

DYNAMICS OF CORPORATE CAPITAL STRUCTURE DECISIONS: A CRITICAL SURVEY OF THE LITERATURE

Paritosh Chandra Sinha* & Santanu Kumar Ghosh**

Abstract *The researchers' understandings on the relevance of corporate capital structure decisions have been shifted from the examination of the irrelevance argument to the relevance argument and its different facets. In the literature, the modern theories have overemphasized on the different "points of view" while their specific facets have their specific roles to play only. The researchers have deviated far away from one another and could not explain a lot. The quest for a unifying theoretical view whether possible or not has remained unaddressed as yet. In a dynamic time framework model, a firm's financing decision may have financing flexibility in shifting its decision frameworks from one "point of view" framework to the other. Corporate financing decisions should include a super-set of decision variables rather than the segregated sub-sets simply. This paper shares the opinion that this direction of research may justify the theoretical and empirical gaps as well in the literature of the Corporate Finance.*

Keyword: *Corporate Capital Structures, Unifying View, Dynamic Frameworks, Literature Review.*

INTRODUCTION

In the literature of Corporate Capital Structure Decisions, the query - "whether firms' financing choices are value relevant or not" - puts forward different "points of view" theories, which are the Static Trade-Off (STO) theory, the Pecking Order (PO) theory, the Dynamic Trade-Off (DTO) theory, and the Market Timing (MT) theory. These theories, in effect, address one or more point/s out of the real world of imperfections.

The STO theory includes the trade-off between debt's interests' tax deductions and the cost of bankruptcy and financial distress, and that between the benefits of agency control and related costs (Jensen & Meckling, 1976; Modigliani & Miller, hereinafter MM, 1963; and the others). These views exclude transaction costs, information asymmetry between the firms and investors, frequent small debt transactions and infrequent large equity transactions, and firms' mean reversions of leverage as well. The firms' imperfect knowledge on funds' future requirements sets in the debt-capacity theory (Donaldson, 1961). In the signaling theory of Ross (1977) the quality-aspect of investment (i.e. firms' type) related to capital structure changes has exposed firms with good/bad information to the investors. The concepts of debt capacity and costs of information asymmetry further forward the PO theory (Myers & Majluf,

1984; and Myers, 1984), where a firm either has no optimal capital structure to seek for or it is always at optimality. Which theory, the STO or the PO, does explain the most? The researches (Fama & French, 2002; 2005) however reveal contradictory views.

These theories draw partial views on the firms' financing choices (Graham & Harvey, 2001; and Welch, 2004). Contrary to the STO and the PO theory (Myers & Majluf, 1984), firms' financing choices are at optimal dynamic recapitalization policy (Fischer et al, 1989a; 1989b), where both the aspects in the STO and the PO theory result in dynamic swings. It addresses firm-specific dynamism where firm-specific factors result in dynamic swings in the observed leverage ranges over the time periods. But, the theory should also incorporate the firms' market-specific dynamism since new equity or debt issues may induce active revisions towards their market timing dynamisms (Welch, 2004; and Baker & Wugler, 2002). This view suggests that the firms issue equity (debt) at the over (under) valuation of their equities at the market places. This dynamic view is referred as the MT theory. But, whether firms' MT behavior is a persistent experience or not however is an empirical issue.

Therefore, the "points of view" of the leading capital structure theories have been neither succeeded in providing a "unifying" theory (or a view at least) on the corporate

*Corresponding author, Ph. D. Research Scholar, Department of Commerce, The University of Burdwan, West Bengal, India. He is also an Assistant Professor in Commerce, Rabindra Mahavidyalaya, Champadanga, Hooghly, West Bengal, India.

Email-id: paritoshchandrasinha@yahoo.com

**Professor, Department of Commerce, The University of Burdwan, West Bengal, India. Email-id: shantanu.kaizen@gmail.com

financing decisions nor these have been exclusively rejected by the researchers. Hence, an exploration of a unifying theory is an important research problem presently.

OBJECTIVE

The issue of exploration of a unifying dynamic capital structure theory that provides logical spaces for existing “points of view” theories has different facets of perspective changes. While reviewing the existing literature on corporate capital structure decisions the present paper seeks to identify the research gaps that might put forward a few propositions in developing the unifying dynamic theory or view/s.

LITERATURE REVIEW

The researchers have established that MM (1958) irrelevance proposition is much restrictive. Firms’ financing is full of frictions. Taxes on corporate and personal incomes, interests’ tax-deductibility, bankruptcy costs, transaction costs, asymmetric information distribution, market imperfections, differential access of capital, and imperfect separation among the stakeholders etc. make firms’ financing to be value relevant. In absence of bankruptcy costs, the corporate income-tax and interests’ tax-deductibility enhance firm-value (MM, 1963). The firms reach equilibrium at the all-debt level. MM (1963) have set aside the possible difference between thin-equity and thick-equity. Retaining the “other things unaltered” view of MM (1963), the subsequent researchers have devoted on the effects of bankruptcy costs and the other offsetting forces. The set-off version includes the Tax-Shield (TS) theory and the Agency Cost (AC) theory. The former theory addresses the tax-effects and explores the effects of costs of financial distress and bankruptcy. The AC theory explores possible separation between firms’ management and owners, and firms’ investment decisions and financing decisions as well.

The researchers have also examined the view with “other things remaining changing”. Besides the costs in debts’ uses, firms are constrained by debt capacity and they dare to cross the debt capacity that maximizes firm-value (Donaldson, 1961). Firms maintain debts at sub-optimal levels to utilize the ‘spare capacity’ at future needs. This spare debt capacity supplies a valuable input of information asymmetry in the PO theory (Myers, 1984; and Myers & Mujluf, 1984). The proponents have explored why firms maintain an unused debt capacity. The PO arguments sharply depart from those in the STO Theories.

Besides the studies on the nature and magnitude of financial distress costs, and testing of the PO vs. STO Theory in revealing the better one, they examine dynamic aspects with perspective changes. They look into the trade off relationships with dynamic time dimensions - the Dynamic

Trade-Off (DTO) Theory and the Market Timing (MT) Theory.

The DTO Theory seeks to explain firms’ anticipated uncertain future and the role of time in financing choices. The firms consider possible dimensions of corporate income taxes vis-à-vis bankruptcy costs, and agency control benefits vis-à-vis debt monitoring costs (Kane et al., 1984; and Brennan & Schwartz, 1984). The theory includes recapitalization costs in determining the optimal dynamic recapitalization policy (Fisher et al., 1989a, 1989b). The researchers here also explain firms’ financing at the presence of corporate and personal taxes, financial distress costs, and equity floatation costs. The theory leads towards path dependent solutions. The researchers also explore the firms’ exploitation of the markets at their capital issuing activities. The current stock prices may be miss-priced over time due to information gap between investors and firms. This may result in time-varying adverse selection (Lucas & McDonald, 1990; and Korajczyk et al, 1991, 1992). If managers believe stocks to be over (under) valued (Baker & Wurgler, 2002), then a presence of miss-priced stocks in the market along with the irrational investors may provoke firms to issue equity (debt). We discuss these issues in the following sub-headings separately.

The Static Trade-Off Theory

If firms offset interest tax-shield benefits with expected bankruptcy costs for debts, then both MM (1958) and MM (1963) are too extremes. In the STO Theory, the prefix “Static” suggests “point of view” aspect to maximize the marginal benefits of tax shields and to minimize the marginal costs of financial distress; or to maximize the net difference of the benefits over costs. The researchers are confined neither to the said “point of view” nor to the “other things remained unaltered”. They examine possible separation between management and owners. Ross (1973) and Jensen & Meckling (1976) introduce real frictions. They suggest that the managers, even though they are appointed by owners (principals), still have some objectives different from those of owners. The owners recognize this difference and utilize debt financing to curtail the discretionary power of the agent (management). Such efforts are directed to reduce the agency conflicts between the principals and agents. Since the effort is subject to agency costs, the owners seek to setoff the benefits of debt financing against agency control costs. This trade-off also forwards a static, “point of view”. We review these trade-off implications in the followings.

The Tax-Shield Theory

MM (1963) have stressed on the “*upbeat side of the “nothing matters” coin: showing what doesn’t matter can*

also show, by implication, what does” (Miller, 1988; p. 100). The irrelevance statement in MM (1958; p. 272) is wrong, and in any risk class, a firm’s value is “a function not only of expected after-tax returns, but of the tax rate and the degree of leverage” (MM, 1963; p. 434). How much firms should borrow? The upper debt limit is subject to restrictions imposed by lenders (MM, 1963). At arbitrage, such restrictions infer capital market imperfection. MM (1963) ingeniously summarizes that “.....over the long pull, all of the firms’ assets are really financed by a mixture of debt and equity capital though only one kind of capital may be raised in any particular year” (p. 441). They assume firms’ investment decisions as given and warn “to avoid falling into the famous “Liquigas” fallacy....” (MM (1963; p. 441).

Debt financing is relevant for firm-value along the non-tax dimensions of profits also (Miller & Modigliani, 1966). The twists in MM (1963) and Miller & Modigliani (1966) have generated comments and replies: some support arbitrage argument; others recognize debts’ tax-shields at firms’ income taxes (Heins & Sprenkle, 1969; Brewer & Michaelson, 1965; Crockett & Friend, 1967; Gordon, 1967; Robichek et al., 1967). At corporate and personal income taxes and interests’ tax-deductibility, optimal debt-equity ratio exists for an economy (Miller, 1977). These studies avoid transaction costs and bankruptcy costs.

Keeping apart MM (1958, 1963) and Miller & Modigliani (1966), the STO theory has advanced in two different paths. Hirshleifer (1966), Hamada (1969), Stiglitz (1969), Fama & Miller (1972), Rubinstein (1973), Miller (1977), Fama (1978) examine the MM theorem at alternative sets of assumptions and outline conditions for the irrelevance proposition. Durand (1959), Brewer & Michaelson (1965), Robichek & Myers (1965; 1966), Stiglitz (1972; 1974), Scott (1976) have examined optimal leverage at real world frictions.

