CHAPTER - 2

LITERATURE REVIEW

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LITERATURE REVIEW

In this chapter some of the important studies carried out in the area of Capital Structure have been reviewed. The chapter is divided into three sections. The first section in the chapter identifies the various theories concerning the Capital Structure by surveying the various extension works conducted after the pioneering study of Modigliani & Miller[1] (1958). In the second section, contributions to the literature from India and abroad relating to Determinants of Capital Structure have been surveyed. The third section reviews other general studies on Capital Structure in India and abroad. .

SECTION I

2.1 Review of Capital Structure Theories

There have been several conflicting theories on Capital Structure and its impact on valuation of firm. Some of the theories suggest that Capital Structure does not matter and value of a firm does not depend on its financing mix, whereas some theories suggest that Capital Structure of a firm does matter and optimal Capital Structure does exists. In this section, different competing theories of Capital Structure have been presented.

2.1.1 Net Income Theory (NI)

Durand David (1952)[1], who advocated this theory suggested that a firm can increase the value of the firm and reduce the overall cost of capital by increasing the proportion of debt in its Capital Structure to the maximum possible extent. The Net Income Theory is based on the assumptions that there are no taxes, the cost of debt is cheaper than the cost of equity and the use of debt does not change the risk perception of investors. By increasing the proportion of debt funds in its Capital Structure, a firm can reduce its overall cost of capital, leading to an increase in value of firm. The optimum Capital Structure of a firm will be attained when the firm is financed with 100% debt and at that point the value of the firm will be maximum and overall cost of capital minimum.

2.1.2 Net Operating Income Theory (NOI)

This theory also has been suggested by Durand David (1952)[1], but is exactly opposite to Net Income Theory (NI). According to this theory, the overall cost of capital remains constant to various levels of debt in the Capital Structure. An increase in the level of debt increases the level of risk for the shareholders and they start expecting higher returns to compensate the higher risks. The increase in the equity capitalization rate offsets the advantage of cheaper debt and thus the overall cost of capital remains the same. This suggests that the Capital Structure decision of a firm is irrelevant and the firm cannot change the overall cost of capital by changing the mix of debt and equity. The overall value of the firm is independent of its Capital Structure decision.

2.1.3 Modigliani and Miller (MM) Theory (without taxes)

This theory is similar to Net Operating Income Theory. According to Modigliani & Miller (1958)[2], Capital Structure of a firm does not determine its market value implying that the Capital Structure decision is irrelevant. The cost of capital and value of firm are constant for all degrees of leverage. The cost of equity rises exactly to offset the advantage of reduced cost of debt and thus value of firm remains constant and unaffected by its Capital Structure. With no taxes, the cut off rate for investment purpose is completely unaffected by the Capital Structure and will be equal to its weighted average cost of capital. This theory is based on assumptions of a perfect capital market, no transaction costs, homogeneous risk class i.e. all investors have homogeneous expectations, firms can be grouped into equivalent risk classes on the basis of risk in term of expected earnings, no corporate taxes and dividend payout ratio expected to be hundred percent.

2.1.4 Modigliani and Miller (MM) Theory (with corporate taxes)

Modigliani and Miller (1963)[3] revised their earlier theory by considering the implication of corporate taxes on the Capital Structure. They recognized that on account of the tax savings generated due to debt, the value of a levered firm will be higher than unlevered firm. With introducing debt in the Capital Structure, the cost of equity will rise but at a lesser rate than what it have been in absence of taxes. The optimal Capital Structure will be the one at which the firm's value is maximum and

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the overall cost of capital is minimum. This can be achieved with hundred percent debt financing. This theory is similar to Net Income Theory.

Although Modigliani and Miller were criticized for their various unrealistic assumptions and proposition of maximizing firms' value by using 100% debt in their Capital Structure, their theory is considered as a pioneering study which resulted into continuing theoretical debate over the issue of relevance of Capital Structure decision for valuation of a firm. Since then, a number of studies have been undertaken on various aspects of Capital Structure.

2.1.5 Traditional Approach to Capital Structure

Soloman Ezra (1963)[4] suggested that a firm can reduce the overall cost of capital and increase the total value of firm by increasing the proportion of debt funds in its Capital Structure, but only up to a certain level. Any increase in debt beyond a particular point may result in an increase in cost of equity. Through a judicious use of debt and equity mix, a firm can reduce its overall cost of capital and increase the value of firm. Soloman Ezra (1963)[4] summarized the result of change in the debt equity mix on the total value of firm in following three phases:

➤ In the first phase, with the use of debt, value of firm increases, cost of equity rises slightly to some extent with debt, but the advantage of debt offsets the increased cost of equity. Cost of debt remains constant or rises very negligibly.

➤ In the second phase, beyond a certain level of debt, the cost of equity starts rising disproportionately because of increasing risk and additional debt has insignificant impact on the cost of capital or value of firm. Cost of capital starts rising after falling initially, and there exists a critical point where the cost of capital is the least. At this point in this phase, optimum Capital Structure will exist where overall cost of capital will be minimum and value of firm will be maximum.

➤ In the third phase, any further increase in debt would lead to disproportionate increase in cost of equity thereby increasing the overall cost of capital which would offset any additional advantage of debt.

Traditional theory was considered as midway approach to the two extreme views of net income and net operating income theories. Net Income Theory proposed a financing mix with 100% debt whereas Net Operating Income Theory suggested

that overall cost of capital remains constant for all levels of leverage. According to traditional theory, a firm could maximize its value by using debt, but only up to a certain extent, until the use of debt reduces overall cost of capital as beyond this limit, additional debt would increase the overall cost of capital.

2.1.6 Trade-Off Theory / Static Trade-Off Theory

The classical explanation of the proposition goes back to Kraus & Litzenberger (1973)[5]. They proposed that an optimal Capital Structure can be achieved by equilibrium between the tax saving benefits of debt and the dead-weight costs of bankruptcy. Increasing the proportion of debt in the financing mix results in tax advantage and hence debt becomes a cheaper source of fund than equity, but at the same time it results in increase in costs of financial distress and agency costs of debt. According to this theory, although the interest payments on debt provide with the required tax shield, a company needs to balance the costs (Costs of financial distress, agency costs) and the benefits of debt (tax deductibility) while deciding the level of debt in its Capital Structure. According to Myers (1984, page 576)[6] there exists a, "static trade-off framework, in which the firm is viewed as setting a target debt-to-value ratio and gradually moving towards it, in much the same way that a firm adjusts dividends to move towards a target payout ratio".

So according to trade-off theory, a company decides the level of debt and equity in its Capital Structure by balancing the tax saving benefits of debt with the following two costs:

i) Costs of Financial Distress: Financial Distress costs can be direct costs resulting due to bankruptcy such as auditors' fees, legal fees, management fees and other payments, loss due to distress sale, reduction in value of assets due to non use etc. They can also be in the form of indirect costs if the bankruptcy has to be avoided. Manager may start producing lower quality goods, provide inadequate after sales service, short-term loans from contractors and banks might be obtained at high cost of capital to repay debt. This may lower firm value as the firm starts loosing customer trust and goodwill. Higher the proportion of debt in the financing mix of a firm, greater will be the financial distress costs and these costs may decrease the value of the firm, thus offsetting the advantage of tax shield of debt.

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ii) Agency Costs: Jensen & Meckling (1976)[7] proposed that a firm incurs two types of agency costs-cost associated with the outside equity holders and cost associated with the presence of debt in Capital Structure in their agency cost theory.

According to this theory, in a highly leveraged firm there will be an agency relationship between shareholders and debt lenders. Their interests will be conflicting as debt lenders are concerned only with their repayment of principal amount with interest and are indifferent to the risks associated with business. Whereas, shareholders might tend to invest in risky projects to increase their wealth but at the expense of debt lenders. If the firm is on the verge of bankruptcy, then even the debt lenders are prone to risk as the firm may not be able to repay them. So while lending these firms, the lender's to protect themselves, insert several restrictive covenants like restricting declaration of dividend, nominating directors on board, restrictions on further loans and so on. There may be conflict between shareholders and their managers also. "The agency conflict between the owner-manager and outside shareholders are derived from the manager's tendency to appropriate perquisites out of the firm's resources for his own consumption", Jensen & Meckling (1976, page 12)[7]. To control these agency costs created by managers who tend to waste free cash flows on perquisites and incorrect investments, firms instead would prefer to use these free cash flows created out of profits to make debt payments and thus resort to more debt financing in their Capital Structure.

According to Trade-Off theory, highly profitable firms will have high debt ratios because chances of bankruptcy are less. Thus trade-off theory suggests a positive relationship between profitability and leverage. It also states that large firms with tangible assets tend to borrow more than small firms. If the firms' earnings are volatile, they may borrow less. The theory predicts that existence of tax shields will lead to increase in debt. Higher growth rate would mean greater chances of bankruptcy and hence Trade-Off theory suggests negative relationship between high growth rate and borrowings of a firm. The theory predicts negative relationship between dividend payout ratio and debt ratio as the theory implies that a firm will be in position to pay higher dividends because of low levels of debt in their Capital Structure.

2.1.7 Dynamic Version of Trade-Off Theory

The most accepted version of this theory can be traced back to Fischer *et.al* (1989)[8]. They developed a model of dynamic Capital Structure choice in the presence of recapitalization costs. Dudley (2007,page 3)[9], quoting Fischer *et.al* (1989)[8] also put forth that according to dynamic trade-off models, firms have an optimal leverage range within which they let their leverage ratios vary and undertake Capital Structure adjustments when leverage reaches either of the two boundaries defining the range. According to Zhao & Susmel (2008, page 5)[10], "The dynamic trade-off model is based on the idea that firms cannot instantaneously achieve their target leverage, rather they adjust their realized debt-equity ratios over time".

