CHAPTER II

REVIEW OF LITERATURE

II.1 Introduction

Capital structure (CS) is an area which has been studied over a long period in different angles. The works contemplates on finding out the optimal CS that enhances the performance or value of the firm and the factors that determine the CS of the firm. Modigliani and Miller (1958), Schnabel (1984), and Givoly Collins et al. (1992) have brought to light the impact of corporate tax on CS choice. Castanias (1983), Fischer (1989), and Leland (1994) have studied the influence of bankruptcy cost on the corporate debt level. Harris and Raviv (1990), Jonson (1998), and Koch and Shenoy (1999) have proved empirically the informational role of debt in the capital market. The relation between CS and profitability (P) has been explicated in the works of Myers (1984), Kester (1986), Rajan and Zingales (1995), Jonson (1998), Booth Collins et al. (2001), Dogra and Gupta (2009). The review of the past literature regarding this area will give us a detailed knowledge of different aspects of research that has been carried out and how important will this study be in this concern.

II.2 Previous Studies

Modigliani and Miller (1958), in their work “The cost of capital, corporation finance and the theory of investment” have formulated a theory that can answer the cost of capital question and this theory permitted the development of theory of investment of a firm under the conditions of uncertainty and found that correlation between cost of capital and leverage (LEV) was significantly equal to zero. The expected yield on common stock in any given class should increase with leverage. They concluded that an investment financed by common stock is advantageous to the current stock holders if and only if its yield exceeds the capitalization rate. When a corporate income tax under which interest is a deductible expense is considered, gain can accrue to stakeholders from having debt in the CS even when capital markets are perfect.

Castanias (1983), in a study “Bankruptcy risk and optimal capital structure” examined the relationship between failure rates and LEV ratios for 36
lines of business. The results were inconsistent with the irrelevance hypothesis firms in lines of business that tend to have "high" failure rates also tend to have less debt in their CS. Based upon the cross-sectional implications of the tax shelter-bankruptcy cost hypothesis, an alternative test of the irrelevance hypothesis was performed. The empirical results were not consistent with the CS irrelevance model of Miller. The results were consistent with the thesis that ex ante default costs are large enough to induce the typical firm to hold an optimum mix of debt and equity.

Lee et al. (1983)\textsuperscript{18}, in a paper “Screening, market signaling, and capital structure theory” developed an equilibrium model in which informational asymmetries about the qualities of products offered for sale were resolved through a mechanism which combines the signaling and costly screening approaches. The paper concluded that the firm’s optimal choices of debt-equity ratio and debt maturity structure subsequently signaled to prospective shareholders the relevant parameters of the firm’s earnings distribution.

Myers (1984)\textsuperscript{19}, in a work “The capital structure puzzle” tried to push research in some new direction by introducing new way of viewing static trade off framework and the old fashioned pecking order framework. In contrast to static trade off theory, the pecking order theory states that when external finance is required, firms issue the safest security first. They start with debt, then possibly by securities such as convertible bonds, then perhaps equity as a last resort. The works on asymmetric information also gives production roughly in line with pecking order theory. The mangers follow the general rule “issue safe securities before risky ones”. Risk has its impact on target debt ratio. Risky firms tend to borrow less. So there are other factors which influence a company’s financing behavior and their target debt ratios. Therefore, static trade off theory works only to a certain extent. The modified pecking order theory recognizes both asymmetric information as well as costs of financial distress.

Schnabel (1984)\textsuperscript{20}, in a paper “Bankruptcy, interest tax shields and ‘optimal’ capital structure: A cash flow formulation” presented a cash flow formulation of the CS problem in the presence of corporate taxes. In contrast to
the classic result of Modigliani and Miller, it has been shown that an optimal CS does not involve exclusive reliance on debt financing.