Hirshleifer (1966) explores neither the impacts of personal and corporate taxes in a unifying setting nor that of bankruptcy, transaction or underwriting costs. The “open system” at presence of “external-drains” can be viewed with dynamic views. Hamada (1969) retains the investment-finance separation proposition but keeps silent on bankruptcy costs. He is indifferent about a unifying framework on firms’ long-run target debt ratio. Stiglitz (1969) does not explain how firms go bankrupt if collateral shares could be forfeited without losses. Since future states are not fully predictable (Warner, 1977a) firms deviates from the “me-first” rule of Fama & Miller (1972). At perfect capital market over time, the irrelevance proof is not subject to the said rule (Fama, 1978). Investors can substitute debt and equity, but how much? Miller’s (1977) optimality for the economy rather than firm is not rational in dynamic setting. Investors can invest in both instruments at the economy’s optimal ratio. This suggests for a unifying dynamic set-up even for an

irrelevance proof. In dynamic facets, the relevance issue on tax-shields is vast. This direction is now reviewed.

Durand (1959, 1963) examines the realism and adequacy behind MM (1958) analysis. Brewer & Michaelson (1965) examine MM (1963) introspections on investors’ risk-aversion attitude and firms’ risky debts’ issue. MM (1959) comment that if the cost of borrowing of firms fall short that of investors, then firm-value would increase with increases in leverage. Investors’ difficulties to access capital in the markets result in firms’ interior debt capacities. MM (1963, p. 441) have inferred the same. Baxter (1967), Bierman & Thomas (1972), Kraus & Litzenberger (1973), and Robichek & Myers (1966) have showed that a debt policy on tax-effect is relevant at bankruptcy and reorganization costs. At bankruptcy and financial distress costs, if investors agree about their expected earnings vis-à-vis risks, then MM invariance stand holds even for the “non-growth” firms (Robichek & Myers, 1966). Brigham & Gordon (1968) show that the equity cost of capital is a positive function of firms’ retention rate and leverage ratio. If “risk of ruin” is considered at high debt levels, a rising overall cost of capital is consistent with arbitrage operations (Baxter, 1967). Firms cannot issue debts all through even at tax-shields. Bankruptcy involves substantial costs and risks of ruin.

At no bankruptcy cost, investors’ arbitrage faces transaction cost (Baumol & Malkiel, 1967). The firm-values (costs of capital) increase (decrease) at leverage ranges. In a multi-period framework with personal and corporate income taxes at no bankruptcy cost, Lewis (1990) shows that financing includes capital structure and maturity structure choices. It offers state-dependent series of debt issue over firms’ life-span. Various debt-issue strategies here provide similar optimal state-contingent series of debts’ interest. In multi-period extension, Lewis (1990) differs with Miller (1977) but confirms DeAngelo & Masulis (1980).

The “no-bankruptcy cost” assumption and the situation are not necessary presumption in MM (1958) theorem (Kraus & Litzenberger, 1973). Firms’ bankruptcy state includes states for debts’ tax advantage and bankruptcy penalty: financing mix resolves the states in which firms become insolvent. If the individual investors use additional collaterals, which reduce default risk to lender, then investors’ cost of personal borrowing is lower than corporate borrowings’ since firms’ equity issues never require collaterals (Baron, 1974).

The investors are risk-averse. Firms also anticipate probable bankruptcy costs. If debt-holders are more pessimistic about firm-value than equity-holders, then a large increase in the debts reduces firm-value (Stiglitz, 1972). Such reduction is severe if equity investors have better prospect on firms’ performance than that of the lenders. Stiglitz (1973) further suggests that if corporate income tax-rate falls short of personal income tax-rate, then firms’ debt financing towards optimality is a “fortuitous” outcome of firms’ profit and

investment (Stiglitz 1973; p. 32). Stiglitz (1974) shows that bond-value remains uncertain if bankruptcy happens at any time till debts' maturity; and any financing choice that triggers bankruptcy would change bonds' prices. Thus, "...bankruptcy changes the opportunity set facing a given individual so that the value of the firm is changed" (Stiglitz, 1974; p. 862). Scott's (1976) multi-period framework with perfect capital markets but imperfect secondary markets for real assets shows that in avoiding technical bankruptcy and debts' repayment, firms find equity issue to be optimal than selling its assets since the later policy reduces firm-value.

Presence of bankruptcy cost (direct and indirect) proposes an optimal debt to equity ratio for firms where the benefits set-off the odds. Warner (1977a, 1977b) shows that at times of financial distress, the direct cost of bankruptcy is indeed small with mean of 5.3 percent to firm's market value and it ranges within 9.1 and 1.7 percents. The direct costs range within 3 and 5 percents of firm-value at times of distress (Weiss, 1990). Bradbury & Lloyd (1994) have estimated that direct costs have median value of 8% of firm-value and have inverse relation with firm-size. If corporate profits are taxed at higher rates, then to offset firms' tax-shield benefit bankruptcy costs would be higher than the estimates (Titman, 1984). Altman (1984) finds that estimates of indirect bankruptcy costs are within 11 to 17 percents of firm-value even three years prior to real bankruptcy situation. An estimate of ex-post total distress costs, in Andrade & Kaplan (1998), ranges between 10 and 23 percents of firm-value.

Despite the debates over exact limits of bankruptcy costs (direct or indirect), the researchers in corporate finance have established that if firms' future cash-flows depend on bankruptcy situations, then bankruptcy costs and tax-subsidy against debts' interest result in relevance of debt financing (Rajan & Zingles, 1995). This does not necessarily suggest that debts should not be used if there is bankruptcy cost but no tax-subsidy for interest. This issue forwards the researchers to examine whether there is any other trade-off relationship resulting from the benefits and costs of debt financing. This line of thought in the Static Trade-Off literature as addressed in the following sub-heading suggests for another parallel corollary of firms' optimal capital structure hypothesis.

The Agency Cost Theory

A firm is managed by agent (manager)/s on behalf of the principal/s, equity or bond-holders. They involve conflicting interests in maximizing their utilities. The researchers look into the agency conflicts and examine whether separations between *financing* and *investment*, and *ownership* and *control* are logically possible or not. They study the benefits of agency relationships and the costs for controlling conflicts.

Spence & Zeckhauser (1971) align the principal's interests with problems associated with agents' incentives structure.

Under uncertainty, both the agent and principal posse state dependent utility functions while out of feasible action-space, the agent chooses an optimal action conditional to their fee-schedule and maximizes his own expected utility (Ross, 1973). This state-dependent utility function forwards that agency conflicts are caused by separation between the managers' interests and the owners'. Firm-value maximization is thus subject to aligning of the stock-holders' objectives with the managers' controls. The control mechanism includes disciplinary action by the owners with effective compensation plan for executives. It infers hypothesis for "contracting" and "managerialism" (Jensen & Meckling, 1976; Miller & Scholes, 1980; Smith & Watts, 1982; and Jensen & Murphy, 1990).

In Jensen & Meckling (JM, 1976), the stakeholders include owner-manager, external equity and debts. The former tries to reduce opportunity losses due to scarcity of own-capital. Equity-holders try to limit possible deviations in the managers' actions from own interests. A divergence of interests generates agency cost. It includes wealth reduction at sub-optimal choices, and the monitoring and bonding costs in restricting managers' consumption of non-pecuniary benefits. Debts' incentive may be considered as an option: firms' future investment opportunities happen in sequence (Myers, 1975; 1977). Since at upper debt levels the benefits accrue to debts and not to equity, at interest tax-subsidy but no-bankruptcy cost, debt issues either reduce firm-value or induce possible upper limits. At the upper limits, the present value of tax-shields primarily out weights declines in firm-value for agency and bankruptcy costs, then they setoff each other, and finally firm-value declines.

Besides the agency conflicts between the managers and share-holders, there are also agency conflicts between equity and bond holders. Warner (1977a) shows that at bankruptcy firms substantially deviate from the "absolute priority" rule and the prices of securities reflect such deviations. Smith & Warner (1979) also show that debts' value reduces with (i) payment of equity-dividend at higher rate, (ii) delusion of debts' claims with issue of senior (priority) debts, (iii) substitution of stated low-risk project with high-risk project, and, and (iv) rejection of positive NPV projects. Bond-holders recognize the conflicts, estimate the effects on firms' policy decisions and include protective covenants in the debt-indentures. They modify debts' payoffs, monitor firms' activities and exert disciplinary forces on firms' endogenous policy decisions and thereby, control the stock-holders – bond-holders conflicts.

For an economic firm at its efficient form with markets for managers' employment, the managers' 'investor' role can be set aside from 'managerial' or 'entrepreneurial' role. The managers become separated from financing activity. In Fama (1980), a firm is viewed as "set of" contracts" where managers' "management" and "risk-bearing" are

two separate factors of production. An initial investment by management (risk-bearer) thus is essential to guarantee the other contracts while the risk bearing function is related to capital (equity or debt) and not to ownership. This separation between the functions as 'manager' and 'risk-bearer' does not necessarily imply that financing is separated from investments.

The firm is a "*nexus of contracts, written and unwritten, among owners of factors of production and customers*" which specify agents' rights and performance evaluation criteria and payoffs (Fama & Jensen, 1983). The agents agree on residual claimants' rights for net-cash flows at the costs of residual risk, which is the difference between stochastic inflows of resources and promised payments to agents in central contracts. The central contracts explain firms' survival, specify residual claims and allocate decision process among the agents. The decision process includes the *decision control* and *decision management* functions while the agency costs include costs for structuring, monitoring, and bonding contracts among the agents with conflicting interests and wealth-loss for partial enforcement of contracts. If the decision agent does not bear majority of residual-risk and wealth-loss, and if the *management* is not separated from *control*, then the agent's opportunistic actions may divert interests of the major residual claimants. Effective control procedures restrict decision agents' residual claims and control agency problems between decision-agents and other residual-claimants. Such restrictions reduce the firm-value.

The contract hypothesis suggests that possible separation between firms' financing and management is logical if inclusive contracts could be developed. A perfect market for managerial personnel is possible if firms' future outcomes at different states of operation and the effects on firms' cash-flows are certain and align the stakeholders' interests. Managers' incentive-benefits can also align stakeholders' interests. Miller & Scholes (1980) examine the effects of managerial incentive plans and tax consequences on the firms and the executives as well. They suggest that the executives' tax-advantage due to its deferral accrues if their tax-rates are less than that for the corporate. Smith & Watts (1982) also forward executive compensation plans to align managements' efforts in maximizing firm-value. The managerial actions and the firm's investment opportunities however are not perfectly observable by the shareholders since they (shareholders) very often do not know what actions the CEO can take or which of these actions will increase shareholder wealth (Jensen & Murphy, 1990).

The "contract perspective" and "pay to executive perspective" do not address all the agency problems. Neither the firms nor managers are expected to develop perfect contracts as well as compensation devices which could specify possible events exclusively. These may not include firm's control on dividend decisions, free cash-flows and maximization of

the aggregate purchasing power in the hands of managers. The payouts of cash to shareholders reduce the available resources under managers' control and create agency conflicts between the share-holders and managers (Rozeff, 1982; Easterbrook, 1984; and Donaldson, 1984). Any mechanism that scrutinizes managers' exercisable power on the free cash flows would perform as control device to the investors.