Instead of treating agency cost theory separately, in this study, the agency costs have been incorporated in Trade-Off theory itself as it had been pointed out by Frank & Goyal (2007, page 6)[11] that , "The term trade-off theory is used by different authors to describe a family of related theories. In all of these theories, a decision maker running a firm evaluates the various costs and benefits of alternative leverage plans. Often it is assumed that an interior solution is obtained so that marginal costs and marginal benefits are balanced".

2.1.8 Signaling Theory / Asymmetric Information

"The manager of a firm maximizes his incentive return by choosing a financial package that trades off the current value of the signal given to the market against the incentive consequences on that return", Ross (1977,page 34)[12]

It was assumed by Modigliani and Miller (MM) in their propositions that information is symmetrical, there is no information gap and investors have access to the same information and have homogeneous expectations about a firm's future as its managers. In reality managers possess more information than shareholders about a firm's operations and firm's future prospects. They can share this information or withhold it if they think that it is in best interest to do so. The choice of firm's Capital Structure signals to outside investors the information of insiders. In the financial signaling models, the firm can use its Capital Structure to signal the prospects of its investment decisions and growth opportunities thus support and enhance its market value.

The literature implies that firm's investment decisions are one of the determinants of growth opportunities. If a mature and well established company tries to raise funds by issuing shares, prospective investors may perceive it as negative signal. If the firm is overvalued, the prospective investors would know that the existing shareholders do not want to bear the burden of decline in market value alone; hence the firm is issuing equity. Whereas a new firm which is undervalued but whose growth prospects are good may issue debt because they know that market value will increase in future due to good growth opportunities and hence do not want their share of profits to get diluted. According to this theory therefore low growth and mature (age) firms may be negatively related to debt ratios and new firms with substantial growth opportunities may be positively relate to debt ratios.

2.1.9 The Pecking Order Theory

Trade-Off theory is said to be a competitor theory to the Pecking Order Theory. The proposition of Pecking Order Theory can be traced back to the year 1961 when Gordon Donaldson[14] pointed out that firms follow a particular sequence of financing. They use internally generated cash flow as principal source of long-term financing. If the firm has insufficient cash flow from internal sources, it resorts to debt financing and as a last option a firm will use externally generated funds, i.e. equity funds.

Myers (1984)[6] extended the work of Gordon Donaldson (1961)[13] by applying the term "pecking order" to Gordon Donaldson's description of firms' sequence of financing. They considered their theory as, 'Modified Pecking Order Theory', and stated that companies prioritize sources of financing from internal financing to debt and finally to equity and prefer to raise equity as a financing means of last resort. Their modified Pecking Order Theory was based on the concept of asymmetric information and recognized the costs of financial distress. Their theory also assumed that firms follow sticky dividend policies which mean companies set absolute dividends and stick with those dividends through good times and bad.

In their modified Pecking Order Theory, Myers (1984)[6] stated that firms set out target dividend payout ratios which can be met by internally generated funds. They avoid financing projects by issuing equity or other risky securities, keep their debt levels within safe limits to avoid risk of default and to avoid costs of financial distress. Myers (1984)[6]

used the term ' financial slack', which means firms try to maintain and create financial slack in the form of reserve borrowing power which can be used to issue safe debt if needed. He finally stated that due to sticky dividend payout ratios and fluctuations in investment opportunities, firms may exhaust their ability to issue safe debt and then in such cases would follow the last stage of pecking order of financing, firms will issue less risky securities first like risky debt or convertibles before issuing common stock.

The Pecking Order Theory suggests that highly profitable firms, having good cash flows may have low debt ratios because they do not need external financing as they have sufficient retained earnings to fall back upon to finance their investments. Firms with growth opportunities (future investments) may issue equity suggesting negative relationship between growth and leverage. When the firm's earnings are volatile, firms may have less leverage. The age of a company should be negatively related to its leverage because mature firms may find dearth of good growth opportunities and hence may not need funds. Higher dividend payout means greater need of funds which suggests positive relationship between dividend payout and leverage.

2.1.10 Debt as a Disciplining Device

Harris & Raviv (1990)[14] presented a theory of Capital Structure based on the idea that debt allows investors to discipline management and provides information useful for this purpose. They believed that investors use information about the firm's prospects to decide whether to liquidate the firm or continue current operations. Managers do not always behave in the best interests of their investors and therefore need to be disciplined. They do not provide detailed information to investors and also do not want the firm to be liquidated. Hence investors use debt to generate information and monitor management and debt lenders may enforce liquidation of firm if needed to protect their interests. Harris & Raviv (1990)[14] developed static and dynamic models of Capital Structure based on their above stated propositions. Their static model stated that debt generates in two stages. Repayment of debt is assumed to be a sign of income exceeding the payments and investors revise upward their beliefs about firm quality whereas failure to repay debt may lead investors to a costly investigation that may provide investors more information about firms' quality. Optimum debt level exists when there is a Trade-Off between cost of investigation generated by default in payments and improvements in the operating policy.

2.1.11 Market Timing Theory:

According to Baker & Wurgler (2002)[15], who put forward this theory, Capital Structure evolves as the cumulative outcome of past attempts to time the equity market. "In corporate finance, equity "market timing" refers to the practice of issuing shares at high prices and repurchasing at low prices. The intention is to exploit temporary fluctuations in the cost of equity relative to the cost of other forms of capital". Baker & Wurgler (2002, page 3)[15.] The authors tried to study how market timing affects the Capital Structure in this paper. They used the market-to-book ratio to measure the market timing opportunities perceived by managers. Their sample consisted of COMPUSTAT firms for which they could determine the IPO date which was necessary to examine the behavior of leverage around the IPO. They used the IPO date to study the evolution of leverage from a fixed starting point. They found out that low-leverage firms were those who raised funds when their valuations were high, and high-leverage firms were those that raised funds when their valuations were low. They observed that fluctuations in market valuations had large effects on Capital Structure that persisted for at least a decade. According to this theory, there is no optimum Capital Structure.

2.2 Empirical Studies Testing Capital Structure Theories: A Review

Several studies tried to test the propositions of above stated theories and came up with contradictory results:

Testing Static Trade-Off against Pecking Order

Shyam-Sunder & Myers (1994)[16] tested the static trade-off against pecking order models of Capital Structure of balanced panel of 157 U.S firms for a period from 1971 to 1989. The results implied that Pecking Order Theory was able to explain the financing behavior of firms better than the target adjustment models as suggested by static Trade-Off theory. They concluded that even if companies had well defined optimal Capital Structure, managers did not seem to be interested in getting there.

Information Asymmetry and Signaling Approach with Cash Flows

Goswami *et.al* (1995)[17] examined the impact of informational asymmetries on the design of debt contracts. The role of debt maturity, coupon payments and dividend

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payout restrictions in signaling a firm's private information has been examined in the study. They divided the cash flows that a firm receives in two dates, an intermediate date and at a terminal date. They assumed that the firm has private information regarding these cash flows. The degree of information asymmetry regarding these cash flows may vary. They concluded in their study that if asymmetry of information exists regarding long term cash flows, the firm prefers financing with covenanted long term debt that restricts dividend payments. If there is information asymmetry regarding short term cash flows, the firm may prefer either short term debt or opt for uncovenanted long term debt that does not restrict dividends. If information asymmetry is evenly spread across dates, firm resort to short term debt.

Testing Static Trade-off against Pecking Order

Babu & Jain (1998)[18] tested the pecking order hypothesis with reference to Capital Structure practices in India. Their sample was based on non government public limited companies listed on Bombay Stock exchange. The study was questionnaire based and they could collect 91 responses which formed their sample. The study confirmed the existence of pecking order followed by Indian firms in their financing strategy and there was a marked preference to long term debt by firms in India.

Information Asymmetry, Free Cash Flow and Leverage

Mohanty (2000)[19] made an attempt to test whether the predictions of theories of Capital Structure based on information asymmetry are applicable to Indian companies. They used ordinary least square regression to test the relation of profitability, information asymmetry and free cash flows on the leverage of Indian companies for the period of three years from 1996 to 1998. They found out that most profitable companies opted for low leverage, relationship between information asymmetry and leverage negative opposite of what Pecking Order Theory predicts, and could find no conclusive evidence regarding relationship between free cash flow and leverage.

Testing Static Trade-Off against Pecking Order

Chirinko & Singha(2000)[20] questioned validity of inferences based on Shyam-Sunder & Myers' (1994)[16] testing strategy. They felt that their elegantly simple test generated misleading inferences when evaluating plausible patterns of external financing. Whereas in their study they felt the need of alternative tests to differentiate between competing hypothesis of pecking order or Trade-Off hypothesis.

Testing Static Trade-Off and Pecking Order Prediction about Dividend Payout and Debt:

Fama & French (2002)[21] tested the validity of Trade-Off and pecking order predictions about dividend and debt. The main aim of the study was to examine how long term leverage and dividend payout ratio differ in firms with the main driving variables; 'profitability', and 'investment opportunities', as the main driving factors as proposed by the two models. They also investigated interdependence of long term leverage and dividend payout and how financing decisions respond to short term variations in earnings and investment. Their sample covered the period from 1965 to 1999 and on average included more than 3,000 firms. Both the models predict that profitable firms have higher dividend payouts and firms with more investments have lower payouts. The study found out positive relation between leverage and firm size, negative relation between non-debt tax shields and leverage. Profitability was negatively related to leverage thus supporting Pecking Order Theory but contradicting Trade-Off hypothesis.

Capital Structure and Market Power

Pandey I.M (2002)[22] argued that the relation between Capital Structure and market power is cubic and relation of profitability and Capital Structure is 'U' shaped. They used 'Tobin Q'- the ratio of market value of the firm to replacement costs of assets to measure market power. The study employed a sample of 208 Malaysian companies listed on Kuala Lumpur stock exchange having data for the period from 1994 to 2000. Using panel data model, effect of Tobin's Q, profitability, growth, unsystematic risk, size, ownership and tangibility is assessed on total debt-asset ratio, the dependent variable. They examine that at lower and higher ranges of Tobin's Q, firms use high debt and firms reduce their debt when Tobin's Q is at intermediate range which proved their assumption of cubic relationship between Capital Structure and market power. The belief that the relation of profitability and Capital Structure is 'U' shaped was confirmed as there seemed to be a trade-off between the effects of asymmetric information, agency costs and tax benefits. They also found out that size and tangibility had positive relationship and systematic risk and ownership have a negative relationship with Capital Structure.