**Table II.1**

Summary of Important Research Works

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Year</th>
<th>Author/s</th>
<th>Name of the study</th>
<th>Findings</th>
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<tbody>
<tr>
<td>1.</td>
<td>1958</td>
<td>Modigliani and Miller</td>
<td>The cost of capital, corporation finance and the theory of investment</td>
<td>Correlation between cost of capital and leverage ((LEV)) was significantly equal to zero. When a corporate income tax under which interest is a deductible expense is considered, gain can accrue to stakeholders from having debt in the CS even when capital markets are perfect.</td>
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<td>Ghemawat and Caves</td>
<td>Capital commitment and profitability: An empirical investigation</td>
<td>(CAPINS) can affect (P) because cut-throat competition might eliminate all future profits, depressing each firm’s security level, proving that profits decline with (CAPINS).</td>
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<tr>
<td>5.</td>
<td>1988</td>
<td>Harris</td>
<td>Capital intensity and the firm’s cost of capital</td>
<td>The result was consistent with theoretical prediction that both higher predicted profitability and higher capital requirements raise (CAPINS). Higher firm-specific cost of capital reduced (CAPINS).</td>
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<tr>
<td>6.</td>
<td>1988</td>
<td>Titman and Wessels</td>
<td>The determinants of capital structure choice</td>
<td>(GROW) rates were negatively related to long-term debt, accepting the pecking order theory.</td>
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**A STUDY ON THE DETERMINANTS OF CAPITAL STRUCTURE AND PROFITABILITY** 38
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<td>7.</td>
<td>1989</td>
<td>Pinegar and Wilbricht</td>
<td>What managers think of capital structure theory: A survey</td>
<td>Corporate managers are more likely to follow a financing hierarchy than to maintain a target debt-equity ratio.</td>
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<td>8.</td>
<td>1990</td>
<td>Harris and Raviv</td>
<td>Capital structure and the informational role of debt</td>
<td>Debt plays an important role in allowing investors to generate information useful for monitoring management and implementing efficient operating decisions.</td>
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<td>10.</td>
<td>1994</td>
<td>Harries</td>
<td>Asset specificity, capital intensity and capital structure: An empirical test</td>
<td>Predicted CAPINS increased long term debt in the firm’s CS and predicted P decreases it, rejecting the transaction cost theory of CS.</td>
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<td>11.</td>
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<td>14.</td>
<td>1997</td>
<td>Berger, Ofek and Yermack</td>
<td>Managerial entrenchment and capital structure decisions</td>
<td>Entrenched managers seek to avoid debt; LEV is lower when the CEO strong monitoring from the board of directors or major stockholders.</td>
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<td>15.</td>
<td>1998</td>
<td>Leland</td>
<td>Agency cost, risk management and capital structure</td>
<td>Hedging benefits are greater when agency costs are low; hedging permits greater $\text{LEV}$.</td>
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<td>16.</td>
<td>1998</td>
<td>Jonson</td>
<td>The effect of bank debt on optimal capital structure</td>
<td>Banks debt reduced information asymmetries; $\text{LEV}$ was significantly positively related to the fixed-asset ratio and significantly negatively related to the market—book ratio, firm size, non-debt tax shields and $P$.</td>
</tr>
<tr>
<td>17.</td>
<td>2000</td>
<td>Simerly and Li</td>
<td>Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test</td>
<td>The results from both models indicated a statistically significant negative impact of the dynamism and leverage interactive term on firm performance (as measured by both average Return on Asset (ROA) and average Return on Investment (ROI)).</td>
</tr>
<tr>
<td>18.</td>
<td>2001</td>
<td>Booth, Collins et al</td>
<td>Capital structures in developing countries</td>
<td>More profitable the firm, the lower the debt ratio, regardless of how the debt ratio is defined, which is consistent with the Pecking-Order Hypothesis.</td>
</tr>
<tr>
<td>19.</td>
<td>2003</td>
<td>Chang</td>
<td>Ownership structure, expropriation and performance of group-affiliated companies in Korea</td>
<td>$P$ is positively associated with inside ownership and family portions of inside ownership.</td>
</tr>
<tr>
<td>20.</td>
<td>2009</td>
<td>Dogra and Gupta</td>
<td>An empirical study on capital structure of SMEs in Punjab</td>
<td>Optimum $CS$ enhances the $P$ and the value of the firm.</td>
</tr>
<tr>
<td>21.</td>
<td>2010</td>
<td>Battacharjee</td>
<td>Determinants of capital structure of Indian industries</td>
<td>Sustainable growth along with credit worthiness of the firm influences debt-equity ratio.</td>
</tr>
<tr>
<td>22.</td>
<td>2011</td>
<td>Dawood, Moustafa, and El-Hennawi</td>
<td>The Determinants of Capital Structure in Listed Egyptian Corporations</td>
<td>$SIZ, P, LIQ$, and business risk are the key determinants of $CS$ though they differed across the different industries in Egypt.</td>
</tr>
</tbody>
</table>
Ghemawat and Caves (1986)\textsuperscript{21}, in a work “Capital commitment and profitability: An empirical investigation” examined how the overall scope for commitment opportunities measured by the fixed capital intensity (\textit{CAPINS}) of production processes, will influence \( P \). They suggested that \textit{CAPINS} can affect \( P \) because cut-throat competition might eliminate all future profits, depressing each firm’s security level. The sample was restricted to 274 observations of manufacturing business operating principally in North America. Their study proved that profits decline with \textit{CAPINS}.

Kester (1986)\textsuperscript{22}, in a study “Capital and ownership structure: A comparison of United States and Japanese manufacturing corporations” tested the hypothesis that Japanese manufacturing firms were more highly leveraged than the U.S. manufacturing firms. The determinants of \( \textit{CS} \) taken into consideration were growth (\textit{GROW}), \( P \), risk, and size (\textit{SIZ}) and industry classification. Sample included 344 Japanese firms and 452 U.S. firms in 27 different industries. The \( \textit{LEV} \) was measured on market value and book value bases. Regression result showed a negative relation between \( \textit{LEV} \) and \( P \) under both the bases. He concluded that on a market value basis there were no significant country differences in \( \textit{LEV} \) between U.S. and Japanese manufacturing firms after controlling for characteristics such as \textit{GROW}, \( P \), risk, \textit{SIZ} and industry classification, however there existed a significant country difference when \( \textit{LEV} \) was measured on book value basis and this result was concentrated among the mature, capital-intensive industries.

Litzenberger (1986)\textsuperscript{23}, in a paper “Some observations on capital structure and the impact of recent recapitalizations on share prices” showed that a value-maximizing \( \textit{CS} \) may be inconsistent with shareholder utility maximization and that the Miller’s debt and taxes equilibrium may be inconsistent with a complete capital market.

John (1987)\textsuperscript{24}, in a paper “Risk-Shifting incentives and signaling through corporate capital structure” examined optimal corporate financing arrangements under asymmetric information for different patterns of temporal resolution of uncertainty in the underlying technology. Agency signaling equilibrium states that private information of corporate insiders, at the time of financing, is signaled
through CS choices which deviate optimally from agency-cost minimizing financing arrangements, which, in turn, induce risk-shifting incentives in the investment policy. In the agency-signaling scenario outsiders have less information than insiders not only about the private actions of insiders, but also about the exogenous characteristics of the firms. The information equilibrium obtained involved CS choices by insiders which not only minimize the costs of conflict among the various claimants, but also reveal their private information credibly to the market.