If the insider managers hold a lower fraction of the equity, then dividend payments may act as monitoring or bonding tool in reducing the agency costs. But, manager's promises on higher dividend payout rates may not be permanent. The monitoring of capital market "punishes" dividend cuts with large reductions in the stocks' prices. Jensen (1986) suggests that creation of debts in exchange of stocks can substitute for dividend payment. Such issue offers priority right to shareholders at bankruptcy and provides least resistance in retrenching dividend payout rates. The debt issue also controls agency costs of free cash-flows since the payments for debt's service serve as an effective monitoring force. Such debt issue has tax advantages for the interest payments. Debts' use as agency control device also creates usual agency costs, which also include the costs for bankruptcy. The firm-value is maximized at the optimality, where marginal costs of debts just offset its marginal benefits. However, a survey of the above issues can be found in Shleifer & Vishny (1986).

In the empirical literature, Murphy (1985) tests the proposition whether executives' pays align with corporate performances or not; and finds positive relation between corporate performance and executives' compensations. Agrawal & Mandelker (1987) find consistent support that executive security holdings reduce agency problem. Jensen & Murphy (1990) document very low pay-performance sensitivity for the executives' incentives due to changes in shareholders' wealth. John & John (1993) find that debt-monitoring acts as alternative device to managements' pay-performance package. Ang & Cox (1997) find firms' external and internal monitoring reduces agency costs related to insider trading. The conformity about the extents of agency costs is not yet resolved. Ericsson (1997) finds an estimate approximate to 5%. Leland (1998) finds modest estimate less than 1/5 of the debts' benefits. Hirshleifer & Thakor (1998) and Pagano & Roell (1998) also provide some links.

In the STO literature, therefore, the benefits from the debts include debts' interest tax-shield and agency control benefits while the both have particular costs to setoff. It is difficult for a firm to specify exactly the direct and indirect bankruptcy costs and agency costs as well, especially when firms' reorganization of capital structure happens in the best interest of the stakeholders. The separation between management and investors also creates an information asymmetry problem about firms' future investments and the true value of the assets-in-place. The STO Theory is not

an entirely satisfactory resolution on corporate financing decisions. A “near” unifying theory may include these issues and may analyze the impacts of firms’ time frame choice preference on the trade-off aspects.

The Pecking Order Theory

Apart from the STO views, there are other views in explaining firms’ financing behaviors. If there is uncertainty about the quality of financial products, then the firms’ borrowing and lending activity may be viewed as selling of some financial products, debt or equity, to the investors who do not completely know about them (Akerlof, 1970). There is information asymmetry between the buyers and sellers about the products’ quality against which they are expected to transact at certain price. This *ex-ante* problem to the both is termed as the *adverse selection* problem which suggests that both the parties undertake the adverse decision than that they would do at no information asymmetry. In *ex-ante* equilibrium the buyers stick to ‘lemons’, whose quality is not upto the perceived quality and they price them at discounts while the sellers find no market at premium for their ‘better’ products. Under the above setting of Akerlof (1970), Myers (1984) puts forward the Pecking Order (PO) theory in addressing the firms’ financing problems on choices of the debts over equity. There is an information asymmetry between the managers and investors about the new issue, debt or equity, and about the prospects of the firms’ new investments. Myers’ (1984) PO theory however is motivated by Akerlof (1970) and Myers & Majluf (1984). It discusses the firms’ financing decisions when the managers act in the interests of the existing shareholders, who are passive in the nature.

With assumptions of perfect primary capital market, no transaction cost, and efficient secondary capital markets at publicly available information, Myers & Majluf (1984) suggest that the managers have more information about the values of firms’ assets-in-place and new investment opportunities. The firms issue partial claims on the values all together. In this setting and also keeping the dividend decision apart, the firm-value reduces as they issue a ‘lemon’. Hence, in order to avoid the adverse selection problem the firms build up financial slack, which is the sum of internal equity and the default-risk free debts, and invest the same in the possible positive NPV projects. Firms would issue risky debt or equity if their financial slacks fall insufficient for the new projects. What is the choice - risky debt over equity or vice versa? In Myers & Majluf (1984), if the values of firms’ assets-in-place and those of the new investment projects are in joint probability distribution and if the firms cannot postpone their projects, then an issue of risky debts could alleviate the situation of passing up all positive NPV

projects. The firms are forced to issue equity if they have already ruled out any risky debt issue and if the investors are already informed about this. The theory suggests for use of financial slacks firstly, then risky debts, and lastly, new equity.

But, firms can not create as much financial slacks as their new projects require. Firms’ financial slacks discourage equity issue and restrain the investors to further equity issues. The information asymmetry about the value might have failed to explain firms’ behaviors at new equity issues. Perhaps, in order to avoid this theoretical vacuity, Myers & Majluf (1984) have introduced an alternative argument of information asymmetry about firms’ future risks where new projects’ prospective investors, who are risk-averse, always overestimate about firms’ quality of future risk and align towards those financial instruments where perceived risk exposures become lesser than that with the other instruments. The new investors are assumed to be better off with equity issues than any issue of risky debts. A firm may now be viewed as a set of information asymmetry about the future values and that of future risks. How do investors classify the quality of the financial lemons? Which sort of information asymmetry is playing the decisive role? Whether they would consider the future value or future risk or both? According to Myers & Majluf (1984), if firms assume that adverse selection problem is caused by information asymmetry about the project’s future value (risk), then they become biased about risky debt (equity) issue. Myers & Majluf (1984) conjecture that asymmetric information about firms’ value is much stronger than that about firms’ risk. This ‘pure’ PO theory emphasizes on Leland & Pyle (1977), Campbell (1979), Campbell & Kracaw (1980), Bhattacharya & Ritter (1983), Rendleman (1980), Giammarino & Neave (1982) but it departs Myers & Majluf (1984) far away from reviewing the STO Theory.

The PO theory in Myers & Majluf (1984) opens up a few alternative possibilities such as whether firms are either not targeting towards optimal debt-to-value ratio or they have no well-defined target debt-to-value ratio (Myers, 1984; p.576) or the debt ratios show the firms’ cumulative requirements for external issues (Myers, 1984; p.581). These propositions suggest that firms’ inherently follow either “target” behavior or “dynamic” behavior. Any “target” behavior uses static decision reference such as ‘target’ or ‘optimal’ debt-equity ratio, capital structure, leverage ratio, dividend pay-out ratio or debt intake capacity (“debt-capacity”) etc. In the “dynamic” behaviors, any “target” behavior may be absent even if firms have multiple financing targets. According to Myers (1984), firms’ “debt-capacity” is subject to issuance costs in external financing and investors’ security transaction while the firms seek to reduce or minimize transaction costs and/or issuance costs and the adverse selection problem as

well. The firms keep “debt-capacity” not to be “exhausted”. It is not disturbed till firms finance otherwise with the financial slack. The equity issues require higher issuance or transaction costs than that for debts while internal equity is free from these costs. The firms hence keep ‘debt-capacity’ within the “normal” limits since the lower is their exploitable ‘debt-capacity’ the greater is their transaction or issuance costs. They fund investments firstly with financial slacks, and then utilize debt-capacity to avoid any external issue and “do not want to run the risk of falling into the dilemma of either passing by positive-NPV projects or issuing stock at a price they think is too low” (Myers, 1984; pp. 589).

Internal equity or financial slack is not easily available. It is subject to firms’ ‘target’ dividend policy. Myers (1984) has assumed ‘sticky’ target dividend pay-out policy for firms. Once firms have utilized debt-capacity they mechanically create the same by means of costly excursion with new equity. Myers’ (1984) modified PO theory produces the same order as in its “pure” version. Myers (1984) includes elements mostly similar to the trade-off arguments. Besides transaction costs and/or issuance costs, the theory includes financial distress costs. The firms climb up the PO and face higher financial distress costs, and pass by positive NPV projects to avoid issue of new equity or other risky securities. They restrain from excessive risky debt issue, maintain unused-debt-capacity to avoid material costs of financial distress, and enjoy ‘financial slack’ as their “reserve borrowing power”.

Myers’s (1984) PO version is related to other studies even if the tag “pecking order” is absent. Donaldson (1961, 1962), Jaffe (1971), Turnbull (1979), Long & Malitz (1983), and Williamson (1981) stress on the definition and a few direct effects of ‘debt-capacity’. In the spirit of Jaffe’s definition of debt-capacity, Turnbull (1979) shows that because of bankruptcy costs with increase in firms’ debt-intake, firms’ value maximization happens well before the debts’ value maximization at debt-capacity point. Long & Malitz (1983) and Williamson (1981) show that firms’ internal equity, which is built by retained earnings, reduces actual utilization of debts, and creates unutilized debt capacity – a source of fund. Another way of creating debt-capacity is repurchase of existing shares by firms. Masulis (1980, 1983), Eckbo (1986), and Asquith & Mullins (1983, 1985) offer some indirect instances of firms’ exchange offer effects between intra-capital components and/or reorganization of capital structure. The modified PO theory thus turns up as a natural competitor to the STO theory. Besides retaining the reserve debt-capacity to reduce transaction cost, issuance cost, asymmetric information cost and bankruptcy cost, the former theory proposes for signaling equilibrium on dividend decision, investment decision, and exchange offer in merger and acquisition. These decisions involve departure from the semi-strong level of market efficiency and the

Fisherian optimal investment criterion¹ (Miller & Rock, 1985; p. 1032).

At asymmetric information advantage with managers, Krasker (1986) examines the impacts of new shares’ “issue-size” on stocks’ prices where “investors.....interpret stock issues unfavorably, and indeed,interpret larger issue more unfavorably than smaller ones” (p. 103). Bruner (1988) examines the PO theory in explaining merger motives of ‘slack-rich’ (the excess cash and unused debt-capacity) firms with target ‘slack-poor’ firms. He shows that the merged firms utilize the bidder’s financial slack to exploit the prospective investment of the target which would else have passed by.