Testing Static Trade-Off against Pecking Order

Frank & Goyal (2003)[23] tested the Pecking Order Theory on publicly traded American firms for the period from 1971 to 1998. They tried to compare their findings with the

results of Shyam-Sunder & Myers (1994)[16]. They also tried to match their sample selection by selecting firms which continuously report on necessary variables for the study period and their sample consist of 768 firms with 19 years of data for each firm. Despite the differences in sample size, they could replicate the coefficients on the financing deficit reported by Shyam-Sunder & Myers (1994)[16] and the results supported the Pecking Order Theory. They also considered a broader unbalanced population of firms to test whether the results differ. The R^2 on broader population of firms had a limited ability to forecast leverage behavior. They concluded that while large firms could demonstrate some aspects of pecking order behavior, the evidence was not robust to the inclusion of conventional leverage factors and financing deficit is less important in explaining net debt issues over time for firms of all sizes.

Testing Static Trade-Off against Pecking Order

Sogorb-Mira *et.al* (2003)[24] investigated the application of pecking order versus trade-off hypothesis on a sample containing 6482 Spanish small and medium companies for the period 1994–1998 using panel data methodology. To test the Trade-Off model, they hypothesized that tax rate, tangibility of assets, size of company would be positively related to leverage and non-debt tax shields, default risk, companies with greater growth opportunities and profitability would have negative impact on leverage. They also assumed that firms' liquidity will affect its Capital Structure. To test the pecking order hypothesis, they hypothesized that firm's volume of cash flow and age would be negatively related to leverage whereas firms with strong growth prospects will have positive relationship with leverage. The hypothesis put forward for Pecking Order Theory was confirmed and as regards to Trade-Off theory, except for factors default risk, asset structure, profitability and liquidity whose results showed insignificant impact, other factors confirmed the predictions of the theory. The study found evidence that firms attempted to achieve a target or optimum leverage.

Testing Static Trade-Off against Pecking Order

Tong & Green (2005)[25] tested the Pecking Order or Trade-off Hypothesis on top 50 Chinese listed companies listed on Shanghai & Shenzhen stock exchange. They tested three facets of corporate financing where Trade-Off and pecking order theories give different predictions: the determinants of leverage (profitability, size and growth), the association between leverage and dividends and the effect of these theories on corporate investment. The study with the help of ordinary least square regressions concluded

that: a) A significant negative correlation between leverage & profitability b) a significant positive correlation between current leverage and past dividends favoring pecking order hypothesis and investment model was found inconclusive.

Dynamic Optimal Capital Structure Model

Titman & Tsyplakov (2005)[26] tried to develop a Dynamic Capital Structure model that allowed them to observe how target debt ratios are determined and how they change overtime. Their model endogenously determined the firm's optimal investment and financing strategies as functions of an exogenous state variable that determine the price of the firm's product. Their model incorporated continuous investment and financing choices as well as bankruptcy costs, financial distress costs and transaction costs. They use their model to create a panel of simulated data that includes model generated debt ratios that are determined by the firm's cash flow and investment history as well as by its optimal Capital Structure choice. Their results confirmed the belief that firms slowly move towards target debt ratios. They point out that in their earlier study, 'Titman and Wessels (1988)[32], they had examined actual debt ratios that change over time rather than their targets. They recommend that firms that are subject to financial distress costs as well as those without conflicts of interest between debt holders and equity holders should adjust more quickly towards their target debt ratios.

Trade-Off and Pecking Order: (A survey)

Frank & Goyal (2007)[11] conducted a survey of previous literature to understand the facts identified until then on trade-off and Pecking Order Theory. They believed that several explanations like taxes, bankruptcy costs, transaction costs, adverse selection, agency conflicts have been made for the use of debt in the Capital Structure and these beliefs have been combined into trade-off theory and the Pecking Order Theory of Capital Structure. They found out that empirical literature supports a number of generalizations for understanding actual leverage and they name these facts as 'stylized facts' in their study. They felt the need of one unifying model which could incorporate all the 'stylized facts' in it to understand Capital Structure as the standard theories oppose some of the known facts and are not without flaws.

Dynamic Theory of Capital Structure with Optimal Leverage Range

Dudley (2007)[9] developed an empirical model to find out how the Determinants of Capital Structure affect the two boundaries that define the firms optimal leverage range.

To test the implications of dynamic theory of Capital Structure, they use a non-linear model with thresholds that vary with firms' profitability, the risk free interest rate, investment opportunity set, share price volatility, asset tangibility and size. They conclude that profitability and interest rates imply a narrower debt ratio range and higher volatility imply a wider debt ratio range. Assets in place firms respond sooner to decreases in leverage than growth firms. They also conclude that proportional adjustment costs play an important role in determining the size of Capital Structure adjustments.

Testing Pecking Order Theory in Context of Maturing Long Term Debt

Hovakimian & Vulanovic (2008)[27] tested the Pecking Order Theory by examining how firms finance maturing long-term debt. Their results support the prediction of the Pecking Order Theory regarding the use of internal funds and debt financing. Managers first finance their maturing long-term debt with internal funds and then turn to new debt issuance. They could find very strong support for the Pecking Order Theory among small high growth firms as well as among debt capacity constrained firms which contrasted the results of earlier available literature. They found out that on an average, each marginal dollar of maturing long-term debt was fully financed with new debt issuance.

Testing Dynamic Trade-Off Theory using Kalman Filter

Zhao & Susmel (2008)[10] used a Kalman filter in order to test the standard dynamic trade-off model of Capital Structure since Kalman filter allows to directly estimate the unobservable target debt-equity ratio. They tested the structural dynamic models for individual firms in order to directly study the number of firms in which the dynamic trade-off model cannot be rejected. Their analysis indicates that the dynamic trade-off model cannot be rejected at the standard 5% level- for 32% to 52% of the firms in the sample. They also tried to test if Kalman filtered estimated target debt-equity ratios were related to the variables like volatility of cash flows, product uniqueness, tangible assets, size, profitability, capital expenditures, market-to-book ratio, z score, capital expenditure, cash position, tax shield, tax rates, and mitigation of free cash flow problem. They could find support for their estimates.

Information Asymmetry and Signaling Approach through the use of Convertible Bonds

Yan (2009)[28] believed that information asymmetries exist between firms' insiders and outside investors including shareholders and the managers know the true internal

projections for the chances of success for firm projects. Outside investors rely on the firms' actions in order to gain information known only to firm insiders and the choice of Capital Structure serves as a signal of firms' success. In this study, through the use of a sample of hundred convertible bonds issued from 1990 to 2007, the author have tried to examine the market's reactions to changes in the Capital Structures of the firms and whether the reactions differ if firms are of different sizes. By regressing the abnormal returns of the firms' stock prices on the conversion premium, the study tried to capture the market's responses to the declaration of a convertible issue. The study concluded that more debt-like convertible issuances signal more positively and result in higher abnormal returns. This effect was larger for smaller firms than for larger firms indicating that smaller firms may be relying more on signaling than their larger counterparts, due to a greater information asymmetry for the smaller firms.

Testing Static Trade-Off against pecking order in context of issuing decisions and repurchase decisions:

Jong et al. (2009)[29] try to study the observed relevance of both pecking order and Trade-Off theories when they have contradictory predictions on firms' debt-equity decision particularly for issuing decisions and repurchase decisions.

According to Jong et al. (2009, page 4)[29], "For issuing decisions, the theories disagree when the current debt ratio is above the target ratio but below the debt capacity. In such case, the static Trade-Off theory predicts a decrease of leverage, whereas the Pecking Order Theory predicts that a firm would still increase leverage. For repurchase decisions the theories disagree when the firm's current debt ratio is below the target debt ratio. The pecking order model predicts that the firm repurchases debt and therefore decreases leverage, whereas the static Trade-Off model predicts a move towards the target and therefore an increase of leverage". They try to examine that out of the two theories, which can provide correct predictions. Their sample consist of 2259 U.S firms for a study period from 1985 to 2005. They find that the Pecking Order Theory provides better explanation of firms' issue decisions than the static Trade-Off theory and in case of repurchase decisions; the static Trade-Off theory is a better forecaster of firms' financing decisions.

Target Capital Structure

Hovakimian et al (2009)[30] observed the speeds of adjustment to target Capital Structure examined at points in time when the benefits of adjustment to target were

likely to exceed its costs. Both book and market value based measures of leverage have been used in the analysis. The independent variables used to identify the target debt ratio are firm size, asset tangibility, market-to-book, research and development expenses, and industry median leverage ratio. They do not find evidence for full adjustment to target Capital Structure. They found out that the estimates of the speed of adjustment to target leverage were significant but low. The speeds of adjustment were highest for firms in the highest maturing debt group but never come close to full adjustment. The authors concluded that firms can have target range of Capital Structure but no single target debt ratio to which they ever want to fully adjust.