Barton and Gordon (1988)\textsuperscript{25}, in a work entitled “Corporate strategy and capital structure” investigated that corporate strategy perspective complemented the traditional financial paradigm in explaining CS in large U.S. corporations. The result showed reasonable support for the hypothesized positive relationship between sales growth and debt, while earnings risk appeared to be strongly related to debt. The negative relationship between CAPINS and debt was not supported and \( P \) was negatively related to debt. The financial variables were \( P \), SIZ, GROW rate, CAPINS and earning risk. The final sample size was 279 firms. The analysis strongly supported the hypothesis that \( P \) is inversely related to debt, projecting that the hypothesis that SIZ \& CAPINS are inversely related to debt was insignificant. The hypothesis that GROW rate is positively correlated with debt was supported to a certain extent by the findings.

Harris (1988)\textsuperscript{26}, in a study entitled “Capital intensity and the firm’s cost of capital” explored whether specification errors rather than measurement errors explained empirical result. Reports showed negative CAPINS coefficients in structure-performance equations support allegations of gross measurement error in accounting-based measures of economic profitability. The result was consistent with theoretical prediction that both higher predicted profitability and higher capital requirements increase CAPINS. Higher firm-specific cost of capital reduced CAPINS.

Lee and Kwok (1988)\textsuperscript{27} carried out an analysis entitled “Multinational corporations vs. domestic corporations: International environmental factors and determinants of capital structure”. The study focused on the multinational corporations’ (MNCs) CS, discussing whether MNCs have different CS than
domestic corporations (DCs), and if so, what causes such differences. A list of international environmental variables viz. political risk, international marketing imperfections, complexity of operations, opportunities for international diversification, foreign exchange risk and local factors of host countries were considered. CS determinants, such as agency costs and bankruptcy costs were used. MNCs tended to have higher agency costs of debt than DCs. MNCs appeared to have lower bankruptcy costs than DCs, the difference largely disappeared when the size effect was controlled.

**Titman and Wessels (1988)**\(^2\), in a work “The determinants of capital structure choice” analyzed the explanatory power of some of the recent theories of optimal CS. They identified opposite relation between collateralizable capital and debt level. This they stated based on the manager’s tendency to avoid secured debt financing as they increase the level of monitoring and reduce the level of perquisites. **GROW** rates were negatively related to long-term debt, accepting the pecking order theory which assumes that firms give more preference to retained earnings when deciding about financing a project.

**Barton, Hill, and Sundaram (1989)**\(^2\), in their study “An empirical test of stakeholder theory predictions of capital structure” tested a sample of 179 firms in the Fortune 500 categorized into 2 different strategy groups: related and unrelated. Cross-sectional regressions showed that CS is significantly related to the strategy variable; closely related products, markets, and technologies tend to have lower debt ratios than the firms with unrelated businesses.

**Fischer, Heinkel, and Zechner (1989)**\(^3\), in a study titled “Dynamic capital structure choice: Theory and tests” developed a model of dynamic CS choice in the presence of recapitalization costs. They found that even small recapitalization costs led to wide swings in a firm’s debt ratio over time. They used debt ratio range of a firm instead of static leverage measures and pointed out that increasing corporate tax rate or risk less interest rate or decreasing personal tax rate increases the tax advantage of debt, caused a decrease in the optimal debt ratio range and a higher initial debt ratio. Increasing bankruptcy cost also made it optimal to allow debt ratio to vary over a wider range. The return to **LEV** also decreased with bankruptcy cost. Thus, in their model where bankruptcy costs
and recapitalization costs drive optimal CS decisions, the advantage of LEV increases with variance.

Pinegar and Wilbricht (1989), in a study entitled “What managers think of capital structure theory: A survey” analyzed based on 176 responses received from 176 firms chosen out of the list of fortune 500 firms for 1986, out of which, 121 firms indicated that they follow a financing hierarchy, while 47 indicated that they seek to maintain a target CS. The financing hierarchy showed that the managers first prefer internal equity (retained earnings) for financing new projects. The next priority goes to straight debt, convertible debt, external common equity, straight preferred stock and convertible preferred stock in a sequence. So the projected cash flow from the asset is the major determinant of the choice of the managers among various sources of capital, leading to conclude that corporate managers are more likely to follow a financing hierarchy than to maintain a target debt-equity ratio.

Harris and Raviv (1990), in their paper titled “Capital structure and the informational role of debt” analyzed the theory of CS based on the effect of debt on investors’ information about the firm and in their ability to oversee management. The paper was based on the idea that debt allows investors to discipline management and provides information useful for this purpose. The results were the debt level, market value of debt, firm value, debt-to value ratio, and promised bond yield all increased with increases in liquidation value and decreased with increases in default costs. More highly leveraged firms after larger promised yields had lower debt coverage ratios and had lower P of reorganization after default. The model they developed predicted that firms with higher liquidation value had more debt, and higher yield debt, and were more likely to default, but had higher market value than similar firms with lower liquidation value. They concluded that debt plays an important role in allowing investors to generate information useful for monitoring management and implementing efficient operating decisions.

Dybvig and Zender (1991), in a study “Capital structure and dividend irrelevance with asymmetric information” proved that the Modigliani and Miller propositions on the irrelevancy of CS and dividends were valid in a large class of
models with asymmetric information; corporations should move toward contracts with better incentives, and that new models should be built that recognize the limitations to optimal contracting.