The said extensions of information asymmetry along with trade-off elements and the resulting under-investment problems are also evident in Brennan & Kraus (1987), Narayanan (1988), Constantinides & Grundy (1989), and Heinkel & Zechner (1990). The PO theory here characterizes dynamic properties. It assumes an intake debt capacity, which is determined by firms’ capacity to generate and retain cash-flows. They place conditions where the pure and modified versions become strange if firms can finance other than the PO order. In Brennan & Kraus (1987), firms prefer financing choices which maximize the difference between the proceeds from new issue at information asymmetry and that at full information. Narayanan (1988) shows the order of Myers & Majluf (1984) in a pooling equilibrium with two separate pools - in the upper and lower ends - divided by the line where all firms’ perceived value at least equals the perceived value of firms with debt issue. Constantinides & Grundy (1989) show signaling role of firms’ issue claims (viz. straight debts, convertible bonds or equity and stock repurchase) at positive NPV project which is optimal at no information asymmetry. Heinkel & Zechner (1990) include investment opportunity and asymmetric information, and analyze optimal mixes of debts, the common equity, and preferred equity.

The above blocks extend explanatory versions - mitigating information asymmetry, creating financial slack or debt capacity reserves, maintaining sticky dividends, confronting the underinvestment, and finally a few dynamic properties. An issue of equity or risky debt in the PO frame is complex. Which one is more justified? It depends on information asymmetry. Is it about firms’ value or risk? If both are equally feasible, then which one is more rational? The PO theory is confusing if there are multiple equilibriums (Cadsby et al, 1990; John & Williams, 1985; Williams, 1988; Noe, 1988; and Goswami et al, 1995).

¹ The Fisherian criterion for firms’ optimal investment suggests for invest in the real assets until the marginal internal rate of return equals the appropriately risk-adjusted rate of return on securities.

The empirical literature mostly views the PO theory as natural competitor of the STO theory. Amongst the studies, Ang & Jung (1993) and Viswanath (1993) find little evidence to support the PO theory. The firms are sensitive to default risks and taxes, and are willing to exploit the advantage of information asymmetry rather avoiding the same. The firms which are financing through external issues are unrelated with those which are really facing deficits and do not follow the PO theory in offering new issues (Helwege & Liang, 1996). However, Adedjei (1998), Shyam-Sunder & Myers (1999), and Watson & Wilson (2002) find empirical supports in favor of the PO theory.

But, which theory explains more of firms' financing? Chirinko & Singha (2000) find methodological deficit in Shyam-Sunder & Myers (1999). Fama & French (2002, 2005), and Frank & Goyal (2003) find that neither the PO nor the STO theory provides a complete story on firms' financing. Bontempi (2002), Lemmon & Zender (2004), Gomes & Phillips (2005), and Halov & Heider (2005) offer reconciliations between the theories. Eckbo & Norli (2004), Sanchez-Vidal & Martin-Ugedo (2005), and Paul et al (2007) provide some extensions for seasoned equity offerings, small and medium sized firms, and the start-ups.

The PO theory finds mixed evidences while the arguments against the theory are more robust than those in favor. The theory which is set far-away from the STO theory in Myers & Majluf (1984) is unexplained by Myers (1984) as a distant one, and finally incorporates the trade-off elements on the choice of debts over equity. In Miller & Rock (1985), the perfect market assumption in both studies is found insufficient. Even if the PO theory has received specific theoretical extensions in Krasker (1986), Bruner (1988), Brennan & Kraus (1987), Narayanan (1988), Constantinides & Grundy (1989), and Heinkel & Zechner (1990), the trade-off effects of debts financing have not lost own merits. The empirical studies confirms this theoretical dependence of the PO theory on the STO theory, and Fama & French (2002, 2005), and Frank & Goyal (2003) are the most explicit works in this regard.

The said dependence of the PO theory on the STO theory infers that the researchers may either revert to the STO versions viz. the tax-shield theory and the agency cost theory or explore underlying dynamics in the "pure" version of the PO theory or may examine possible multiple equilibriums. The PO theory in its 'modified' or 'pure' version never set theoretical propositions on financing choices as leverage independent. The theory is quite successful to put importance on the information asymmetry. A theory along with the dynamics of the PO theory and the trade-off aspects (viz. time varying tax-shields, transaction costs, bankruptcy costs etc.) may be possible route of research to overcome the shortcomings of the PO theory. The time frame along

with the trade-off elements may contribute to firms' dynamic targets of the debt capacity or the dividend payouts etc.

The Dynamic Trade-Off Theory

In the PO theory, the researchers receive twist with the transaction cost even if it is inadequate. Transaction cost is a trade-off element for adjustments. In the DTO theory, since firms' adjustment costs change over time the firms revise their capital structure around the decision frames. Their choice references consider the STO elements (tax-shield benefits and bankruptcy costs; agency costs and control benefits) and the DTO aspects (transaction or recapitalization costs) as well. The proponents approach towards a 'near' unifying theory rather the conflicts of the STO and PO theory.

Fischer et al (1989a), perhaps the pioneer contributor, view the firms' capital structure choice in a continuous-time framework. In sharp departure from the STO theory, they have put forward an optimal dynamic capital structure policy which depends upon debts' benefits, potential costs, underlying assets' variability, interest rates of risk-free debts, and size of recapitalization costs. The firms here drift around recapitalization costs and produce different optimal capital structures over time. Firms "within a set of boundaries" are with alternative optimal leverage ratios which are equally affordable at any reference point and are subject to recapitalization cost if they revise at or beyond the upper and lower limits. Firms with similar recapitalization merits may show inter-temporal behaviors since they may deviate differently at rebalancing of capital structures.

Fischer et al (1989a) follow the STO literature in spirit. The investment decision is kept isolated from financing choices. The value of a levered firm, at any point in time, is determined by the value of un-levered assets and leverage ratio. The debts' interest payments are tax-deductible while the returns to equity investors are backed by un-levered assets and tax-shields values. In equilibrium, firms' optimal financing policy provides a risk adjusted rate of return to the investors where an un-levered firm is lying behind a levered firm. Their sufficient condition of no-arbitrage of firms' values suggests for transaction cost of leverage and the same holds if there is risk-adjusted drift in assets' values of an un-levered firm. An expected drift is possible since leverage is beneficial to firm-value. The firms follow optimal dynamic recapitalization, which depends upon the time-varying recapitalization costs and benefits from leverage while the levered firms maximize the risk-adjusted rate of return. Besides the theoretical soundness, the empirical observations in Fischer et al (1989a) are also unique. Here, firm-specific characteristics (viz., size of firm's value, its riskiness, corporate tax-rate, and bankruptcy cost) provide ranges for optimal leverage ratios while for smaller, riskier,

low-tax, and lower-bankruptcy values of the parameters contribute with wider swings in the observed debt-ratios over time.

The model of Fischer et al (1989a) has a few shortcomings. If the firms are free to incorporate inter-temporal leverage behavior within the upper and lower leverage boundaries, then what should be the motive to stay beyond such behavior in dynamic recapitalization at the extreme boundaries? Why firms follow infrequent large changes in their leverage ratios? One possible answer to the latter query may be the presence of large adjustment costs (also the transaction cost) and presence of arbitrage benefit in the market. The former remains an open query, and an expected answer may be that the firms exhibit dynamic behaviors with regard to the components of their capital structure.

The earliest dynamic model, perhaps, is Merton (1974) even if he backs MM (1958). Merton shows that the bankruptcy costs can produce dynamic recapitalization at the extreme debt boundaries since the term premium of debts' interest rates is an increasing function of operating risk and debt-to-value ratio. The dynamic framework could find some relevance of debt financing if it includes corporate taxes, transaction costs, and information asymmetry. On valuation of firms' liabilities, Black & Scholes (1973)'s option theoretic model show that the options' price depends on the underlying stock prices, the time-frame of debts' maturity, and the variables are taken as fixed. They depart from the relevancy issue. One theoretical gap in their derivation is that at the expiration date, they bypass firm's effective ownership in the hands of debts given that its stock-holders exercise the option to buy back the assets if the firm defaults. Such asset-transfer may be prohibited by restrictive debt-covenants. The prices of the option and the debts are directly related to the time frame with which underlying stock-prices swing and debts include covenants while with increase in bankruptcy-costs, option's prices decline as its exercise date approaches to debts' maturity.

In the spirit of both Merton (1974) and Black & Scholes (1973), Black & Cox (1976) examine the effects of safety provisions in debt-covenants, subordination arrangements, and restriction on interest and dividend payment. Time-dependent safety-provision on bankruptcy or reorganization may allow the equity continuous dividends. They show that stocks' risk and expected return first increase, then decline, and finally increase as firm-value approaches bankruptcy boundary. Firm-value maximization in a dynamic setting over time is an inclusive vector that incorporates taxes, bankruptcy costs, debt covenants, and transaction costs.

Firm's transaction cost is related to its recapitalizations. It prevents from continuous readjustments of leverage. Fischer et al (1989b) explains firms' far-distant leverage behavior at upper and lower debt boundaries. Transaction costs induce

interior optimal initial leverage ratio, where firms issue risky bond. If firm-value increases due to debts' tax-benefits vis-à-vis bankruptcy costs trade-offs, and if debts are less risky currently, then it appears advantageous to equity-holders to recapitalize debts before the maturity periods. This advantage of leverage depends upon recapitalization policy while actual recapitalization involves assets-substitution problem (transfer of fixed assets from the bond-holders to the equity-holders) while debts' covenant provisions for issue discounts and call premiums may overcome it.

In Kane et al (1984, 1985), leverage dynamics is subject to debt-maturity structures. At corporate and personal income taxes and bankruptcy costs, Kane et al (1984) argue that an all-equity capital structure is sub-optimal at positive tax-benefits of debts. All-equity firm's marginal bankruptcy cost is always zero while it has opportunity cost for positive net tax-advantage. Kane et al (1984) have induced the flow measure of advantage to leverage (return premium earned by levered firm) in contrast to static stock measure (price premium payable for levered firm). With tax rates over time, Kane et al (1984) set forth a dynamic model even if coupon rate has no role. Kane et al (1985) have shown that the market dynamics result in single equilibrium debt-ratio over time neither for an economy nor firms. In the multi-period framework, the firms periodically revise debts optimally. In equilibrium, an optimally levered firm always earns return premium which a sub-optimally levered firm lacks.

On the static optimal financial policy and firm-valuation, Brennan & Schwartz (1984) show that firms' present optimum capital choices in the absence of corporate tax depends on current profitability and capital structure while at its presence, firm-value and growth rate appear bellow to the no-tax situation. They confirm that firms fix both investment policy and financing policy from all feasible policies determined by the investment opportunities, capital market equilibrium and provisions in debt-indenture. Debt-indentures provide boundary conditions for debts' and equities' claims. In contrast to Fischer et al (1989a, b), DeAngelo & Masulis (1980) show that unique interior optimum leverage ratio does not require bankruptcy cost, agency cost or leverage related costs since firms' non-debt tax shields (depreciation deduction and investment tax-credits) are sufficient to disprove leverage irrelevance theorem. At presence of leverage related cost/s, each firm will have a unique interior optimal capital structure regardless of whether non-debt tax-shields are available or not.