Based on the examination of the development in the theory of capital structure, following is the bird's eye view on the phase wise development of major theories of capital structure:

Table 2.1		
Development of Major Capital Structure Theories		
Year	**Capital Structure Theory**	**Author**
1952	Net Income Theory	David Durand
1952	Net Operating Income Theory	David Durand
1958	Modigliani & Miller (MM) Theory (without taxes)	Modigliani & Miller
1961	Pecking Order Theory	Gordan Donaldson
1963	Modigliani and Miller (MM) Theory (with corporate taxes)	Modigliani & Miller
1963	Traditional Approach to Capital Structure	Soloman Ezra
1973	Static Trade-Off Theory	Kraus & Litzenberger
1976	Agency Costs Theory	Jensen & Meckling
1977	Signalling Theory/Asymmetric Information	Ross S.A
1984	Modified Pecking Order Theory	Stewart C. Myers
1989	Dynamic Trade-Off Theory	Fischer *et.al*
1990	Debt as a Disciplining Device	Harris & Raviv
2002	Market Timing theory	Baker & Wurgler

SECTION II

2.3 Literature Related to Determinants of Capital Structure

2.3.1 Foreign Studies

Ferri & Jones (1979)[31] investigated the relationship between a firm's financial structure and its industry class, size, variability of income and operating leverage. They used a unique method – a taxonomy of firms that is based on the firms' actual financial behavior. Using 'Howard-Harris Algorithm', each firm was assigned to one of a set of leverage classes on the basis of the firms' use of debt. This taxonomy of firms formed the basis of their subsequent analysis where investigation of associations between attributes of firms and leverage classes was done. They concluded that although industry and financial structure are not totally independent of each other, the dependence is, at best modest and indirect. A firm's use of debt is related to its size but the relationship is not positive and the study revealed nearly curvilinear relationship between size and leverage. Business risk was not associated with firm's leverage. The expected negative relationship between operating leverage and firm's use of debt as suggested by financial theory was confirmed.

Titman & Wessel's (1988)[32] conducted a pioneering study using factor-analytic technique for estimating the impact of determinants- collateral value of assets, non debt tax shields, growth, uniqueness, industry classification, size, volatility and profitability on various measures of leverage. Six measures of leverage were used in the study. They were - long term, short term and convertible debt divided by market and book value of equity. 469 U.S manufacturing firms were selected for the study and the sampling period was nine years from 1974 to 1982, divided into three sub periods of three years each. It was found out that debt levels were negatively related to uniqueness of firm's line of business, transaction cost an important determinant of leverage, short term debt ratios were negatively related to firm size and non debt tax shields, volatility, collateral value & future growth did not have any effect on firm's leverage.

Lee & Kwok (1988)[33] tried to find out whether any difference existed in Capital Structures of U.S based multinational corporations (MNCs) and U.S domestic corporations (DCs), and if so, tried to empirically examine the causes of difference.

The study examined the impact of international environmental variables- political risk, international market imperfections, complexity of operations, opportunities for international diversification, foreign exchange risk and local factors of host countries on firm related Capital Structure determinants which in turn affect the MNC's overall Capital Structure. Agency costs and bankruptcy costs were considered as Capital Structure determinants. Kruskal-Wallis test was applied to test whether U.S based MNCs and DCs differ with respect to agency costs, bankruptcy costs and overall Capital Structure. A two-way ANOVA test was employed to control the industry and size effects separately so as to ensure that the differences between MNCs and DCs were not simply due to size or industry differences. The major findings were: (a) MNCs tended to have higher agency costs of debt than DCs. (b) MNCs appeared to have lower bankruptcy costs than DCs, but the difference largely disappeared when the size effect was controlled (c) MNCs tended to have lower debt ratios than DCs.

Most of the major empirical work done on Capital Structure (even related to testing of various Capital Structure theories) until then was based on firms in the United States alone and **Rajan & Zingales (1995)**[34] wanted to test the robustness of these findings outside the environment in which they were uncovered. Therefore, to make international comparisons, they used the data from G-7 countries to find out whether the choice of Capital Structure in other countries is based on factors similar to those influencing Capital Structures of U.S.

They employed five different ratios -total liabilities to total assets , total debt to total assets, total debt/ net assets, total debt / total (debt + equity) and EBIT / interest expense as their measures of leverage. The stock measures in ratios were computed at book value and market value. The determinants of leverage selected for the purpose of study were - tangibility of assets, the market to book ratio, firm size, and profitability of firms. They concluded that at an aggregate level, firm leverage is more or less similar across the G-7 countries and that factors that influenced Capital Structures in U.S affected firm leverage in other countries as well.

Lee et.al (1999)[35] analyzed the characteristics and Determinants of Capital Structure choices of Korean firms during the period from 1981 to 1997 based on a panel data set consisting of over 10,000 firm-level observations. The sample firms were classified into five largest chaebols, 6-30th largest chaebols, and non-chaebol firms to evaluate

the differences if any in their choices of Capital Structure. Chaebols (a business group) comprise of many subsidiaries generally owned and controlled by a single family or by companies within the family's control. The determinants of leverage employed in the study were firm size, growth rate, tangible fixed assets, profitability, industry classification and group affiliation. Five leverage measures for the dependent variable used in the study were: Leverage (Total Debt / Total Assets), Domestic Leverage (Total Domestic Debt / Total Assets), Foreign Leverage (Total Foreign Debt / Total Assets), Long-term Leverage (Total Long-term Debt / Total Assets) and Short-term Leverage (Total Short-term Debt / Total Assets). It was found out that financing decisions of Korean firms were influenced by firm size, growth rate, tangible fixed assets, and profitability. There were major differences in the Capital Structure choices between chaebol and non-chaebol firms even after controlling for proposed determinants and chaebol affiliated firms had higher leverage than non-chaebol firms in Korea.

Bevan & Danbolt (2000)[36] analyzed the dynamics in the Capital Structure of 1054 listed non financial UK companies from 1991 to 1997 using a Panel data set. Their study was unique as they used a variety of short term and long term components (sub components of debt, individual components of debt rather than aggregate components) for the analysis. All gearing measures are scaled down by book value of total assets. Growth opportunities, size, profitability and tangibility were selected as explanatory variables. They also tried to study the change in the influence of the various Capital Structure determinants over time. Using fixed effect panel model with interactive dummies (regressions), Ordinary Least square Regressions and Cross sectional Regressions, it was found out that companies with high level of growth opportunities tended to employ long term & short term debt, but changed to equity finance from debt over the sample period. Larger companies employed long term debt and smaller companies short term debt. Tangibility was positively related to long term debt and negatively related to short term debt. Their results suggested that the nature of credit market in the UK had notably changed during the sample period with large companies using less bank finance and banks increasingly lending to smaller firms.

Major empirical work on Capital Structure was done on data derived from developed economies and **Booth et. al (2001)**[37] made a significant contribution as they tried to

assess portability of Capital Structure hypothesis across 10 developing countries with different institutional structures.

The main focus of the study was to find out whether corporate financial decisions differ significantly between developing and developed countries and whether the factors affecting individual companies Capital Structures are similar between developed and developing countries. They also wanted to find out whether the predictions of conventional Capital Structure models can be improved if the nationality of a company is known.

The data for large publicly traded firms of developing countries: India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan and Korea were collected from International Finance Corporation for the period 1980-1990. They used regression analysis to assess the impact of various macroeconomic variables (country factors) using three debt measures viz; Total debt ratio, Long term book debt ratio and Long term market debt ratio. They found that all the three debt ratios varied negatively with equity market capitalization and except for the long term market debt ratio, the debt ratios vary positively with the proportion of liquid liabilities to GDP. They found that companies can borrow against real, but not inflationary growth prospects.

For testing the Capital Structure differences among countries using firm specific variables, they considered the three models of Capital Structure: The static Trade-Off model, the pecking order hypothesis and the agency theoretic framework. They used cross sectional regression analysis to measure Capital Structure determinants – firm's tax rate, standard deviation of return on assets, tangibility of assets, natural logarithm of sales, return on assets, and market to book ratio. They concluded that the variables that are relevant for explaining Capital Structures in United States and European countries are also relevant in developing countries despite differences in institutional factors across developing countries. They finally concluded that though in general debt ratios are affected by same type of variables both in developing and developed countries, there might be significant institutional differences that affect the importance of independent variables. Knowing the country of origin is at least as important as knowing the size of the independent variables for both the total and long term book debt ratios.

Pandey I.M (2001)[38] examined the influence of growth, investment opportunity, profitability, size, risk and tangibility on different type of debt ratios of 106 Malaysian companies, utilizing the data for 16 years from 1984 to 1999. The entire period from 1984 to 1999 was divided into four sub periods of four years each – 1984-87, 1988-91, 1992-95 and 1996-99 corresponding with downturn, upturn, stability and growth and downturn of general economic conditions in Malaysia. The results of the pooled OLS regressions showed that growth and size variables had significant positive relationship and profitability a significant negative relationship with all types of debt ratios. Risk was negatively related with long term debt ratios and positively related with short term debt ratios. Tangibility had negative association with book value and market value short term and market value long term debt ratios. The results were normally consistent with the results of fixed effect estimation with the exception that the risk variable lost its significance. Investment opportunity had no significant impact on the debt policy of Malaysian companies. Profitability had a consistent negative relationship with all types of debt ratios in all periods and under all estimation methods and therefore the study confirmed the Capital Structure prediction of the pecking order hypothesis in an emerging capital market.

Bancel & Mittoo (2002)[39] conducted a questionnaire based survey on managers of 710 firms from seventeen European countries on their choice of Capital Structure and the determinants of the Capital Structure of firms. Factors influencing Capital Structure policies of firms were divided into three sets. The first set of factors was based on the propositions of different Capital Structure theories. The second set of factors were based on decision about timing of issue of raising capital and the third set was based on commonly held beliefs among managers about impact change in financing mix on the earnings. Financial flexibility, credit rating and tax advantage of debt are the most important factors influencing the debt policy while the earnings per share dilution is the most important concern in issuing equity. The level of interest rate and the share price are important factors in selecting the timing of the debt and equity issues. Hedging consideration appeared to be the driving factor in raising capital abroad. The study provided little evidence about firms following industry norms of Capital Structure.

Huang & Song (2002)[40] conducted an empirical analysis on the Determinants of Capital Structure of Chinese listed companies over a period of 1994 to 2000 using Ordinary least square (OLS) technique. Profitability, tangibility, tax, size, non debt tax shields, growth opportunities, volatility, ownership structure and managerial shareholdings were selected as determinants and three measures of leverage - long term debt ratio, total debt ratio and total liabilities ratio each divided by book value and market value of equity were employed in the study. It was observed that Chinese companies rely on higher levels of external financing mainly in the form of equity and have low long term debt ratio. Leverage in Chinese firms increases with firm size, non debt tax shields and fixed assets, and decreases with profitability and correlates with industries. Ownership structure also affects leverage. Leverage increases with volatility. Chinese listed companies follow static Trade-Off model rather than pecking order in Capital Structure.