**Harris and Raviv (1991)**[^34], in their paper “The theory of capital structure” analyzed the CS theories based on agency costs, asymmetric information, product/input market interactions and corporate control considerations (but excluding tax-based theories) and found that agency model predicted that LEV is positively associated with firm’s value and is negatively related to the extent of growth opportunities, interest coverage, and the cost of investigating firm prospects. They pointed out that LEV increased with the extent of informational asymmetry. They also gave some empirical evidences in support of the theoretical results in support of works of **Kester (1986), Fried & Hasbrouch (1988), Friend & Lang (1988), Gonedes et al. (1988), and Titman and Wessels (1988)** who projected to support the theoretical result that LEV increased with decrease in P and the work of **Long & Malitz (1985)** showed result against the previous results.

**Raymar (1991)**[^35], in a work “A model of capital structure when earnings are mean-reverting” developed a multi period model of optimal CS under the assumption that earnings follow an autoregressive process. The reversion parameter of the earnings series was shown to be positively related to various measures of variability and negatively related to leverage. The study stated that if earnings processes are not homogeneous across firms, then standard earnings risk measures in CS studies do not adequately represent cross-sectional differences in variability in firm value.

**Givoly Collins et al. (1992)**[^36], in their work “Taxes and Capital Structure: Evidence from Firms’ Response to the Tax Reform Act of 1986” studied the interaction between taxes and leverage decisions in a controlled environment in the years surrounding the enactment of the Tax Reform Act. The results supported the tax-based theories of CS and indicated that there exists a substitution effect between debt and non debt tax shields, and that both corporate and personal tax rates affect leverage decisions.
 **Kracaw, Lewellen, and Woo (1992)**, in a study “Corporate growth, corporate strategy and the choice of capital structure” made a theoretical study to understand the manner in which firms should position themselves to prevent the corporate strategies from being impeded by inflation. They stated that an appropriate choice of \( CS \) can assist in accomplishing this objective. They also stated that the impact of inflation on the firm’s growth rate and the ultimate changes in the firm’s strategy can be nullified by adopting an appropriate financing policy, and concluded that an appropriate \( CS \) policy allows the corporate strategy (build, maintain and harvest) that maximizes shareholder’s value to continue to do so regardless of how rapidly or irregularly prices rise.

 **Mehran (1992)**, in their work “Executive incentive plans, corporate control, and capital structure” investigated the relationship between the firm’s \( CS \) and executive incentive plans, managerial equity investment, and monitoring by the board of directors and major shareholders. The paper found a positive relationship between the firm’s leverage ratio and percentage of executives’ total compensation in incentive plans, percentage of equity owned by managers, percentage of investment bankers on the board of directors, and percentage of equity owned by large individual investors. Regression results indicated a positive relation between the percentage of ownership by individual investors and the firm’s leverage ratio, supporting the argument that major shareholders were also effective monitors. These findings were consistent with the view that the firm’s \( CS \) is related to agency costs between managers and shareholders.

 **Papaionnou, Strock, and Travlos (1992)**, in their work “Ownership structure and corporate liquidity policy” attempted to study the relationship between corporate liquidity and managerial ownership in the firm’s stock. They pointed out that liquidity of the firm affected both \( P \) and operating risk. The sample contained 225 firms from fortune 500 companies in 1980. Tobin q Ratio was found out for 194 firms, and they concluded that the firm’s liquidity declines with increase in cash cycle and debt ratio; liquidity ratio is directly related to firm’s commitment to intangible resources like Research & Development (R&D) and advertising.
Bagwell and Zechner (1993), in a paper “Influence costs and capital structure” analyzed the role of CS in the presence of intra firm influence activities. They identified several key factors that determine the optimal CS: the top management’s prior assessment of the likelihood that it will be optimal to divest a specific division; the costs of influence activities to the firm and to the divisional managers; and the difference in the valuation of the division's assets in the current firm and under alternative uses.

Balakrishnan and Fox (1993), in a paper “Asset specificity, firm heterogeneity and capital structure” conducted an empirical investigation of the importance of specialized assets and other unique characteristics of a firm to explain the variance in CS across firms. They took a sample of 295 firms with a minimum of four firms per industry. Independent variables viz. risk, depreciation, R & D, advertising expenses, and growth were used to determine the LEV of the firm. GROW was found to be negative and insignificant when using LEV as the dependent variable. There existed a negative relation between R&D and LEV while, the relation between advertising and LEV was significantly positive. They concluded that unique firm specific assets and skills were the most important determinants of CS. The firm-specific effects contributed most to the variance in LEV, suggesting a strong link between strategy and CS.

Berglöf and Thadden (1994), in a work “Short-Term versus long-term interests: Capital structure with multiple investors” studied the problem of financial contracting and renegotiation between a firm and outside investors when the firm cannot commit to future payouts, but assets can be contracted upon. The study showed that CS with multiple investors specializing in short-term as well as long-term claims is superior to a structure with only one type of claim, because this hardens the incentives for the entrepreneur to renegotiate the contract ex post.

Harries (1994), in a work “Asset specificity, capital intensity and capital structure: An empirical test” made an attempt to resolve the controversies in investment – LEV – GROW relationships. An empirical mode of profit margin, CAPINS, LEV and risk were developed. The relationship between debt financing and capital investment across 73 fortune 500 firms were tested. Measures of both
higher post earnings growth and higher future perfect growth opportunities were taken into consideration in the leverage equation. It was pointed out that a higher firm-specific predicted cost of capital (CoC) lowers $\text{CAPINS}$. Predicted $\text{CAPINS}$ increased long term debt in the firm’s $\text{CS}$ and predicted $\text{P}$ decreases it. It was pointed out that increased debt financing increases the firm’s systematic risk. The analysis rejects the transaction cost theory of $\text{CS}$.