Researchers explore firms' time varying debts' choices. Kane et al (1984, 1985) and Brennan & Schwartz (1984) exclude security transaction costs. Wiggins (1990) contradicts to Kane et al (1985). Fischer et al (1989a, b) advance further. Lewellen & Mauer (1988) discuss the investors' tax-timing option and the term-structure of interest rate. Leland & Toft (1996) explore the interactions between debts' maturities

and debts' amounts on optimal financing choices. Firms' financing decisions with debts' tax benefits might have some influences on investment choices (Myers, 1974). The leverage determinants those are subject to investment decisions effect financing choices (Bradley et al, 1984; Titman & Wessels, 1988; Harris & Raviv, 1991). Dhrymes & Kurz (1967), Higgins (1972), Mc-Donanld et al (1975), Fama (1974), McCabe (1979), and Chiarella et al (1992) explore investment-financing interrelations. A unifying dynamic model and the roles of capital market are yet pending.

In contrast to the earlier models, Mauer & Triantis (1994) find that firms' production flexibility influence their optimal dynamic recapitalization policy. Here, operating adjustment cost has negative effect on leverage ratio while the ranges of leverage ratios over which firms allow dynamic revisions without recapitalization decrease. The capital structure choice may include transaction costs and recapitalization costs along with many other issues. Security transaction costs may discourage debt reductions except at financial distress or bankruptcy (Gilson, 1997). In recapitalization, equity-holders' forceful negotiation with bondholders may reduce debts' claims and may reduce the incentive of the former to repurchase outstanding debts (Anderson & Sundaresan, 1996; Mella-Barral & Perraudin, 1997). A unifying version of the theory may incorporate the above issues on capital structure dynamics.

The first unifying model perhaps appears in Goldstien et al (2001). On the tax-shield benefits of debts' interests, they consider firms' optimal capital structure strategy as option to increase or decrease debt levels in future. Ju et al (2002, 2005) consider dynamic contingent claim valuation model, where the major forces dictating firms' dynamic financing choices are corporate tax, bankruptcy cost, transaction cost, and debts' maturity. In these studies, firms' dynamic optimal capital structure policy has an option either to revise the outstanding capital structure towards the optimal choices or deviate from the same over time. Such deviations are subject to adjustment cost. The other contributors are DeMiguel & Pindado (2001), Heshmati (2001), Haas & Peeters (2006) and Banerjee et al (1999, 2004). The unifying models explain firms' target behavior in financing choices and dynamic revisions over time.

Apart from empirical possibilities, the casual effect of the determining forces in firms' dynamic capital structure choices is also critical. A 'near' unifying DTO theory may argue that firms would approach to the classical STO relationship if the adjustment speed is very high while very slow adjustment speed results in random revisions to leverage ratios where such revision is time-varying (Chambers, 1996). A very fast adjustment speed may also infer time-varying stochastic revisions if at any leverage level, leverage ratio are always at optimal. The soundness of the DTO theory lies with its

persistence in dynamic behaviors which is still a research gap. Adjustment cost may address the issue in dynamic capital structure choices. Despite firms are following time-varying dynamic recapitalization policy, a 'time' reference in adjustment speed in dynamic recapitalization has no connotation of its own if the 'state' reference is relaxed. When and how firms should revise their capital structure?

The Market Timing Theory

Apart from the said extensions, the researches on valuation of the securities explore the effects of time-varying adverse selection and market dynamics. The former involves time-varying adjustment costs, which depend on information asymmetry between the managers and investors, and firms' release of information. The latter suggests for investors' perceptions about the prices of stocks or bonds and the effects of the macroeconomic variables. The approaches here suggest that firms issue equity (debt) if stock prices are over (under)-valued in the market places. Such timing behavior is persistent (Baker & Wugler, 2002). The adverse selection varies across firms (Lucas & McDonald, 1990; and Korajczyk et al, 1992) or across time (Korajczyk et al, 1991). Variations in firms' adverse selection suggest for market driven active rebalancing of capital structure by managers, who on behalf of the existing shareholders, are considering new investment project. Here, even at semi-strong form of market efficiency, there is presence of information asymmetry between the managers and prospective investors. With superior investment projects managers always try to time the overvalued equity market while they wait with their good projects. It refers an equity issue when issue announcement results in least information asymmetry for a particular firm or over a particular period. It neither considers possible debt issues nor explains why the stock prices do increase following the issue announcements.

Firms' information release in reducing adverse selection costs is also decisive. Marsh (1982) and Taggart (1977) show that firms prefer to issue equity (debt) when stocks' prices are relatively high and the issuance cost is relatively low. Seasoned equity offerings coincide with high equity valuations (Asquith & Mullins, 1986; Loughran & Ritter, 1995; and Jung et al, 1996) while equity repurchases coincide with low equity valuations (Loughran et al, 1994; Loughran & Ritter, 1995). Pagano et al (1998) confirm that firms successfully time the Initial Public Offerings (IPOs) when the IPOs are highly valued with the investors whose expected long-run returns are low. The time-varying adverse selection effect may also explain firms' seasoned equity offerings. In equilibrium, firms issue debt (equity) if the value of equity with current projects is more (less) than that at an otherwise debt issue (Choe et al., 1993). This time-varying adverse selection or information asymmetry

differ from those in Myers (1984) and Myers & Majluf (1984), where the debt issue is less costly, equity issue is a pessimistic financing strategy and good quality firms never forego positive NPV projects.

The managers may perceive the investors as irrational while outstanding securities are currently mis-priced or perceived so. Firms try to position new issues if the equity market is mis-priced. The managers here believe the new issue's cost of capital is 'irrationally' low (high) if it is over (under)-priced and they try to exploit the too-extreme growth expectations of the naïve investors in the market (LaPorta, 1996; and LaPorta et al, 1997). Firms may also issue new equity during a "window of opportunity", and may try to time both idiosyncratic return and market return (Loughran & Ritter, 1995). Nelson (1999) and Baker & Wurgler (2000) confirm that issuing firms tend to prefer (avoid) equity issue before the periods of low (high) returns. The CFOs are reluctant to issue equity if they feel that stocks are undervalued and they rather issue the convertible debts (Graham & Harvey, 2001). Whatsoever is the right intuition, firms try to time an inefficient / segmented capital market and the capital structures evolve as cumulative outcome of past attempts to time the equity market (Baker & Wugler, 2002; p. 3). Firms also try to time the debt market where they borrow at long (short)-maturity to align long (short)-term debts' returns at predictable low levels (Baker et al, 2003).

Firms' persistency in market timing is radical. The theory considers the market's mis-pricing rather than the issuance cost or underwriter's fee that may influence firms' temporal issue decisions (Altinkilic & Hansen, 2000). Capital structure varies closely with variations in stocks' prices and the price-effects are large in explaining debt-equity ratios, and such effects last for several years (Welch, 2004). Firms fund largely with external equity (debt) when the cost of equity capital is low (high) (Huang & Ritter, 2005). Firms accumulate cash reserves prior to the overvaluations of stocks as well as low stock returns (Greenwood, 2004). Shleifer & Vishny (2003) explore the effects of stock-market mis-valuation in firms' mergers and acquisitions where the merging firms may generate synergic values from the combination. Are firms' merger motives along with equity issue under the market timing theory is equally justifiable in the neoclassical view of market efficiency? Lamont & Stein (2006) confirm that both the equity issue and mergers are more sensitive to aggregate stock returns and are driven by the market-timing initiatives rather than the fundamental firm-specific factors.

The empirical studies on persistency in the market timing (MT) behavior are puzzling. Butler et al (2003) and Schultz (2003) show that possible aggregate pseudo (spurious *ex-post*) MT effects can be explained by efficient market explanation where underperformance is in-event time-phenomenon rather than in-calendar one. Alti (2006),

Helwege & Liang (2004), Kayhan & Titman (2007), and Leary & Roberts (2005a, 2010) find some conflicting results about firms' persistency in MT. These critics argue that the equity "*mis-pricing*" resulting in an over (under)-valuation may actually represent the firms' future higher (lower) growth opportunities and the investors' perceptions about the same accordingly. This undermines the basic claim in MT effects. The earnings-based fundamental valuation technique in Elliott et al (2007, 2008) examines the impacts of market timing on firms' deficit financing.

In examining the generality of the MT theory, Högfeldt & Oborenko (2005) examine how firms' differential cost between internal and external equity affect financing. They argue that firms may follow *proactive* MT or *reactive* PO behavior. Firms here follow enhanced (modified) PO choice where they issue external equity only when they have finished their internal equity and debt capacity. Bruinshoofd & Haan (2007) also argue for enhanced PO hypothesis. Apart from different facets in the STO, PO, and DTO theories, the MT theory is facing different challenges in explaining financing choices. If the MT behavior has some persistent effect, then it should be explained with some distinct theoretical reasons. It should also explain firms' time-varying investment, dividend decisions, debt-conversions, and share repurchases etc. A unifying theory along with these implications is still pending.

THE RESEARCH GAPS

The review suggests that the modern theories provide an inadequate explanation of the states of firms' financing. It provides insufficient justification on uses of external and internal capital, time-frame of financing and investment decisions, possible interrelation between financing and investment decisions, and possible substitution between different sources of financing of firms and investors. The studies provide conflicting arguments on the asymmetric information aspects, firms' financing and investments, firms' dynamic swings in their dynamic recapitalization, and the MT aspects etc.

The empirical studies in the developing countries' (specifically in India) context are indecisive (Singh & Hamid, 1992; Raja-Kumar, 1996; Cobham & Subramaniam, 1998; and Singh, 1995). The shift of financial system from the bank-based financing system to the market-based one would influence firms' reliance on internal equity (Atkin & Glen, 1992) while firms *use significantly less long-term debt than those firms in the developed countries* (Caprio & Demirgü-Kunt, 1998). The evidences in supporting the empirical validity of the theories are mixed and conflicting (Khatik & Singh, 2006; Prasad & Murinde, 2001; Shirai, 2004; and Saravanan, 2006). Mahakud (2006) shows that the Indian firms over the periods of 2001 to 2005 do not

follow the PO theory. The STO and the PO theory provide only a partial explanation to firms' capital structure choices (Seetanah et al, 2007). Maji & Ghosh (2007) comment that neither of two theories fully explains the capital structure choices of the Indian firms. A little empirical study is done on the DTO and the MT theory.