Baral (2004)[41] examined the Determinants of Capital Structure – size, business risk, growth rate, earning rate, dividend payout, debt service capacity and degree of operating leverage in Nepalese context with reference to Capital Structure theories. He used eight variables multiple regression model to assess the influence of the above explanatory variables on Capital Structure. He found that corporate size, growth and earning rate are statistically significant Determinants of Capital Structure of Nepalese listed companies.

Boateng (2004)[42] conducted an interesting study on international joint ventures (JV) of Ghana to show that increasingly FDI is becoming an important source for developing countries capital flows as compared to other flows. He in his study examined how international joint ventures are financed and what are the factors influencing the Capital Structure of these joint ventures. The study was based on questionnaires to 'forty one' joint ventures and the results indicated that firm characteristics such as size of joint venture, type of industry, level of ownership of partners to the joint venture influence the Capital Structure of firms.

Frank & Goyal (2004)[43] examined the factors which are important for predicting leverage by using a sample of publicly traded US firms for the period from 1950 to 2000. Using Bayesian Information Criterion (BIC) to determine which factors are worth keeping, they selected seven factors from a long list of thirty-six factors influencing Capital Structure decisions. The seven important factors selected on the

basis of market based definition of leverage were: median industry leverage, market to book ratio, collateral, profitability, dividend payout, size and expected inflation. The study considered five definitions of leverage- total debt to total assets, long term debt to total assets, total debt to market value of assets, long term debt to market value of assets and interest coverage ratio. Linear regressions are used to study the effect of factors. The study concludes that median industry leverage, expected inflation, size and collateral are positively related to leverage and market to book ratio, profitability and dividend payout are negatively related to leverage.

Drobetz & Fix (2003)[44] tested the predictions of Trade-Off and Pecking Order Theory on 124 non financial Swiss for a period from 1997 to 2001 using dynamic panel model. Following Rajan & Zingales (1995)[34], in this study four measures of leverage were employed - total liabilities to total assets, total debt to total assets, total debt to net assets and total debt/ total (debt + equity). Tangibility, firm size, growth opportunities, firm size, profitability, volatility, non-debt tax shields, uniqueness and industry classification were selected as variables effecting leverage. Using cross sectional regression analysis, pooled regressions and target adjustment model to study whether there is a target debt ratio, they conclude that (i) firms with more growth opportunities apply less leverage, (ii) more profitable firms use less leverage confirming the pecking order model but contradicting Trade-Off model, (iii) leverage is closely related to tangibility of assets and volatility of earnings and (iv) firms adjust to long term financial targets and tend to maintain target leverage ratios.

Song (2005)[45] investigated the Capital Structure determinants of Swedish firms based on a panel data set of 6,000 companies from 1992-2000. In his study he used three book value leverage measures - the ratio of total debt over capital, short-term debt to capital and long-term debt to capital. The Capital Structure determinants used in the study were – tangibility, non-debt tax shield, profitability, size, expected growth, uniqueness, income variability and time dummies. Panel data regression analysis (a fixed-effect panel data model) was applied to study the Determinants of Capital Structure. The author concluded that there exist significant differences in the determinants of the three leverage measures. All three forms of debt were significantly related to tangibility, profitability, size and income variability. Non-debt tax shield was only related to short term and long term debt. Uniqueness and growth are not related to any of the three debt measures. There also existed significant differences between short-term and long-term

debt ratios in all three cases. While tangibility was positively related to long-term debt and total debt, it was negatively related to short-term debt. Non-debt tax shield had positive effect on short-term debt ratio whereas it was negatively correlated with long-term debt ratio. Size was positively related to both total debt and short-term debt ratio and negatively correlated with long-term debt ratio. The author concluded that most of the Determinants of Capital Structure as suggested by Capital Structure theories appear to be relevant for Swedish firms.

Gonenc (2005)[46] conducted a comparative study of debt financing between International and Domestic firms of Turkey, Germany & UK. The firms that had foreign sales to total net sales ratio greater than or equal to 10% were classified as international firms and domestic firms were classified as the ones that have a foreign sales ratio less than 10%. The main objective of the study was to compare debt ratios of international and domestic firms and to identify whether the effects of determinants on debt financing on these two groups is different. The study period Covered was 1995-1999 for Germany and UK, and 1995-2001 for Turkey. The variables selected as determinants were volatility (risk), profitability, size, tangible fixed assets, growth opportunities, tax debt shield, existence of controlling shareholders and industry classification. The leverage measure was total debt to total asset ratio. Multiple regressions, chow tests were used for analysis. The major findings were that Turkish international firms use higher total debts than domestic firms but no support or such evidence was found in case of German and U.K firms. Controlling shareholders applied better monitoring mechanism and reduced agency cost in Turkey whereas created agency problems in Germany. The firm specific factors like risk, profitability and fixed assets have greater adverse effects on debt financing of international firms than domestic firms. Existence of growth opportunities increases the debt ratios of international firms. Turkish international firms increase their debt financing at a fixed rate. The results did not explain higher level of debt financing of Turkish international firms in comparison to that of domestic firms.

Jong *et.al* (2005)[47] conducted a comparative analysis of the impact of firm specific factors and country specific factors on the Capital Structure of firms across 42 countries around the world including India. The period covered was five years from 1997 to 2001. Two measures of leverage to test firm specific variables were- long term debt to book value and long term debt to market value of total assets. Firm

specific determinants of leverage were tax, tangibility, size, profit, risk, growth and liquidity. Country specific determinants of leverage were - Market/Bank based financial system, Creditor right protection, Shareholder right protection, Bond market development, Stock market development, Enforcement of law, Corruption, GDP growth, Trade openness, Capital formation, Interest rate, Inflation, Dividend imputation tax system and Dividend relief tax system.

With the help of Ordinary Least Square regressions, F test, Chow Test and Seemingly Unrelated Regression (SUR) estimation method, they concluded that the impact of firm specific factors like tangibility, firm size, risk, growth and profitability on cross-country Capital Structure is significant and consistent with conventional Capital Structure theories. Country specific factors do matter in determining and affecting the leverage choice around the world and they should be taken into account in the analysis of a country's Capital Structure.

Buferna *et.al* **(2005)**[48] provided evidence on Determinants of Capital Structure from Libya using a panel database of 55 companies (32 public companies & 23 private companies) over the study period of five years from 1995 to 1999. The sample includes both financially sound companies and companies in financial distress three measures of leverage - total debt, short term debt and long term debt, all scaled down by total assets were used in the study. To identify which of the Capital Structure theories is relevant in Libyan context, the impact of four explanatory variables - tangibility, size, profitability and growth opportunities on leverage was examined using cross sectional ordinary least square regression analysis. The results indicated that both static trade-off theory and agency cost theory were relevant theories to the Libyan companies' Capital Structure, but there was little evidence to support Information Asymmetry theory.

Akhtar (2005)[49] examined the significance of Capital Structure determinants of Australian multinational corporations (MC's) and domestic corporations (DC's) over the period of 1992 to 2001. 97 (DC's) and 122 (MC's) were selected as sample firms. The leverage measure was defined as the ratio of the book value of long term debt to book value of long term debt and market value of equity. The determinants selected for the purpose of the study were: agency costs of debt, bankruptcy costs, non-debt tax shields, profitability, size, collateral value of assets. They also studied the industry effect and examined the effect time variation on Capital Structure. Additional multinational

corporate Capital Structure determinants like diversification, foreign exchange risk and political risk were studied and their impact on Capital Structure of firms was assessed.

Using Tobit regression model for analysis, it was found out that growth, profitability & size are significant determinants of leverage for both types of corporations. For DC's collateral value of assets was significant. Bankruptcy costs and profitability were significant in explaining multinational leverage relative to domestic leverage. Greater levels of diversification lowered the leverage. Foreign exchange risk and political risk of corporations did not explain leverage. The industry effect was not consistent across domestic and multinational corporations but when industry effects were considered, the significance of the original determinants remained constant and some industries became significant. While studying the time variation effect, it was found that leverage and the Determinants of Capital Structure, both varied across domestic and multinationals over the sample period.

Seetanah *et.al* (2007)[50] investigated the Determinants of Capital Structure of 38 companies listed on the stock exchange of the Small Island Developing State of Mauritius over the period from 1994 to 2004. The effect of profitability, size, tangibility, growth opportunities, business risk, tax shield effects and liquidity on leverage was captured using panel regressions. Two measures of leverage were used in the study - Total Liabilities ratio defined as (Total liabilities / Total liabilities + book value of equity) and long term Debt ratio which was defined as (Total liabilities-current liabilities / Total liabilities - Current liabilities + book value of equity). The results indicated that major Determinants of Capital Structure in Mauritius are profitability, size, tangibility and liquidity. Profitability and liquidity were negatively related, and growth positively related with leverage supporting the Pecking Order Theory. Size was also positively related to leverage supporting the Trade-Off theory. The authors concluded that Capital Structure theories could partially explain the financial structure of firms operating in Mauritius. Despite the differences that exist between developed countries like U.S and developing state like Mauritius, the study shows that insights from modern finance theory are also applicable to Mauritius as certain firm specific factors were relevant in explaining the Capital Structure of firms in Mauritius. The investigations at disaggregate industry level revealed that there was not much difference in Determinants of Capital Structure across industries.