Leland (1994)$^{44}$, in an article “Corporate debt value, bond covenants, and optimal capital structure” examined corporate debt values and $\text{CS}$ in a unified analytical framework. It derived closed-form results for the value of long-term risky debt and yield spreads, and for optimal $\text{CS}$, when firm’s asset value follows a diffusion process with constant volatility ($\text{VOL}$). Debt values and optimal $\text{LEV}$ were found to be explicitly linked to firm’s risk, taxes, bankruptcy costs, risk-free interest rates, payout rates, and bond covenants. The result showed that a rise in the risk-free interest rate (increasing the cost of debt financing) led to a greater optimal debt level. Higher interest rates generated greater tax benefits, which, in turn, dictated more debt despite its higher cost. The firms choose significantly lower optimal $\text{LEV}$ when bankruptcy costs were substantial, thereby making debt less risky. But in case of protected debt, higher bankruptcy costs implied higher interest rates at the optimal $\text{LEV}$. Optimal $\text{LEV}$ was high (and/or yield spreads seemed low) for unprotected debt.

Lowe, Naughton, and Taylor (1994)$^{45}$, in an analysis “The impact of corporate strategy on the capital structure of Australian companies” suggested that corporate strategy influences $\text{CS}$, particularly for the most diversified firms. Profit, cash flow, the rate of growth and the level of earnings’ risk were considered as important additional internal influences on $\text{CS}$. In this study they found a positive relationship between $\text{CAPINS}$ and debt ratios, and they concluded that firms with a great deal of unrelated diversification had different debt/equity ratios and associated financial parameters concerning growth, risk and cash flow relative to firms with less diversified portfolios.

Spiegel and Spulber (1994)$^{46}$, in a study “The capital structure of a regulated firm” examined the equilibrium price, investment, and $\text{CS}$ of a regulated firm using a sequential model of regulation. Their three-stage model of
the regulatory process showed that CS can play a role in the strategic interaction between regulators and firms. The firm choose its equity and debt strategically that affected the outcome of the regulatory process. In equilibrium, the firm issued a positive amount of debt and the likelihood of bankruptcy was positive. Debt raised the regulated price, thus mitigating regulatory opportunism. However, underinvestment due to lack of regulatory commitment to prices persists in equilibrium.

Berens and Cuny (1995)⁴⁷, in their article “The capital structure puzzle revisited” recognized that firm’s value typically reflects a growing stream of earnings, while current debt reflects a non growing stream of interest payments. They found that the debt to value was a distorted measure of corporate tax shielding; high cross-sectional variation of debt ratios with very small change in debt-related costs. This variation was found to be independent of tax shielding, and so they concluded that debt ratios provide an inappropriate framework for empirically examining the trade-off theory of CS.

Rajan and Zingales (1995)⁴⁸, in a paper titled “What do we know about capital structure? Some evidences from international data” investigated the determinants of CS choice by analyzing the financing decisions of public firms in the major industrialized countries. At an aggregate level, firm LEV was found to be fairly similar across the G-7 countries. P was found to be negatively correlated with LEV. They stated that in the short run, dividends and investments were fixed, and if debt financing was the dominant mode of external financing, then changes in P will be negatively correlated with changes in LEV. Large firms tend to issue less equity. They also emphasized that the negative influence of P on LEV should become stronger as firm size increases.

Roden and Lewellen (1995)⁴⁹, in a work “Corporate capital structure decisions: Evidence from leveraged buyouts” focused mainly on three CS determinants viz., agency cost, bankruptcy risk, and tax considerations, which were found to have an impact, both on the degree of leverage employed in the transactions as well as on the attributes of the borrowings undertaken. They found evidence that the financing package were designed systematically to respond to differences across firms in their growth prospects, in the variability of
their earnings, in their liquidity characteristics, in their plans to sell assets, and in opportunities to achieve tax savings from the deductibility of interest costs. The prospective cash flow profile of the target firm was also a matter of concern for the financing decision.

Staking and Babbel (1995)\textsuperscript{50}, in a study “The relation between capital structure, interest rate sensitivity, and market value in the property-liability insurance industry” gave specific attention to traditional theories regarding CS, including the tradeoff between the tax benefits and increasing P of incurring the cost of financial distress associated with LEV, and the tradeoff between protecting franchise or charter value and expropriating value through increasing exposure to interest rate risk. They concluded that the market value of equity at first grows but then later declined as LEV increases. Interest rate risk had the opposite effect. Equity value first declined with interest rate risk, but then rose at high levels of interest rate risk. The results were consistent with the prediction that financial institutions will expend scarce resources to control risk in order to protect franchise value.

Berkovitch and Israel (1996)\textsuperscript{51}, in a paper “The design of internal control and capital structure” studied the impact of internal control on CS in two sense viz., when the company control was allocated only to shareholders and when it was allocated to other stakeholders, such as debt holders or the management team. Their theory predicted that firm value and debt level were positively correlated when shareholders have absolute control, and were negatively correlated when debt holders have veto power. These predictions highlighted the importance of incorporating internal control when studying financial policies of firms.

Leland and Toft (1996)\textsuperscript{52}, in an article titled “Optimal capital structure, endogenous bankruptcy, and the term structure of credit spreads” examined the optimal CS of a firm that can choose both the amount and maturity of its debt. Bankruptcy was found to be endogenously determined rather than by the imposition of a positive net worth condition or by a cash flow constraint. The result showed that short term debt did not exploit tax benefits as completely as long term debt, however it reduced or eliminated agency costs. They pointed out
that the tax advantage of debt must be balanced against bankruptcy and agency costs in determining the optimal maturity of the CS.