A few studies attempt to formulate a unifying dynamic view. Mayer & Susman (2004) suggest that firms predominantly follow the PO theory in short-run and the STO theory in the long-run. The roles of firms' investment and the issues in the DTO theory and the MT theory are lacking. A unifying dynamic theory or view with logical space for the modern theories is also pending. The unifying dynamic view may incorporate the research gaps and may address firms' target capital structure dynamics and adjustment speed, the expected intervening forces in adjustment speed, investment-finance interrelationships, and the innovation forces, if any. An examination of the unifying dynamic theory on the theoretical and empirical context along with the dynamic issues has yet unexplored particularly in Indian context.

CONCLUSION

The researchers' understandings over the decades put forward that the research objectives have shifted from examination of the irrelevance argument to relevance argument and its different facets. The tax-shield (TS) theory, the agency cost (AC) theory, the pecking order (PO) theory, the dynamic trade-off (DTO) theory, and the market timing (MT) theory have overstressed on the different views while the facets have their specific roles. The researchers in the above mentioned direction have deviated far away and they have explained a little. Besides, the existing researches have not examined the issue whether a unifying view could be theoretically and empirically possible or not. In a dynamic time frame model, firms' financing choice may neither completely in a STO nor a DTO phenomenon. It may neither completely be under the PO nor MT framework. The firms might have their independency (i.e., flexibility) of shifting their decisions from one framework to another. This new line of examining firms' financing decisions should thus include a super-set of decision variables rather than the segregated sub-sets simply. The present paper shares the ingenious opinion that in the above direction of research, a thesis may justify the stated theoretical and empirical gaps in the existing literature of the Corporate Capital Structure Decisions.

REFERENCES

- Adedeji, A. (1998). Does the pecking order hypothesis explain the dividend payout ratios of Firms in the UK? *Journal of Business Finance & Accounting*, 25(9-10), 1127-1115.
- Agrawal, A. & Mandelker, G. (1987). Managerial incentives and corporate investment and financing decisions. *Journal of Finance*, 49(3), 823-837.
- Akerlof, G. A. (1970). The market for 'Lemons': Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics*, 84(3), 488-500.
- Alchian, A. A. & Demsetz, H. (1972). Production, information costs, and economic organization. *American Economic Review*, 62(5), 757-795.
- Alt, A. (2006). How persistent is the impact of market timing on capital structure? *Journal of Finance*, 61(4), 1681-1710.
- Altinkilic, O. & Hansen, R. S. (2000). Are there economies of scale in underwriter fees? Evidence of rising external financing costs. *The Review of Financial Studies*, 13(1), 191-218.
- Altman, E. (1984). A further investigation of the bankruptcy cost question. *Journal of Finance*, 39(4), 1067-1089.
- Anderson, R. & Sundaresan, S. (1996). Design and valuation of debt contracts. *The Review of Financial Studies*, 9(1), 37-68.
- Andrade, G. & Kaplan, S. N. (1998). How costly is financial (not economic) distress? Evidence from highly leveraged transactions that became distressed. *Journal of Finance*, 53(5), 1443-1493.
- Ang, J. S. & Jung, M. (1993). An alternate test of Myers pecking order theory of capital structure: The case of South Korean firms. *The Pacific-Basin Finance Journal*, 1(1), 31-46.
- Ang, J. S. & Cox, D. R. (1997). Controlling the agency cost of insider trading. *Journal of Financial and Strategic Decisions*, 10(1), 15-26.
- Asquith, P. & Mullins, D. W. Jr. (1983). Equity issues and stock price dilution, Working Paper. United States: Harvard Business School.
- Asquith, P. & Mullins, D. W. Jr. (1986). Equity issues and offer dilution. *Journal of Financial Economics*, 15(1-2), 61-89.
- Banjeree, S., Heshmati, A. & Whilborg, C. (2004). The dynamics of capital structure. *Research in Banking and Finance*, 4(1), 275-297.
- Banjeree, S., Heshmati, A. & Whilborg, C. (1999). The dynamics of capital structure, SSE/EFI Working Papers Series in Economics and Finance.
- Baker, M. & Wurgler, J. (2002). Market timing and capital structure. *Journal of Finance*, 57(1), 1-32.
- Baker, M. & Wurgler, J. (2000). The equity share in new issues and aggregate stock returns. *Journal of Finance*, 55(5), 2219-2257.

- Baker, M., Greenwood, R. & Wurgler, J. (2003). The maturity of debt issues and predictable variation in bond returns. *Journal of Financial Economics*, 70(2), 261-291.
- Baron, D. P. (1974). Default risk, homemade leverage, and the modigliani-miller theorem. *American Economic Review*, 64(1), 176-182.
- Baumol, W. & Malkiel, B. (1967). The firms' optimal debt-equity combination and the cost of capital. *Quarterly Journal of Economics*, 81(4), 547-578.
- Baxter, N. (1967). Leverage, risk of ruin and the cost of capital. *Journal of Finance*, 22(3), 395-403.
- Black, F. & Cox, J. C. (1976). Valuing corporate securities: Some effects of bond indenture provisions. *Journal of Finance*, 31(2), 351-367.
- Black, F. & Scholes, M. (1973). The pricing of option and corporate liabilities. *Journal of Political Economy*, 81(3), 637-654.
- Bhattacharya, S. & Ritter, J. R. (1983). Innovation and communication: Signaling with partial disclosure. *The Review of Economic Studies*, 50(2), 331-346.
- Bierman, H. Jr. & Thomas, L. J. (1972). Ruin considerations and debt issuance. *Journal of Financial and Quantitative Analysis*, 7(1), 1361-1378.
- Black, F. & Cox, J. C. (1976). Valuing corporate securities: Some effects of bond indenture provisions. *Journal of Finance*, 31(2), 351-367.
- Bontempi, M. E. (2002). The dynamic specification of the modified pecking order theory: Its relevance to Italy. *Empirical Economics*, 27(1), 1-22. DOI: 1007/ s 181- 002- 8356- 9.
- Bradley, M., Jarrell, G. A. & Kim, E. H. (1984). On the existence of an optimal capital structure: Theory and evidence. *Journal of Finance*, 39(3), 857-878.
- Bradbury, M. E. & Lloyd, S. (1994). An estimate of the direct costs of bankruptcy in New Zealand. *Asia Pacific Journal of Management*, 11(1), 103-111.
- Brennan, M. & Kraus, A. (1987). Efficient financing under asymmetric information. *Journal of Finance*, 42(5), 1225-1243.
- Brennan, M. J. & Schwartz, E. S. (1984). Optimal financial policy and firm valuation. *Journal of Finance*, 39(3), 593-607.
- Brewer, D. E. & Michaelson, J. B. (1965). The cost of capital, corporation finance, and the theory of investment: Comment. *American Economic Review*, 55(3), 516-524.
- Bruinshoofd, A. & Haan, L. De. (2007). Market timing and corporate capital structure: A transatlantic comparison, DNB Working Paper, No. 144 / 2007. Retrieved from <http://ideas.repec.org/p/dnb/dnB&Wpp/144.html>
- Bruner, R. F. (1988). The use of excess cash and debt-capacity as a motive for merger. *Journal of Financial and Quantitative Analysis*, 23(2), 199-217.
- Butler, A. W., Grullon, G. & Weston, J. P. (2004). Can managers successfully time the maturity structure of their debt issues? *Journal of Finance*, 61(4), 1731-1757.
- Butler, A. W., Grullon, G. & Weston, J. P. (2003). Can managers forecast aggregate market returns? Retrieved from SSRN: <http://ssrn.com/abstract=669382>.
- Cadsby, C. B., Frank, M. Z. & Maksimovic, V. (1990). Pooling, separating, and semi-separating equilibria in financial markets: Some experimental evidence. *The Review of Financial Studies*, 3(3), 315-342.
- Campbell, T. S. (1979). Optimal investment financing decisions and the value of confidentiality. *Journal of Financial and Quantitative Analysis*, 14(4), 913-924.
- Campbell, T. S. & Kracaw, W. A. (1980). Information production, market signaling, and the theory of financial intermediation. *Journal of Finance*, 35(4), 863-882.
- Chambers, M. J. (1996). Speed of adjustment and estimation of the partial adjustment model. *The Applied Economics Letters*, 3(1), 21-23.
- Chiarella, C., Pham, T. M., Sim, A. B. & Tan, M. M. (1992). The interaction of the financing and investment decisions: Preliminary results in the Australian contest. *Asia Pacific Journal of Management*, 9(2), 209-229.
- Chirinko, R. & Singha, A. (2000). Testing static trade-off against pecking order models of capital structure: A critical comment. *Journal of Financial Economics*, 58(3), 417-425.
- Choe, H., Masulis, R. & Nanda, V. (1993). Common stock offerings across the business cycle: Theory and evidence. *Journal of Empirical Finance*, 1(1), 1-31.
- Constantinides, G. & Grundy, B. (1989). Optimal investment with stock repurchase and financing as signals. *Review of Financial Studies*, 2(4), 445-465.
- Crockett, J. & Friend, I. (1967). Some estimates of the cost of capital to the electric utility industry, 1954-57: Comment. *American Economic Review*, 57(5), 1258-1267.
- Dann, L. Y. & Mikkleson, W. H. (1983). Convertible debt issuance, capital structure change and financing-related information: Some new evidence, Working Paper. United States, Hampshire: Amos Tuck School of Business Administration.
- DeAngelo, H., DeAngelo, L. & Rice, E. M. (1982). Minority freeze-outs and stockholder wealth. Working Paper. Graduate School of Business Administration, University of Washington.
- DeAngelo, H., DeAngelo, L. & Stulz, R. M. (2007). Fundamentals, market timing, and seasoned equity of-