Dragota & Semenescu (2008)[51] analyzed the Capital Structure of Romanian listed companies for the period 1997-2005. The aim of the study was to find if the information asymmetry influenced the Romanian capital market through the Capital Structure and whether the signaling theory or the Pecking Order Theory is able to explain the Capital Structure policies of Romanian firms better. Three measures of leverage were used: equity/total assets (the total leverage), financial debt /total assets and commercial debt/total assets. The determinants selected for the purpose of study were tangible assets, size, profitability and growth opportunities. Using regression analysis, they found out that profitability and tangibility were negatively related with leverage, size positively correlated to the financial debt, but negatively related to commercial debt, growth opportunities as measured by market to book ratio was negatively related to all measures of leverage. The study concluded that the Romanian capital market faced the information asymmetry problem and that Romanian listed companies sustained their assets in order of first equity, then commercial debt and finally financial debt. The Romanian listed companies structured their financing policy more according to the Pecking Order Theory principles rather than the one based on the signaling one.

Hecht & Haye (2009)[52] wanted to empirically examine whether the Determinants of Capital Structure for firms located in mature capitalist economies are also relevant to those located in China and India and whether pooling or panel models are able to capture the variation in firm-level leverage across time and location. They obtained firm-level data for American, Asian (Chinese, Indian, Japanese), and European (French, English, German) companies from Thomson Financial Worldscope database for a period from 2000 to 2007. They tested the impact of risk, investment opportunities, asset tangibility, size, product uniqueness, non-debt tax shields and profitability on the leverage ratio as measured by total debt to total assets. Control variables were included to capture both country and sector effects. They found that results were generally consistent across pooling and panel models and the results indicated that firm leverage was positively related with asset tangibility and size, negatively related with product uniqueness, and not generally related with either firm-level profitability or non-tax debt shields. They concluded that static trade-off hypothesis provides the most robust explanation of Capital Structure for firms located across global geographic regions.

2.3.2 Indian Studies

Bhat (1980)[53] conducted an important study on determinants of Financial Leverage. For the purpose of the study, 63 firms from engineering industry were selected and the study covered a period of six years (1973-1978). The relationship between firms financial leverage as measured by total debt to net worth, at book value and it's determinants - size, business risk, growth rate, profitability, dividend payout, debt service capacity, degree of operating leverage was examined with the help of multiple regression analysis. The major findings of the study were: a) Firms financial leverage is not related to size; b) Risky firms are more likely to employ low percentage of debt in their financial structure; c) Firm's growth rate is not associated with firms leverage; d) There is negative relationship between dividend payout and leverage ratio; e) Earnings rate is linked to leverage in direct manner; f) Degree of Operating leverage does not influence leverage, g) Financial leverage and Interest to EBIT ratio is negatively related.

Mittal & Singla (1992)[54] conducted an empirical study to demonstrate that several institutional characteristics like size, asset composition, debt service capacity, business risk and growth rate may be important determinants of Debt-Equity mix. Top 11 companies from Cement industry and 14 companies from Automobile industry were selected for the purpose of study and data was collected for five years from 1986 to 1990. Multiple regression technique was used to test the impact of independent variables on the Debt-Equity ratio. In Cement Industry the important explanatory variables were Size, Asset Composition, Business Risk and Growth Rate while in the case of Automobile industry, only Business Risk was found significant.

Singla & Mittal (1993)[55] conducted a survey on the Determinants of Capital Structure by presenting views of different authors on the subject in India and abroad. It was observed that there is no unanimity among researchers on the Determinants of Capital Structure. It was found out that asset composition, business risk, growth rate, earning rate, industry class, debt service capacity and corporate size are the most important Determinants of Capital Structure.

Deb (1995)[56] empirically investigated the Determinants of Capital Structure of 197 large mature corporations of India - 143 Domestic and 53foreign controlled corporations over the study period of 1982 to 1990 using the method of multiple

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regression analysis. The main objectives of the study were to find whether agency costs are significant Determinants of Capital Structure choice, to find out the reasons for the Capital Structure of Indian companies being more leveraged than foreign controlled companies and the validity of Pecking Order Theory in India context. The impact of profitability, growth, variability and non debt tax shields on net debt to asset ratio was assessed and it was found out that, the funding pattern was broadly found to agree with the pecking order hypothesis. The agency-theoretic explanation was not justified and could not explain the use of debt by Indian companies.

Singla & Mittal(1997)[57] analyzed the influence of Industry class and Ownership pattern on Corporate Capital Structure in India by applying parametric one way analysis of variance (ANOVA) and non-parametric Kruskal-Wallis test. The sample consisted of 209 Giant companies' of private corporate sector in India divided into fourteen different industries and the study period was five years from 1986 to 1990. The study confirmed statistically significant influence of industry class on debt-equity ratio. Debt-equity ratio significantly differed among the industries and was influenced by Industry class. The investigation also confirmed the expected impact of ownership pattern on corporate Capital Structure. Different owners, subject to their mutually conflicting interests, influenced the debt-equity ratio of the company.

Kantawala (1997)[58] made an important study on the Determinants of Capital Structure of 483 non-government non-financial public limited companies, divided into 20 industry groups. The period of study was three years from 1991 to 1993. The factors selected as determinants were asset structure, profitability and size. Simple linear regression and multiple regression technique were used to study the effect of Determinants of Capital Structure on the debt-equity ratio. It was observed that asset structure had positive and significant impact on the debt-equity ratio confirming the prediction of Trade-Off Theory. It was also observed that profitability had significant negative relationship with the debt-equity ratio which supported the Pecking Order Theory.

Kakani (1999)[59] made an empirical examination of the existing theories on the Determinants of Capital Structure with respect to 100 large sample firms of Indian private corporate sector public ltd companies. The period of the study was 1985-1995 divided into (1985-1989) - pre liberalization and (1992-1995) - post liberalization period respectively. The main objectives of the study were - (a) To analyze the debt

structure; (b) To identify the factors affecting the corporate debt maturities and (c) To compare the Determinants of Capital Structure between pre and post liberalization periods. The observed determinants were collateral value of assets, capital intensity, non debt tax shields, growth, uniqueness, size, earnings volatility, net exports, regulation, corporate strategy and profitability. Three measures of financial leverage were used- long term and short term debt divided by book value of equity and total debt divided by total assets. Multiple regression technique was used and the results revealed that: a) Liberalization of Indian economy appeared to have affected the Determinants of Capital Structure and b) Profitability, Capital Intensity and Non Debt Tax Shields seemed to be important Determinants of Capital Structure of the firms.

Bhattacharyya & Banerjee(2001)[60] examined the explanatory powers of three broad categories of factors viz; Taxes, Contracting costs and Information costs in shaping corporate financial policy in Indian Scenario. The sample consisted of longitudinal data set of 147 companies representing eight different industries. Only manufacturing firms controlled by founding family members were chosen. The period of the study was eleven years from 1988-89 to 1998-99. The variables selected to represent the three broad factors were - Tax Factors: effective tax rate & non debt tax shields, Contracting Costs Factors: size, risk, growth and Information Costs factors: profit, non-fixed assets, accruals. Pooled Time Series Cross Sectional analysis (TSCS) was applied to examine the dynamic response of Capital Structure to the chosen explanatory variables and cross sectional regression was used to test the cross sectional effect on firm's debt policy. The study found that contracting costs and information cost factors affect corporate Capital Structure more than tax factors. Corporate tax had insignificant role to play in determining a firm's debt policy. It was found that firms with growth opportunities use less debt contrary to the suggestion of Pecking Order Theory. It was also observed that firms with liquid disposable assets use less debt confirming pecking order hypothesis. The study confirmed that the pecking order hypothesis and the optimum Capital Structure hypothesis are not mutually exclusive.

Manos & Green (2001)[61] examined the Capital Structure decisions with reference to business groups in India. His study was based on a sample of 1472 Indian firms, out of which, 912 were independent firms and 560 group affiliated. All data was sourced from CMIE Prowess. The study period was only one year, ending on March 2000. He observed that Group affiliation has strong effect on Capital Structure decisions, group

profitability has negative effect, size & growth do not matter for group affiliated firms but are critical for Independent firms. Liquidity has positive impact on Group affiliated firms, while intangibility and profitability, group debt and group size have negative effect. No significant differences were found between group & non-group affiliated firms in terms of impact of age and stock illiquidity on Capital Structure decisions.

Garg & Shekhar (2002)[62] analyzed the debt structure of ten top companies coming from four industries over a period ranging from 1988 to 1998. The main objective of the study was to underline the effect of Determinants of Capital Structure–asset composition collateral value of assets, debt service capacity, earning rate, life, business risk and corporate size on the debt-equity ratio by using multiple regression technique. The results indicated that asset composition, collateral value of assets, life and size were the most important factors in determining the Capital Structure. Business risk was not found significant in deciding the leverage of the firm.

Bhaduri (2002)[63] made an important study on Capital Structure choice of Indian corporate sector. For the purpose of study a sample of 363 firms representing nine broad industries were selected and the data was drawn from CMIE database. The period of study was six years from 1989-90 to 1994-95. Exploratory factor analysis was used to analyze the impact of firm specific attributes – asset structure, non-debt tax shields, size, financial distress, growth, profitability, age, signaling and uniqueness on the Capital Structure of firm. To analyze various measures of debt depending on their maturity structure, three measures of leverage measured in book values – total borrowings, long term borrowings and short term borrowings to total asset ratio were used. The study shows that optimum Capital Structure choice of Indian firms is strongly influenced by factors such as size, growth, cash flow, uniqueness and industry characteristics.

Rao & Lukose (2002)[64] provided empirical evidence on the Determinants of Capital Structure of listed non-financial Indian firms based on a comparative analysis dividing the study into pre-liberalization (1990-1992) and post-liberalization (1997-1999) period respectively. 498 firms in pre-liberalization and 1411 firms in post-liberalization period represented their sample of study. Two measures of leverage –book leverage and market leverage were used in the study. The explanatory variables used in the study were based on various Capital Structure theories namely the tax based theory, the signaling theory and the agency theory. Non debt tax shields, tangibility, profitability,

business risk, growth opportunities, growth and size were the explanatory variables used and to represent agency costs, dummy variables for big business group firms, foreign private firms, and other firms have been used was used to analyze the Determinants of Capital Structure, regression model was adopted and it was observed that profitability, tangibility, taxes and growth were significant factors. Size and business risks were significant factors during post liberalization period. Tax and signaling effect play important role in financing decisions, agency costs effect financing decisions of big business houses and foreign firms.