**Berger, Ofek, and Yermack (1997)**[^3], in a work “Managerial entrenchment and capital structure decisions” studied the associations between managerial entrenchment and firms’ CS. The result suggested that entrenched chief executive officers (CEOs) seek to avoid debt. The cross-sectional analysis showed that LEV levels are lower when CEOs do not face pressure from either ownership and compensation incentives or active monitoring. The managers do not issue the optimal amount of debt without pressure from a disciplining force. The results indicate that the LEV is lower when CEO has a long tenure in office, has weak stock and compensation incentives, and does not face strong monitoring from the board of directors or major stockholders.

**Chauvin and Hirschey (1997)**[^4], in a paper “Market structure and the value of growth” found statistically significant positive effects of growth on the current market value of the firm over 1974-90 periods. The study investigated market share, advertising and research & development expenditures as attributes of market structure with the potential to influence the effects of growth on the current market value of the firm. The cross-sectional relation between the market value of the firm and company characteristics was found to be dependent upon market conditions.

**Johnson (1997)**[^5], in a research work “An empirical analysis of the determinants of corporate debt ownership structure” examined the relation between corporate debt ownership structure and several firm’s characteristics such as age (AG), SIZ, VOL, market-to-book ratio, collateral value of assets (COLASS), fixed asset ratio, and firm’s LEV. The sample size of 847 firms was taken for analysis. It was concluded that firms used more public debt if they face lower information and monitoring cost, have a lower likelihood and costs of inefficient liquidation and have fewer incentives to take actions harmful to lenders. Bank debt use and private non-bank debt use were both statistically related to leverage, the fixed asset ratio and the market-to-book ratio, but the signs of relationships were opposite across the sources. The only similarity found
between the determinants of the two sources was that both were negatively related to age.

Spiegel and Spulber (1997), in a work “Capital structure with countervailing incentives” showed that the regulated firm’s choice of CS is affected by countervailing incentives; the firm wishes to signal high value to capital markets to boost its market value while also signaling high cost to regulators to induce rate increases.

Jonson (1998), in a work “The effect of bank debt on optimal capital structure” examined the relation between LEV and bank debt use to analyze the effect of bank screening and monitoring on CS. A sample of 716 firms were taken for analysis, focusing on the companies with bank debt rather than the amount of bank debt as, the main consideration was on presence of bank monitoring. Wilcoxon two-sample test was used to analyze difference in medians across the samples and multiple regression was used to analyze the relation between LEV and bank debt use and find out the controlling factors. It was concluded that LEV is significantly greater (at 0.01% level) for firms with bank debt than for firms with only non-bank private debt. The firms borrowing from bank led to increased bank monitoring and this subsequently induced the companies to choose safe project which reduced defaulting and increases the reputation of the company. Banks also reduced information asymmetries. It was also found that LEV was significantly positively related to the fixed-asset ratio and significantly negatively related to the market—to book ratio, firm size, non-debt tax shields and P.

Leland (1998), in a study “Agency cost, risk management and capital structure” made an attempt to analyze CS and investment risk. Asset substitution and risk management were analyzed closely. Agency cost and benefits to hedging were held to be inversely related in many cases. Thus, hedging benefits are greater when agency costs are low. The study concluded that hedging permits greater LEV.

Sengupta P. (1998), in a paper “Corporate disclosure quality and cost of debt” made an attempt to prove that firms with high disclosure quality rating
from financial analysts enjoy a lower effective interest cost of issuing debt. This paper thus investigated the link between a firm’s overall disclosure quality and its cost of debt financing. Sample of 114 firms were taken in total and 103 firms with total interest cost were taken for regression. It was concluded that there exist a significant negative association between a measure of a firm over all disclosure quality and two alternative measures of firms incremental borrowing cost.

Koch and Shenoy (1999), in their work “The information content of dividend and capital structure policies” analyzed a subsample of firms with no significant increase in cash flow during the sample period. The empirical evidence was consistent with the free-cash-flow hypothesis, and it suggested that dividends and CS policies provide more predictive information for over and under investing firms than for value-maximizing firms.

Ang et al. (2000), in the study “Agency costs and ownership structure” provided measures of absolute and relative equity agency costs for corporations under different ownership and management structures. They tested a sample of 1,708 small corporations from the Federal Reserve Board (FRB)/National Survey of Small Business Finances (NSSBF) database and concluded that agency costs are higher when an outsider manages the firm. It varied inversely with the manager’s ownership share; monitoring of banks reduces agency cost.

Morek, Nakamura, and Shivdasani (2000), in a study “Banks, ownership structure and firms value in Japan” analyzed the role of bank ownership on the firm’s value. They pointed out that in Japan and Germany, the banks also hold moderate level of equity stakes. Japanese firms have a main bank’ which is its largest provider of debt financing. They concluded that higher levels of bank ownership are associated with increased interest cost for firms that are dependent on banks.

Simerly and Li (2000), in their study “Environmental dynamism, capital structure and performance: A theoretical integration and an empirical test” used a sample of 700 large U.S. firms in varieties of industries. Financial information was collected from COMPUSTAT. They concluded that firms experiencing stable
environments (lower dynamism), leverage was positively linked to performance, and for firms experiencing relatively to very dynamic environments (medium to higher dynamism), and leverage was negatively related to performance. The results from both models indicated a statistically significant negative impact of the dynamism and leverage interactive term on firm performance (as measured by both average Return on Asset (ROA) and average Return on Investment (ROI)).

Thomsen and Pedersen (2000)\textsuperscript{64}, in their work “Ownership structure and economic performance in the largest European companies” examined the impact of ownership structure on company economic performance in 435 of the largest European firms. They distinguished between five ownership categories- banks, institutional investors, other non financial companies, personal/ family, and government. They found that non financial investors (family, non financial company & government) hold large shares on average and the financial investors (banks & institutional investors) hold lesser share; compared to other owner identities, financial investor ownership is found to be associated with higher shareholder value and $P$ but lower sales growth; and effect of ownership concentration is dependent on owner identity.

