firms with high leverages as compared to firms with low leverage. Cantor (1990) showed that investment is more sensitive to earnings for highly levered firms.

Josephic Kang (1995) found that the level of bond financing has negative relationship with level of investment.

McConnell and Servaes (1995) have examined a large sample of non-financial United State firms for the years 1976, 1986 and 1988. They showed that for high growth firms the relationship between corporate value and leverage is negatively correlated. Also the allocation of equity ownership between corporate insiders and other types of investors is more important in low growth than in high growth firms.

Lang et al. (1996), based on an analysis of the relationship between the debt ratio and the rate of growth of companies, point out that for companies with fewer investment opportunities (i.e. companies with a low Tobin’s Q), there is a negative correlation between the debt ratio and the investment. The estimation results from their studies do not find a negative correlation between the debt ratio and the growth rate for companies with abundant growth opportunities. In other words, for companies with investment opportunities, increased liabilities do not necessarily hamper growth.

Lang et al (1996) found that there is negative relation between leverage and future growth at the firm level and for diversified firms, at the business segment level. Also debt financing does not reduce growth for firms’ known to have good investment opportunities,
but it is negatively related to the growth for firms whose growth is not recognized by the capital market.

Myers (1997) has examined possible difficulties that firms may face in raising finance to materializing positive net present value (NPV) projects, if they are highly geared. Therefore, high leverage may result in liquidity problem and can affect a firm’s ability to finance growth. Under this situation, debt overhang can contribute to the under-investment problem of debt financing. That is for firms with growth opportunities debt have a negative impact on the value of the firm.

Ahn et al. (2000), found that diversified companies tend to have higher debt ratio than focused counterparts and diversified companies make larger investments than focused counterparts. They also found that debt-equity ratio influence management decisions on investment and that diversified companies can overcome debt-equity ratios through the distribution of liabilities by corporate managers.

Arikawa et al, (2003) adopt the method of estimation used by Lang et al.(1996) and point out that the main bank system in Japan helped amplify the disciplinary function of liabilities, particularly for low-growth companies.

Aivazian et al (2005) analyse the impact of leverage on investment on Canadian industrial companies cover the period from 1982 to 1999. They found a negative relationship between investment and leverage and that the relationship is higher for low growth firms rather than high growth firms.

Ahn et al (2006) found that diversified companies tend to have higher debt ratios then focused counter parts and diversified companies make larger investments than focused counter parts. They also point out that debt ratio influence management decisions on investments and that diversified companies can overcome the constraints of debt ratio through the distribution of liabilities by corporate managers.

MohunPrasadsing Odit and Hemant B. Chitto (2008) analyze the impact of leverage on firms’ investment on 27 maturation firms that are quoted on the stack exchange Mauritian for the year 1990 – 04. They found that leverage has a significant negative effect on investments, suggesting that capital structure plays an important role in the firm’s
investment policies while the negative relationship persist for low growth firm, this is not the case for high growth firm.

2.4 CONCLUSION

Financial leverage, being a sensitive area in finance, has attracted the attention of many scholars. Studies reviewed reveal that focus has been given to examine the structure of firms, from different angles researchers have extensively examined the determinants of leverage of different industries. Nevertheless, no attempts have been done to explore the extent of capital structure of Indian chemical industries by dividing them into basic and specialty chemical producing companies as well as grouping them into small, medium and large companies. An earnest attempt, therefore, has been taken up to fill this vacuum through this study.

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