- ferings, National Bureau of Economic Research, Working Paper No. 13285. Retrieved from <http://www.nber.org/papers/w13285>
- DeAngelo, H. & Masulis, R. W. L. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics*, 8(1), 3-29.
- DeMiguel, A. & Pindado, J. (2001). Determinants of the capital structure: New evidence from Spanish data. *Journal of Corporate Finance*, 7(1), 77-99.
- Dhrymes, P. & Kurz, M. (1967). Investment, dividends, and external financing behavior of firms, in determinants of investment behavior, Conference No.18 of the Universities, National Bureau Committee for Economic Research at the University of Wisconsin, Edited by Robert Ferber. New York: Columbia University Press.
- Donaldson, G. (1961). *Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity*. Boston: Division of Research, Harvard Graduate School of Business Administration.
- Donaldson, G. (1962). New framework for corporate debt policy. *Harvard Business Review*, 40(4), 117-131.
- Donaldson, G. (1984). *Managing Corporate Wealth*. New York: Praeger.
- Durand, D. (1959). The cost of capital, corporation finance, and the theory of investment: Comment. *American Economic Review*, 49(4), 639-655.
- Durand, D. (1963). The cost of capital in an imperfect market: A reply to M-M. *American Economic Review*, 53(3), 433-443.
- Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *American Economic Review*, 74(4), 650-659.
- Eckbo, B. E. (1986). Valuation effects of corporate debt offerings. *Journal of Financial Economics*, 15(1-2), 119-151.
- Eckbo, B. E. & Norli, Ø. (2004). The choice of seasoned-equity selling mechanisms: Theory and evidence, Discussion Papers 2004/17. Norway: Department of Finance and Management Science, Norwegian School of Economics and Business Administration.
- Elliott, W. B., Koëter-Kant, J. & Warr, R. S. (2008). Market timing and the debt-equity choice. *Journal of Financial Intermediation*, 17(2), 175-197.
- Elliott, W. B., Koëter-Kant, J. & Warr, R. S. (2007). A valuation-based test of market timing. *Journal of Corporate Finance*, 13(1), 112-128.
- Ericsson, J. (1997). Asset substitution, debt pricing, optimal leverage and maturity, Credit Risk in Corporate Securities and Derivatives: Valuation and Optimal Capital Structure Choice (Doctoral Dissertation). Sweden: Stockholm School of Economics.
- Fama, E. F. (1980). Agency problems and the theory of the firm. *Journal of Political Economy*, 88(2), 288-307.
- Fama, E. F. (1978). The effects of a firm's investment and financing decisions on the welfare of its security holders. *American Economic Review*, 68(3), 272-284.
- Fama, E. F. (1974). The empirical relationship between the dividend and investment decisions of firms. *American Economic Review*, 63(3), 304-318.
- Fama, E. & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *Review of Financial Studies*, 15(1), 1-33.
- Fama, E. & French, K. R. (2002). Financing decisions: Who issues stock? *Journal of Financial Economics*, 76(3), 549-582.
- Fama, E. F. & Miller, M. H. (1972). *The theory of finance*. New York: Holt, Rinehart and Winston.
- Fischer, E., Heinkel, R. & Zechner, J. (1989a). Dynamic capital structure choice: Theory and tests. *Journal of Finance*, 44(1), 19-40.
- Fischer, E., Heinkel, R. & Zechner, J., (1989b). Dynamic recapitalization policies and the role of call premia and issue discounts. *Journal of Financial and Quantitative Analysis*, 24(4), 427-446.
- Frank, M. Z. & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67(2), 217-248.
- Giammarino, R. M. & Neave, E. H. (1982). The failure of financial contracts and the relevance of financial policy, Working Paper No. 82-3. Kingston, Canada: Queen's University.
- Gilson, S. (1997). Transactions costs and capital structure choice: evidence from financially distressed firms. *Journal of Finance*, 52(1), 161-96.
- Goldstien, R., Ju, N. & Leland, H. (2001). An EBIT-based model of dynamic capital structure. *Journal of Business*, 74(4), 483-512.
- Gomes, A. R. & Phillips, G. M. (2005). Why do public firms issue private and public securities. NBER Working Paper, No. W11294. Retrieved from <http://www.nber.org/papers/w11294>
- Gordon, M. J. (1967). Some estimates of the cost of capital to the electric utility industry, 1954-57: Comment. *American Economic Review*, 57(5), 1267-1278.
- Goswami, G., Noe, T. & Rebello, M. (1995). Debt financing under asymmetric information. *Journal of Finance*, 50(2), 633-659.
- Graham, J. R. & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *The Journal of Financial Economics*, 60(2-3), 187-243.

- Greenwood, R. (2004). Aggregate corporate liquidity and stock returns. Retrieved from http://www.ajajof.org/pdfs/2005program/UPDF/P334_Behavioral_Finance.pdf
- Hamada, R. S. (1969). Portfolio analysis, market equilibrium, and corporation finance. *Journal of Finance*, 24(1), 13-31.
- Halov, N. & Heider, F. (2005). Capital structure, risk and asymmetric information, NYU and ECB Working Paper. Retrieved from <http://ssrn.com/abstract=566443>
- Haas, R. De. & Peeters, M. (2006). The dynamic adjustment towards target capital structures of firms in transition economies. *Economics of Transition*, 14(1), 133-169.
- Harris, M. & Raviv, A. (1991). The theory of capital structure. *Journal of Finance*, 46(1), 297-355.
- Heinkel, R. & Zechner, J. (1990). The role of debt and preferred stock as a solution to adverse investment incentives. *Journal of Financial and Quantitative Analysis*, 25(1), 1-24.
- Heins, A. J. & Sprengle, C. M. (1969). A comment on the modigliani-miller cost of capital thesis. *American Economic Review*, 59(4), 590-592.
- Helwege, J. & Liang, N. (1996). Is there a pecking order? Evidence from a panel of IPO Firms. *Journal of Financial Economics*, 40(3), 429-458.
- Helwege, J. & Liang, N. (2004). Initial public offerings in hot and cold markets. *Journal of Financial and Quantitative Analysis*, 39(3), 541-569.
- Heshmati, A. (2001). The dynamics of capital structure: Evidence from Swedish micro and small firms. *Research in Banking and Finance*, 2(1), 199-241. Retrieved from <http://www.infra.kth.se/cesis/cesis/education/master/courses/1n1750/ah2.pdf>
- Higgins, R. C. (1972). The corporate dividend - saving decision. *Journal of Financial and Quantitative Analysis*, 7(2), 1527-1541.
- Hirshleifer, J. (1966). Investment decisions under uncertainty: Application of the state-preference approach. *Quarterly Journal of Economics*, 80(2), 252-277.
- Hirshleifer, D. & Thakor, A. V. (1998). Corporate control through board dismissals and takeovers. *Journal of Economics & Management Strategy*, 7(4), 489-520.
- Högfeldt, P. & Oborenko, A. (2005). Does market timing or enhanced pecking order determine capital structure? European Corporate Governance Institute (ECGI) Research Paper No. 072. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=592501
- Huang, R. & Ritter, J. R. (2005). Testing the market timing theory of capital structure, Working Paper. United States: University of Florida.
- Jaffee, D. M. (1971). *Credit rationing and the commercial loan market*. New York: John Wiley Publication.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review*, 76(2), 323-329.
- Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jensen, M. C. & Murphy, K. J. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, 98(2), 225-264.
- Jung, K., Kim, Y. C. & Stulz, R. M. (1996). Timing, investment opportunities, managerial discretion and the security issue decisions. *Journal of Financial Economics*, 42(2), 159-185.
- John, T. & John, K. (1993). Top management compensation and capital structure. *Journal of Finance*, 48(3), 949-974.
- John, K. & Williams, J. (1985). Dividends, dilution and taxes: A signaling equilibrium. *Journal of Finance*, 40(4), 1053-1070.
- Ju, N., Parrino, R., Potoshman, A. M. & Weisbach, M. S. (2002). Horses and rabbits? Optimal dynamic capital structure from shareholder and manager perspectives, National Bureau Of Economic Research. Working Paper No. 9327. Retrieved from <http://www.nber.org/papers/w9327>
- Ju, N., Parrino, R., Potoshman, A. M. & Weisbach, M. S. (2005). Horses and rabbits? trade-off theory and optimal dynamic capital structure. *The Journal of Financial and Quantitative Analysis*, 40(2), 259-281.
- Kane, A., Marcus, A. J. & McDonald, R. L. (1985). Debt policy and the rate of return premium to leverage. *Journal of Financial and Quantitative Analysis*, 20(4), 479-499.
- Kane, A., Marcus, A. J. & McDonald, R. L. (1984). How big is the tax advantage to debt? *Journal of Finance*, 39(3), 841-853.
- Kayhan, A., & Titman, S. (2007). Firms' histories and their capital structure. *Journal of Financial Economics*, 83(1), 1-32.
- Korajczyk, R., Lucas, D. & McDonald, R. (1992). Equity issues with time-varying asymmetric information. *Journal of Financial and Quantitative Analysis*, 27(3), 397-417.
- Korajczyk, R., Lucas, D. & McDonald, R. (1991). The effects of information releases on the pricing and timing of equity issues. *Review of Financial Studies*, 4(4), 685-708.
- Korajczyk, R. A., Lucas, D. & McDonald, R. (1990). Understanding stock price behavior around the time of equity issues. In R. Glenn Hubbard, (ed.), *Asymmetric Information, Corporate Finance, and Investment*. Chicago: University of Chicago Press.
- Kraus, A. & Litzenberger, R. H. (1973). A state-preference model of optimal financial leverage. *Journal of Finance*, 28(4), 911-922.