Booth Collins et al. (2001)\textsuperscript{65}, in their work “Capital structures in developing countries” analyzed the CS determinants of developed and developing countries. They found that the variables that are relevant for explaining CS in the U.S. and European countries are also relevant in developing countries. Result in both the country and pooled data results showed that the more profitable the firm, the lower the debt ratio, regardless of how the debt ratio is defined which is consistent with the Pecking-Order Hypothesis. The debt ratios in developing countries seem to be affected in the same way and by the same types of variables that are significant in developed countries.

Goldstein, Ju, and Leland (2001)\textsuperscript{66}, in a paper titled “An EBIT-based model of dynamic capital structure” proposed a model of dynamic CS. They stated that when a firm has the option to increase future debt levels, tax advantages to debt increase significantly, and both the optimal leverage ratio
range and predicted credit spreads are more in line with what is observed in practice.

**Chui, Lloyd, and Kwok (2002)**, in a study “The determination of capital structure: Is national culture a missing piece to the puzzle?” suggested that national culture affects corporate CS. The empirical hypotheses were tested against a sample of 5591 firms across 22 countries. Results showed that countries with high scores on the cultural dimensions of "conservatism" and "mastery" tend to have lower corporate debt ratios. The effects are strong and remain significant even after accounting for differences in economic performance, legal systems, financial institutions, and some other well-known determinants of debt ratios.

**Chang (2003)**, in a research work “Ownership structure, expropriation and performance of group-affiliated companies in Korea” studied a sample of 419 group-affiliated public firms in Korea to examine simultaneous causality between ownership structure and firm performance in business groups. The findings showed that \( P \) is positively associated with inside ownership and family portions of inside ownership, which suggests that inside ownership and family portion are higher in more profitable firms; there was a positive relationship between ownership concentration and performance; performance determines ownership structure but not vice versa.

**Leary and Roberts (2005)**, in a work “Do firms rebalance their capital structures?” examined empirically whether firms engage in a dynamic rebalancing of their CS while allowing for costly adjustment. They found that firms actively rebalance their leverage to stay within an optimal range. Their evidence suggested that the persistent effect of shocks on leverage observed in previous studies were more likely due to adjustment costs than indifference toward CS. Interestingly, their evidence was consistent with the predictions of the modified pecking order. Firms were less likely to utilize external capital markets when they had sufficient internal funds, but more likely when they have large investment needs. Thus, while firms follow a dynamic rebalancing strategy, adverse selection costs may be an important determinant in their financing decision.
Miao (2005), in a paper “Optimal capital structure and industry dynamics” provided a competitive equilibrium model of CS and industry dynamics. He indicated that firms make financing, investment, entry, and exit decisions subject to idiosyncratic technology shocks. The CS choice reflects the tradeoffs between the tax benefits of debt and the associated bankruptcy and agency costs. More efficient firms are less likely to exit and have lower agency costs. It was concluded that interaction between financing and production decisions is important in an industry equilibrium after analyzing the changes in technology growth, technology risk, entry distribution, entry cost, fixed cost, bankruptcy cost, and tax policy.

Dogra and Gupta (2009), in a research paper entitled “An empirical study on capital structure of SMEs in Punjab” analyzed various factors influencing CS and their impact on the decision-making ability of the SMEs. A sample of 50 manufacturing units was taken for the purpose of analysis. They pointed out that optimum CS enhances the P and the value of the firm; SMEs relied more on their own funds and comparatively less on borrowed funds. They ranked flexibility, management control, liquidity and cost of capital with ranks from 1-4 respectively as the prime determinants of CS.

Malabika Deo and Jackline (2009), in a study entitled “The determinants of debt ownership structure: Some empirical evidence” across industries found that firms do not have a specific norm or preference for debt choices. They concluded that lesser P made firms go for long term borrowings while increasing costs (both agency costs and bankruptcy costs) associated with raising funds induced the firms to shift to short term borrowings. The total debt (TD) increased with increase in size for smaller sized and large sized firms whereas it increases with decrease in size of medium sized firms. TD decreased with increase in P and increased with increase in COLASS.

Bhattacharjee (2010), in a paper entitled “Determinants of capital structure of Indian industries” conducted an empirical study of the determinants of CS of 151 selected firms across 13 industrial sectors. The major finding was that the variables like liquidity (LIQ) and GROW in terms of performance of the firms have significant influence on debt-equity ratio. In other words, sustainable
growth along with credit worthiness of the firm influences debt-equity ratio i.e.,
degree of financial leverage. The study concluded that leverage varied across
industries and between firms belonging to the same industrial sector.

Vinayek and Gupta (2010)\textsuperscript{74}, in their work “Determinants of capital
structure in drugs and pharmaceutical industry in India: A comparative study of
pre and post liberalization period” examined the determinants of CS of firms in
drugs and pharmaceutical industry in pre-liberalization period and post
liberalization period. They found a significant difference in the determinants of
CS in pre-liberalization as well as on post-liberalization periods. The variables
like $P$, $CAPINS$, and $COLASS$, which were insignificant in the pre-liberalization
period were significant to the market value debt equity ratios in the post-
liberalization period, while $SIZ$ which was found to be the significant
determinant of CS in the pre-liberalization period. They concluded that the
difference was due to the changes in business environment and capital market.

Azhagaiah and Deepa (2011)\textsuperscript{75} in a study “Impact of firm size on the
relationship between profitability and capital structure” analyzed the impact of
sales size on the relationship between $P$ and $LEV$, considering the size as the
control variable. The findings proved that there exists a positive correlation
between $P$ and $LEV$ in case of small size firms while, the showed a negative
relation between $P$ and $LEV$ providing evidence that debt capital decreases with
increase in $SIZ$ of the firm.