Bhole & Mahakud (2004)[65] analyzed the trends of Capital Structure of public limited and private limited companies in India during the period 1966-2000 and empirically examined the Determinants of Capital Structure of 330 public limited companies using a panel data model, dividing the study into three periods -1984 to 2000, 1984 to 1992 and 1992 to 2000 respectively. The determinants selected for the study were: cost of borrowing, cost of equity, size, profitability, growth rate, collateral value of assets, liquidity and non-debt tax shields. It was observed that there was significant increase in the corporate leverage with passage of time. Dependence on debt was more in case of public limited companies than private limited companies. Cost of borrowing, cost of equity, size, collateral value of assets, liquidity and non-debt tax shields were found to be significant factors affecting the Capital Structure decision of firms in India.

Gupta(2004)[66] examined the pattern of asset financing by Indian companies and the influence of factors such as tangibility, volatility, profitability, size, growth, non-debt tax shields and flexibility on the Capital Structure decision of a sample of 210 Public Ltd companies representing the seventeen industrial sectors in India. The period of the study was from 1992 to 2000. Two measures of leverage- long term debt to net worth and total liabilities to net worth were used for the purpose of analysis. Using multiple regression analysis, they found that determinants were industry specific, Indian firms prefer to finance fixed assets with debt sources compared to equity, proportion of debt financing goes down when total assets increase. Size was not found to be significant, volatility of earnings was directly related to leverage. Small firms rely more on debt than large firms as large firms have better access to equity sources. Profitability was negatively related, non debt tax shields and flexibility positively related to debt ratios. He suggested that financial managers in India must factor and carefully analyze sector specific attributes before attempting to achieve their optimal Capital Structure.

Das & Roy (2005)[67] analyzed the inter-industry variation in Capital Structure of Indian firms. The time period of the study was twenty years divided into pre-liberalization (1979-1990) and post liberalization (1992-1999) respectively. Their sample consisted of firms from twelve Indian manufacturing industries and they used an unbalanced panel of firms and hence the total number of firms varied with time. The technique used was cross sectional one way analysis of variance. They tried to analyze whether differences in Capital Structure of firms across industries arise due to difference in age of firms. They also investigated the size class effect and tried to find out whether the nature of industry plays any role in the variations of Capital Structures among industries. They concluded that both firm size and industry classification contribute to variation in Capital Structure, the differences in the fund requirement of groups based on the technology used is a potential source of existing variation.

Guha & Kar (2006)[68] conducted a firm level panel study for India on 450 listed Indian firms for a period of twelve years from 1992 to 2004. The factors selected as Determinants of Capital Structure were growth rate, age, share price, asset structure, size, industry classification and long term borrowing. Two measures of leverage - Sum of fixed deposits, commercial papers and debentures and Total debt to Total assets were used in the study. Using panel data regression analysis, the author concluded that both the measures of leverage depend on firm's long term borrowing and sales performances.

Majumdar (2009)[69] empirically examined the determinants of long term borrowing for group affiliated Indian firms using a sample of 115 firms belonging to the largest 50 business houses in India from the period 1999 to 2006. They wanted to find out whether the borrowing behavior of group affiliated firms with a group's internal market, deviate significantly from what is prescribed by economic theory. Panel data regression model was used to examine the effect of tangibility, profitability, size, growth opportunities, uniqueness, non-debt tax shield and age on long term borrowings of group affiliated firms in India. Their findings in context of firm size, growth, uniqueness and non-debt tax shield supported their belief that group affiliation may result in change in borrowing behavior of firms having access to internal capital markets. However, the findings for age, tangibility and profitability indicated that the relationship between these factors and borrowings as hypothesized by theory was not different from that of non-group affiliated firms.

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SECTION III

## 2.4 Survey of General Capital Structure Studies

2.4.1 Indian Studies

Batra (1981)[70] made an attempt to study the trends in debt-equity ratio of eleven industries for a period from 1970-1978 which was divided into two study periods: 1970-1974 and 1974-1978. It was found out that the overall debt-equity ratio for all industries taken together was well below 1:1 for both the time periods. The reasons for low debt-equity were-companies meeting their long term financing requirements through short term bank borrowings and then getting it rolled over for number of years, encouraging response for public issues, inclusion of convertibility clause in loan agreements and inordinate delay in disposal of loan applications by financial institutions. The author concluded that there was much scope for the companies to increase the volume of debt in their financial structure

Mukherjee (1983)[71] wanted to test whether the debt-equity norm of 2:1 realistic in Indian context and whether it varies in different industry groups. It was found out that debt-equity ratios varied widely among companies and industries and the ratio was low in relation to the standard laid down. He felt that an arbitrarily imposed common standard is neither feasible nor practicable and that the quantum of leverage should depend on company's profitability aspects and potential cash flows. He believed that there should be a risk-return Trade-Off in financing pattern of a corporate body.

Pandey I. M. (1985)[72] conducted an in-depth examination of the industrial pattern, trend and volatilities of leverage and impact of size, profitability and growth on leverage on 743companies from 18 industrial groups over an eight year period from 1973 to 1980. For studying industrial patterns, all companies were classified by industry, size, profitability and growth. It was observed that high level of debt was employed by Indian industries. The study concluded that the level of leverage was moving upwards and leverage decisions of firms seemed to be independent of their size, profitability, growth and industry variations.

Here we can observe contrasting results. Batra (1981)[70] & Mukherjee (1983)[71] had observed that the debt levels were low whereas Pandey I.M (1985)[72] observed that
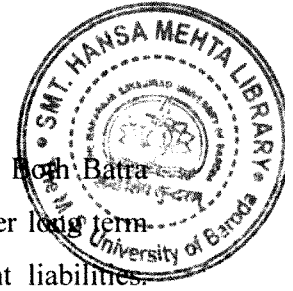
debt levels were high. The definition of debt explains the difference. Both Batra (1981)[70] & Mukherjee (1983)[71] had defined debt as debentures plus other long term borrowings and had excluded short term borrowings including current liabilities. Pandey I.M (1985)[72] had analyzed total liabilities to total assets ratio in detail. He had included short term borrowings and current liabilities in his definition of debt as he believed that all forms of debt including sundry creditors provide gearing with different speeds and also involve risk of nonpayment and consequently bankruptcy. He also stated that if various sources of debt are substitutes for each other, then it is proper to analyze total liabilities to total assets ratio as a leverage measure.

Jain (1990)[73] examined the debt practices followed by top 200 companies of Indian private corporate sector for the period from 1977 to 1986. His findings also validated the findings of Batra(1981)[70] as it was found out that the sample companies had a marked preference for current liabilities (including short term borrowings) to the long term borrowings as a means of financing their assets. The reason for not resorting to long term debt by Indian corporate sector was mainly due to severe restrictive covenants imposed by financial institutions while granting loans. He recommended the need of incorporating short term borrowings from bank in the definition of debt to make the concept of debt-equity ratio serve the intended purpose.

Mallik (1994)[74] through a case study of Dunlop India Ltd over a period of 1986 to 1990 tried to study the impact of leverage on return on equity and financial margin of safety. They inferred from the study that financial leverage and earnings per share were negatively related and the company seemed to have faulty financial policy as the rate of return on equity capital declined more than the rate of return on total assets.

Jain et.al (1995)[75] undertook a questionnaire based survey of 64 public limited companies listed on Bombay stock exchange to study their Capital Structure practices. They observed that firms showed a marked preference for debt to equity in designing their Capital Structure and the sample firms preferred raising funds from financial institutions than to approach capital market. The Capital Structure decisions of private corporate sector in India were by and large consistent with the theory of financial management.

Paul & Ghosh (1996)[76] tested the effect of change in Capital Structure on profitability. Their study related to a 15 year period from 1976 to 1990. The sample

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consisted of 10 large private sector companies. Their results did not substantiate the belief that there is a positive association between debt-equity ratio and profitability. They felt that apart from the debt-equity ratio, other factors like age, growth rate, past track records, risk perception have a greater say on profitability of a company.

Babu & Jain (1998)[77] undertook a survey among finance managers of 91 private sector companies to determine their preference for debt or equity and the reasons for their preferences. They found out that, corporate firms in India, while designing their Capital Structure showed almost equal preference for debt and equity although equity had a marginal preference over debt.

Babu & Jain (1999)[78] examined the debt practices followed by the private corporate enterprises in India using a sample of 527 listed firms during 1980 to 1994. The main objective of the study was to examine the composition of short term and long term debt – practices followed by the private corporate sector. The ratios- short term debt to total assets, long term debt to total assets, short term debt to long term debt, debt service and interest coverage ratios were used to indicate the direction of changes in composition of debt and to measure firms debt service capacity. The main finding of the study was that there was a shift in preference for long term debt to short term debt during the study period.

Misra & Sahu (2000)[79] attempted to study the most preferred level of debt-equity mix adopted by firms in Indian industry to maximize their value, for a period from 1992 to 1999. It was observed that Indian firms believed that lower levels of debt would help them to achieve the wealth maximization objective and hence kept their debt levels low.

Patra (2000)[80] with the help of a case study on Tata Iron and Steel Company Ltd tried to examine the impact of debt financing on weighted average cost of capital and earnings per share. Relevant data for a period of nine years from 1984 to 1992 was collected. Their results indicated that the relationship between debt-equity ratio and weighted average cost of capital and earnings per share did not follow any accepted norm.