- Krasker, W. S. (1986). Stock price movements in response to stock issues and asymmetric information. *Journal of Finance*, 41(1), 93-105.
- La Porta, R. (1996). Expectations and the cross-section of stock returns. *Journal of Finance*, 51(5), 1715-1742.
- La Porta, R., Lakonishok, J., Shleifer, A. & Vishny, R. (1997). Good news for value stocks: Further evidence on market efficiency. *Journal of Finance*, 52(2), 859-874.
- Lamont, O. A. & Stein, J. C. (2006). Investor sentiment and corporate finance: Micro and macro. *American Economic Review*, 96(2), 147-151.
- Leary, M. T. & Roberts, M. R. (2010). The pecking order, debt capacity, and information asymmetry. *Journal of Financial Economics*, 95(3), 332-355.
- Leary, M. T. & Roberts, M. R. (2005a). Do firms rebalance their capital structure? *Journal of Finance*, 60(6), 2575-2619.
- Leary, M. T. & Roberts, M. R. (2005b). The pecking order, debt capacity, and information asymmetry, Working Paper. Cornell University and University of Pennsylvania. Retrieved from <http://ssrn.com/abstract=555805>
- Leland, H. (1998). Agency costs, risk management and capital structure. *Journal of Finance*, 53(4), 1213-1243.
- Leland, H. E. & Pyle, D. H. (1977). Informational asymmetries, financial structure, and financial intermediation. *Journal of Finance*, 32(2), 371-387.
- Leland, H. E. & Toft, K. B. (1996). Optimal capital structure, endogenous bankruptcy, and the term structure of credit spreads. *Journal of Finance*, 51(3), 987-1019.
- Lemmon, M. L. & Zender, J. F. (2004). Debt capacity and tests of capital structure theories, Working Paper. University of Utah and University of Colorado at Boulder.
- Lewellen, W. G. & Mauer, D. C. (1988). Tax options and corporate capital structures. *Journal of Financial and Quantitative Analysis*, 23(4), 387-400.
- Lewis, C. M. (1990). A multi-period theory of corporate financing policy under taxation. *Journal of Financial and Quantitative Analysis*, 25(1), 25-44.
- Long, M. S. & Malitz, E. B. (1983). Investment patterns and financial leverage, Working Paper. National Bureau of Economic Research.
- Loughran, T. & Ritter, J. (1995). The new issues puzzle. *Journal of Finance*, 50(1), 23-51.
- Loughran, T., Ritter, J. & Rydqvist, K. (1994). Initial public offerings: International Insights. *Pacific-Basin Finance Journal*, 2(1), 165-199.
- Lucas, D. & McDonald, R. (1990). Equity issues and stock price dynamics. *Journal of Finance*, 45(4), 1019-1043.
- Marsh, P. R. (1982). The choice between equity and debt: An empirical study. *Journal of Finance*, 37(1), 121-144.
- Masulis, R. W. (1980). The effects of capital structure change on security prices: A study of exchange offers. *Journal of Financial Economics*, 8(2), 139-178.
- Masulis, R. W. (1983). The impact of capital structure change on firm value: Some estimates. *Journal of Finance*, 38(1), 107-126.
- Mauer, D. C. & Triantis, A. J. (1994). Interaction of corporate financing and investment decisions: A dynamic framework. *Journal of Finance*, 39(4), 1253-1277.
- McCabe, G. M. (1979). The empirical relationship between investment and financing. *Journal of Financial and Quantitative Analysis*, 14(1), 119-135.
- McDonald, J. G., Jacquillet, B. & Nussenbaum, M. (1975). Dividend, investment, and financing decisions: Empirical evidence on French firms. *Journal of Financial and Quantitative Analysis*, 10(5), 741-755.
- Mella-Barral, P. & Perraudin, W. (1997). Strategic debt service. *Journal of Finance*, 52(2), 531-556.
- Merton, R. C. (1974). On the pricing of corporate debt: The risk structure of interest rates. *Journal of Finance*, 29(2), 449-470.
- Miller, M. H. (1988). The modigliani-miller propositions after thirty years. *Journal of Economic Perspectives*, 2(4), 99-120.
- Miller, M. H. (1977). Debt and taxes. *Journal of Finance*, 32(2), 261-275.
- Miller, M. H. & Modigliani, F. (1966). Some estimates of the cost of capital to the electric utility industry, 1954-1957. *American Economic Review*, 56(3), 333-391.
- Miller, M. H. & Scholes, M. (1980). Executive compensations, taxes, and incentives, 254-279. In Miller, M.H. (ed.), *Selected Works of Merton H. Miller: A Celebration of Markets: Finance*. Edited by Bruce David Grundy. The University of Chicago Press. Retrieved from <http://books.google.co.in/books?hl=en&lr=&id=CIni3oHnprEC&oi=fnd&pg=PA254&ots=yrgwunquIj&sig=hBPnZdUOEzzC7zIXZzeLrRm-TW0#v=onepage&q&f=false>
- Miller, M. H. & Rock, K. (1985). Dividend policy under asymmetric information. *Journal of Finance*, 40(4), 1031-1051.
- Modigliani, F. & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *American Economic Review*, 53(3), 433-443.
- Modigliani, F. & Miller, M. H., (1959). The cost of capital, corporate finance and the theory of investment: Reply. *American Economic Review*, 49(4), 655-669.
- Modigliani, F. & Miller, M. H. (1958). The cost of capital, corporate finance and the theory of investment. *American Economic Review*, 48(3), 261-297.
- Murphy, K. J. (1985). Corporate performance and managerial remuneration: An empirical analysis. *Journal of Accounting and Economics*, 7(1-3), 11-42.

- Myers, S. C. (1975). A note on the determinants of corporate debt capacity. (unpublished manuscript). London: London Graduate School of Business Studies.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147-176.
- Myers, S. C. (1974). Interactions of corporate financing and investment decisions-implications for capital budgeting. *Journal of Finance*, 29(4), 1-21.
- Myers, S. C. (1984). The capital structure puzzle. *Journal of Finance*, 39(3), 575-592.
- Myers, S. C. & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.
- Narayanan, M. P. (1988). Debt versus equity under asymmetric information. *The Journal of Financial and Quantitative Analysis*, 23(1), 39-51.
- Nelson, W. R. (1999). The aggregate change in shares and the level of stock prices. Federal Reserve Board Working Paper.
- Noe, T. H. (1988). Capital structure and signaling game equilibria. *Review of Financial Studies*, 1(4), 331-355.
- Pagano, M. & Roell, A. (1998). The choice of stock ownership structure: Agency costs, monitoring, and the decision to go public. *Quarterly Journal of Economics*, 113(1), 187-225.
- Pagano, M., Panetta, F. & Zingales, L. (1998). Why do companies go public? An empirical analysis. *Journal of Finance*, 53(1), 27-64.
- Paul, S., Whittam, G. & Wyper, J. (2007). The pecking order hypothesis: Does it apply to start-up firms? *Journal of Small Business and Enterprise Development*, 14(1), 8-21.
- Rajan, R. G. & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *Journal of Finance*, 50(4), 1421-1460.
- Rendleman, R.J., (1980). Information asymmetries and optimal project financing, Working Paper. Durham, NC: Graduate School of Business, Duke University.
- Robichek, A. A., McDonald, J. G. & Higgins, R. C. (1967). Some estimates of the cost of capital to electric utility industry, 1954-57: Comment. *American Economic Review*, 57(5), 1278-1288.
- Robichek, A. & Myers, S. (1966). Problems in the theory of optimal capital structure. *Journal of Financial and Quantitative Analysis*, 1(2), 1-35.
- Robichek, A. & Myers, S. (1965). *Optimal financing decisions*. Englewood Cliffs, N.J.: Prentice-Hall.
- Rozeff, M. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research*, 5(3), 249-259.
- Ross, S. A. (1959). The cost of capital, corporation finance, and the theory of investment: Comment. *American Economic Review*, 49(4), 638-639.
- Ross, S. A. (1977). The determination of financial structure: The incentive-signaling approach. *Bell Journal of Economics*, 8(1), 23-40.
- Ross, S. A. (1973). The economic theory of agency: The principal's problems. *American Economic Review*, 62(2), 134-139.
- Rubinstein, M. (1973). Corporate financial policy in segmented markets. *The Journal of Financial and Quantitative Analysis*, 8(5), 749-761.
- Sánchez-Vidal, J. & Martín-Ugedo, J. (2005). Financing preferences of Spanish firms: Evidence on the pecking order theory. *Review of Quantitative Finance and Accounting*, 25(4), 341-355.
- Schultz, P. (2003). Pseudo market timing and the long-run under performance of IPOs. *Journal of Finance*, 58(2), 483-517.
- Scott, J. H. Jr. (1976). A theory of optimal capital structure. *Bell Journal of Economics*, 7(1), 33-54.
- Shleifer, A. & Vishny, R. W. (2003). Stock market driven acquisitions. *Journal of Financial Economics*, 70(2), 295-311.
- Shleifer, A. & Vishny, R. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3), 461-488.
- Shyam-Sunder, L. & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics*, 51(2), 219-244.
- Spence, M. & Zeckhauser, R. (1971). Insurance, information and individual action. *American Economic Review*, 61(2), 380-387.
- Smith, C. W. & Warner, J. B. Jr. (1979). On financial contracting - An analysis of bond covenants. *Journal of Financial Economics*, 7(2), 117-161.
- Smith, C. W. Jr. & Watts, R. L. (1982). Incentive and tax effects on executive compensation plans. *Australian Journal of Management*, 7(2), 139-157.
- Stiglitz, J. E. (1969). A re-examination of the Modigliani-miller theorem. *American Economic Review*, 59(5), 784-793.
- Stiglitz, J. E. (1972). On some aspects of the pure theory of corporate finance, bankruptcies and takeovers. *Bell Journal of Economics and Management Science*, 3(2), 458-482.
- Stiglitz, J. E. (1973). Taxation, corporate financial policy and the cost of capital. *Journal of Public Economics*, 2(1), 1-34.

- Stiglitz, J. E. (1974). On the irrelevance of corporate financial policy. *American Economic Review*, 64(6), 851-866.
- Titman, S. (1984). The effect of capital structure on a firm's liquidation decision. *Journal of Financial Economics*, 13(1), 137-151.
- Titman, S. & Wessels, R. (1984). The determinants of capital structure choice. *Journal of Finance*, 43(1), 1-19.
- Taggart, R. (1977). A model of corporate financing decisions. *Journal of Finance*, 32(5), 1467-1484.
- Turnbull, S. M. (1979). Debt capacity. *Journal of Finance*, 34(4), 931-940.
- Viswanath, P. V. (1993). Strategic considerations, the pecking order hypothesis, and market reactions to equity financing. *Journal of Financial and Quantitative Analysis*, 28(2), 213-234.
- Watson, R. & Wilson, N. (2002). Small and medium size enterprise financing: A note on some of the empirical implications of a pecking order. *Journal of Business Finance & Accounting*, 29(3-4), 557-578.
- Warner, J. B. (1977a). Bankruptcy, absolute priority, and the pricing of risky debt claims. *Journal of Financial Economics*, 4(3), 239-276.
- Warner, J. B. (1977b). Bankruptcy costs: some evidence. *Journal of Finance*, 32(2), 337-347.
- Weiss, L. A. (1990). Bankruptcy resolution: Direct costs and violation of priority of claims. *Journal of Financial Economics*, 27(4), 285-314.
- Welch, I. (2004). Capital structure and stock returns. *Journal of Political Economy*, 112(1), 106-131.
- Williamson, S. (1981). The moral hazard theory of corporate financial structure: An empirical test. (Unpublished Ph.D. Dissertation). MIT.
- Williams, J. (1988). Efficient signaling with dividends, investment, and stock re-purchases. *The Journal of Finance*, 43(3), 737-747.
- Wiggins, J. B. (1990). The relation between risk and optimal debt maturity and the value of leverage. *Journal of Financial and Quantitative Analysis*, 25(3), 377-386.