Azhagaiah and Deepa (2011)\textsuperscript{76}, in an empirical work entitled
“Determinants of profitability: A study with reference to income size-wise
analysis of selected firms” analyzed the impact of income on determinants of $P$
by grouping the firms of tea, dairy and vegetable oil sector into three size
categories viz., “low income”, “medium income”, and “high income” firms based
on their profit before interest tax and depreciation ($PBITD$). The results
indicated that $GROW$ and $VOL$ determined the $P$ of medium and high income
firm, while $CAPINS$ was the significant major determinant variable of $P$ in case
of low income firms.
Azhagaiah and Deepa (2011)\textsuperscript{77} in an empirical work “Choice of capital structure model: An empirical analysis with reference to static trade-off Vs pecking order theories in beverage and alcohol industry in India” attempted to determine the predictors of CS in the beverage and alcohol industry in India and also to find out the approach followed by these firms to decide their CS. The findings proved that pecking order hierarchy is followed in beverage and alcohol industry in India. COLASS and P are found to be the major determinant of CS.

Dawood, Moustafa, and El-Hennawi (2011)\textsuperscript{78}, in the empirical work “The Determinants of Capital Structure in Listed Egyptian Corporations” investigated the financing decisions of listed Egyptian corporations and the key factors that affect their choice of CS. The results indicated that the overall significant determinants were mainly: SIZ, P, LIQ, and business risk though they differed across the different industries in Egypt. Egypt tends to follow a certain hierarchy of finance consistent with the modified Pecking Order theory of capital structure.

Panigrahi (2011)\textsuperscript{79}, in the work “Location as a Determinant of Capital Structure: A Study of Indian Private Sector Firms” analyzed whether the location of a firm affects its CS decisions of Indian companies. The analysis was conducted on a sample of 300 Indian private sector companies, comprising of 20 different sectors for the period 1999-2000 to 2007-2008, duly grouping them on the basis of their regions as western, eastern, southern and northern region. Findings showed that the region or location of a company strongly influences the quantum of inflow of funds.

Sheikh and Wang (2011)\textsuperscript{80}, in a study entitled “Determinants of capital structure: An empirical study of firms in manufacturing industry of Pakistan” explored the factors that affect the CS of manufacturing firms. The results suggested that P, LIQ, VOL, and COLASS are related negatively to the debt ratio, whereas SIZ is positively linked to the debt ratio. The findings of the study are consistent with the predictions of the trade-off theory, pecking order theory, and agency theory.
II.3 Research Gap and Concluding Remarks

The studies revolve around emphasizing the significance of \( CS \) in maximizing the value of the firm which is considered as the basic objective of financial management. Factors influencing the \( CS \) choice are the next most important aspect that has been taken into consideration. Tax advantage on using debt finance has been analyzed by many experts and they have put forth different views. \textit{Modigliani and Miller (1958)}\textsuperscript{81} have pointed out that debt finance is beneficial if corporate income tax under which interest is a deductible expense is considered. In contrast \textit{Schnabel (1984)}\textsuperscript{82} has shown that an optimal \( CS \) does not involve exclusive reliance on debt financing. However, the result of study of \textit{Givoly Collins et al. (1992)}\textsuperscript{83} and many others supported the tax-based theories of \( CS \) and indicated that there exists a substitution effect between debt and non-debt tax shields, and that both corporate and personal tax rates affect leverage decisions. Another major area analyzed was the effect of bankruptcy cost on \( LEV \) and signaling effect on debt finance. \textit{Leland and Toft (1996)}\textsuperscript{84} and \textit{Miao (2005)}\textsuperscript{85} emphasized that the \( CS \) choice reflects the tradeoffs between the tax benefits of debt and the associated bankruptcy and agency costs.

\( P \) is another important factor which is considered crucial to be linked with \( CS \) choice. This is because determining the optimal \( CS \) is aimed at increasing the profit earning capacity of the firm. Many experts have expressed views differently about the relation between \( CS \) and \( P \). \textit{Myers (1984)}\textsuperscript{86} introduced pecking order theory, which states firms prefer internal funds and when it gets exhausted they look in for debt finance rather than equity finance because it is a better signal to the market. Many other studies have supported the pecking order hypothesis. \textit{Kester (1986)}\textsuperscript{87}, \textit{Titman and Wessels (1988)}\textsuperscript{88}, \textit{Barton and Gordon (1988)}\textsuperscript{89}, \textit{Pinegar and Wilbricht (1989)}\textsuperscript{90}, \textit{Harris and Raviv (1991)}\textsuperscript{91}, \textit{Harries (1994)}\textsuperscript{92}, \textit{Jonson (1998)}\textsuperscript{93}, \textit{Simerly and Li (2000)}\textsuperscript{94}, and \textit{Booth Collins et al. (2001)}\textsuperscript{95} have found a negative relation between \( P \) and \( CS \) in support of pecking order theory. On the other hand, \textit{Rajan and Zingales (1995)}\textsuperscript{96} have emphasized on size of the firm stating that large firms tend to issue less equity and that the negative influence of \( P \) on \( LEV \) should become stronger as firm size increases. \textit{Dogra and Gupta (2009)}\textsuperscript{97} have studied the relation the other way stating that optimum \( CS \) enhances the \( P \) and the value of the firm. These varied views and results of many studies persuade one to study in detail the relation between \( P \) and \( CS \). Hence, this study is maiden attempt to study the relation between \( P \) and \( CS \).
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Chapter II  

REVIEW OF LITERATURE


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