Suprita (2002)[81] critically surveyed the literature on corporate financing policy, Capital Structure and firm ownership. The study was divided into two parts. The first part dealt with theoretical and conceptual issues and second part dealt with survey of empirical research and findings. The first part discussed about agency theory and

Capital Structure, about conflicts between equity holders and managers and conflicts between equity holders and debt holders. The theories of asymmetric information, the interactions of investment and Capital Structure, the pecking order hypothesis, signaling with proportion of debt, models based on marginal risk aversion and theories of the impact of taxation on Capital Structure were also discussed in detail.

The main conclusion derived was that only a limited number of studies had examined the financial behavior of firms within developing economies and capital markets. The applicability of theories formulated for firms in developed capital markets to those in developing countries was questioned. The need for empirical research on corporate Capital Structure in developing countries was felt.

Green et.al (2002)[82] studied the financial structures of Indian companies using a sample of 1022 companies - (793 quoted companies & 229 unquoted companies), covering a period of 11 years from 1989 to 1999. They found out that, unquoted companies were more dependent on equity and on internal funds than quoted companies. Business groups did not appear to have close financial relationships among one another however unquoted companies experienced significant rise in their intergroup assets which the authors thought might be associated with issues related to insider control.

Veni & Narayana (2002)[83] studied the leverage, Capital Structure and dividend policies and practices of Coromandel fertilizers Ltd. an Indo-American joint venture for period 1995 to 2001 and found out that the company had a stable debt-equity ratio, was maintaining an increasing trend in its dividend payment. The Capital Structure and dividend decisions influenced the market price of the share to some extent.

Inessa L & Maria S (2005)[84] investigated financing patterns of 5,781 Indian firms over the period 1994-2003.. The study explored the potential differences across firms by sector, age, ownership, export orientation and size and investigated differences in the mean and median financing ratios across firm types using univariate t-tests. They examined the trends of debt (total borrowings) to assets, total liabilities to assets, payables to assets and long term debt to assets. They also examined the interest coverage ratios. Regression analysis was also used to study the effect of determinants of debt ratios- asset tangibility, return on assets, growth opportunities, business risk, tax rate and age of firm. They observed that debt to asset ratios had been relatively stable, interest coverage ratio showed a 'U' shaped pattern falling during 1997-99 and

recovering afterwards. Young firms had lower debt ratios than older firms. Foreign firms had less debt than both private and government owned firms. Manufacturing firms had higher debt ratios than service firms. Small firms had significantly lower debt to asset ratios and lower growth rates of debt in comparison to large firms. The most robust finding was that debt levels increased with firm size. The findings provided evidence of stronger credit constraints for smaller firms.

2.4.2 Studies Abroad

Agrawal & Nagarajan (1990)[85] provided evidence on factors influencing the Capital Structure decision of 100 corporations listed on U.S stock exchanges, which were all equity firms. They compared their financial, managerial and ownership characteristics with a sample of levered firms. They found out that managers of all equity firms had significantly large stockholdings than managers of similar sized levered firms in their industry. They also found out that there was significantly greater family involvement in the corporate operations of all equity firms than in leveraged firms. The managerial ownership in all equity firms was positively related to the extent of family involvement and these firms were characterized by higher liquidity positions than levered firms.

Barclay & Smith (1995)[86] examined the determinants of corporate debt maturity. They examined three sets of hypothesis- contracting-cost hypothesis, signaling hypothesis and tax hypothesis which had been proposed to explain corporate debt maturity. To measure the maturity structure of a firm's debt, they examined the percentage of the firm's total debt that has a maturity of more than three years. The determinants of corporate debt maturity selected for the purpose of study were – investment opportunity set, regulation, firm size, firm quality and term structure. Their study offers support for contacting cost hypothesis. They find that firms with more growth options issue more short term debt. Regulated firms issue more long term debt. They also find that large firms issue high proportion of long term debt. They found little evidence to the hypothesis that firms use maturity structure of their debt to signal information to the market. They also did not find that taxes affect debt maturity.

Anderson (2002)[87] explored the relationships among the firm's financial structure, its choice of liquid asset holdings, and growth. The determinants of liquid asset holdings were empirically examined using panel data sets of Belgian and UK firms. The effect

of growth opportunities, cash flow, short term, medium term and long term debt, market value to book value on firm's liquid assets (the total liquid asset holding of the firm expressed as a fraction of total assets) was examined with the help of regression analysis. Strong and positive relationship between the presence of growth opportunities and corporate liquidity was found. Cash flow volatility was positively associated with liquid asset holding but there did not appear any robust relationship between cash flow and corporate liquidity. The study also found evidence of a positive relationship between leverage and liquid asset holding. They thus confirmed their theoretical model which predicted that precautionary motive for corporate liquidity means that higher leverage will tend to be associated with higher average levels of liquid assets.

Bahng (2002)[88] selected the Capital Structure of major OECD countries during the period of 1975 to 1994 to investigate whether international Capital Structures converged. The ten countries selected for the purpose of study were – Austria, Canada, Denmark, Finland, France, Germany, Italy, Japan, Norway and the U.S. They used four leverage measures - (total debt - stockholders equity) to stockholders equity, total debt to total assets, fixed debt to total assets and total debt to stockholders equity. They used the concept of Beta convergence and Sigma convergence for the purpose of the study. Depending on the samples and the definition of debt ratios, they found out that conflicting results were obtained for Beta and Sigma convergences. Irrespective of debt ratio definition, the Capital Structure of Japan had converged towards the global mean. They felt that acceptance of Beta and Sigma convergence hypothesis depended on the sample type and the definition of Capital Structure.

Mayer & Sussman (2003)[89] followed a different procedure to test Capital Structure theories. They used a filtering technique to identify firms that displayed investment spikes. The authors explained investment spikes as distinct sharp one-off increases in investment. The examined the financing of firms around and during spikes to find out whether there was a relation between financing pattern before, after and during the spike and the characteristics of a firm. The results showed that firms raised large amounts in response to investment spikes and these expenditures were not financed out of accumulated reserves. Debt was a dominant source of finance especially for large firms; small companies depended on new equity sources. They observed that around the time of investment spikes both Pecking Order and Trade-off Theories played an important role in

firms' financing decisions. They concluded that the Pecking Order provided a good description of short-run dynamics and the Trade-off Theory of longer run convergence.

Chkir & Cosset (2003)[90] examined the impact of foreign acquisitions on the Capital Structure of U.S. corporations. They wanted to investigate the relationship between debt ratios and the degree of international diversification. They used a sample of eighty-five foreign subsidiary acquisitions by U.S. corporations between 1990 and 1994. Univariate analysis was used to compare the leverage before and after the acquisition, and multivariate analysis was used to investigate determinants of the post-acquisition debt financing. They examined that long-term debt ratio of corporations that acquire foreign subsidiaries showed a drop in the ratio in the acquisition year compared to the preceding three years and then leverage increased from the first year until the third year following the acquisition. Multivariate analysis results suggested that apart from size and profitability, debt financing could also be explained by a geographical and industrial diversification effect and that exchange risk and political risk also affected the debt financing decision.

Johnson (2003)[91] wanted to test whether short term debt maturity attenuate the negative effect of growth opportunities on leverage. To analyze how debt maturity affects the relation between leverage and growth opportunities, they used two simultaneous equations that recognized that maturity is determined endogenously with leverage. They could find support for the prediction that using shorter term debt attenuates the negative effect of growth opportunities on leverage but it also at the same time increases liquidity risk which negatively affects leverage. The firms Trade-Off the cost of underinvestment problems against the cost of increased liquidity risk when choosing short term maturity. They also felt that their results could explain why a negative empirical relationship between leverage and growth opportunities is observed.

Faulkender & Petersen (2003)[92] examined how firms choose their Capital Structure. They believed that while estimating a firm's leverage, it is important to include not only the determinants of its desired leverage but also variables which measure the restrictions on a firm's ability to increase its leverage. They felt that firms may be rationed by lenders which may lead to some firms being under levered in comparison to unconstrained firms. They examined the leverage of firms as a function of capital

market access. It was found out that Capital Structure decisions of large firms were constrained by capital markets.

The firms had different leverage ratios based on whether they had access to public bond markets as measured by the firm having a debt rating. The firms that could raise debt from public markets had more debt.

2.5 Conclusion

- The Capital Structure theories discussed in Section I (subsection section 2.1 and 2.2) help to recognize the theoretical problems involved in comprehending the relationship of a firm's Capital Structure with various aspects like Agency Costs, Asymmetric Information, Signalling, Dividend Payout, Profitability, Growth of a firm, Tangibility of Assets, Liquidity, Age of a firm, Size of a firm, Investments of a firm, Free Cash Flows, Corporate Control, Maturing Long Term Debt, Market Power, Product or Input Market , Optimal leverage range (Target leverage ratio) and so on. The aim of any firm would be to achieve their Optimal Capital Structure, and they may strive to attain it, keeping all these issues in mind. The Trade-off Theory and the Pecking Order Theory emerge as the most widely debated and conflicting theories of Capital Structure. The debate still continues regarding which Capital Structure theory aptly describes the financing behaviour of firms.

- The review of literature of studies on Determinants of Capital Structure conducted in India and abroad done in Section 2.3 reveal that there are various factors influencing the Capital Structure decision of firm. The most widely studied Determinants of Capital Structure policy appeared to be Size, Profitability, Growth Rate, Collateral Value of Assets, Earnings Volatility, Non Debt Tax Shields, Industry Classification, Age, Dividend Payout and Liquidity. There are many other factors which also have been identified by previous researchers and have been discussed in detail in Chapter-3. The review of literature done in Section 2.4 on General Capital Structure studies conducted in India and abroad highlight the fact that Capital Structure decision has got many dimensions and many parameters which will have to be kept in mind by the firms while designing their Capital Structure

- It is observed that that many factors had been studied by previous researchers as Determinants of Capital Structure. Which of the factors most appropriately help in designing the Capital Structure is still a question. In this study, an attempt has been made to study almost all the major Determinants of Capital Structure. There can be several theoretical combinations of the Determinants of Capital Structure and which combination is best in Indian context and in particular for Foreign Direct Investment Companies will be the main research objective of this study.

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