Chapter 1

INTRODUCTION

The Background

The changes in economic policies in India in the 1980s and 1990s have redefined the direction of development strategies. In the changed milieu, private corporate sector (henceforth corporate sector) within industrial sector has been accorded a lead role in the growth process of the economy. Investment activity\(^1\) of corporate sector, thus, lies central to the economic performance of the country.

Like many developing countries, in India also, with a view to channel resources into desired investment, control over financial system had been exercised. It has, however, been argued that control not only depresses savings but also leads to inefficient allocation of resources and, therefore, financial sector reforms have been advocated (McKinnon, 1973; Shaw, 1973; World Bank, 1989). So much so, in India too, a series of measures have been initiated towards financial sector reforms since the early 1990s. In this milieu, market forces increasingly govern the allocation of funds and this has implications for the availability and cost of funds, which \textit{ceteris paribus} can affect the pace of investment.

Since the late 1950s, research in finance has stressed that under perfect capital market setting, financial structure had little bearing on investment decision of firms. However,\(^1\)

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\(^1\) Coen and Eisner point out,"Classical and neoclassical economists have stressed the role of investment in providing for the future. Maintaining the current level of output requires keeping up the existing means of production. Economic growth, or the increase in the rate of output, is then seen as depending considerably on the acquisition of additional means of production, that is, investment in excess of the wearing away or depreciation of existing capital" (1987: 981).
recent theoretical and empirical studies have produced results inconsistent with earlier models.\textsuperscript{2} These studies emphasize the relationship between finance and investment, and provide a framework for understanding the financing practices of corporate sector. However, there are hardly any studies, which have examined this relationship between finance and investment in an integrated manner in the Indian context. This study seeks to make good this deficiency. More specifically, this study is a critical assessment of the financing patterns of private corporate sector in India and their implications for investment. The need for such a study seems relevant both for its theoretical and policy implications, particularly in the context of recent economic reforms in India.

The role of investment for economic growth was well emphasized in the economic literature. With the assumptions of full employment and full utilization of existing resources, classical economists maintained that investment was sensitive to rate of interest (Coen and Eisner, 1987). On the other hand, given the conditions of his time, Keynes questioned the classical assumptions and regarded both the availability and terms of finance to set a limit to the pace of investment. In other words, Keynes maintained that financial facilities regulated the pace of investment. The Keynesian revolution also led to shift in emphasis from the determinants to the rate of investment required for full employment. This is reflected in the pioneering works of Harrod (1939) and Domar (1957). Studies of investment behavior in the neo classical tradition had, however, overshadowed financial factors. The reason was the formal proposition of Modigliani and Miller (henceforth MM) (1958), which held that investment (real) decisions were independent of financial decisions. Gertler aptly remarks,

"... the developers of neo classical investment theory ... used the MM theorem as a convenient rationale for ignoring capital market consideration when solving the firm's intertemporal investment choice problem. For similar reasons, financial variables started disappearing from empirical investment equations" (1988: 565).

The MM theorem had two important implications: (1) investment decision was the only decision that counted; and (2) firms need not care as to how to finance investment. In other words, MM argued that a firm's choice of a particular source of funds, whether it is

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3 This was exposted while debating as to what determines rate of interest. See Keynes 1937a, 1937b, 1937c, 1938, 1939. Also see Robertson 1936, 1937, 1938; Ohlin 1937a, 1937b, 1937c.

4 See, for example, Jorgenson, 1963, 1967; Eisner and Nadiri, 1968; Jorgenson and Siebert, 1968.
retained earnings or issue of bonds or equity, had no bearing on their investment decision. That is, *capital structure is irrelevant*.\(^5\)

The MM theorem is based on a number of assumptions. The crucial assumption underlying the theorem was the *existence of perfect capital market*. Implicit in this was symmetry of information, no transactions cost, no taxes, no bankruptcy, both firms and individuals had equal access to capital market, securities issued had perfect substitutes, investors maximise welfare (Fama and Miller, 1972: 147-170), and that the existence of financial intermediaries would be of no consequence to real activity (Bernanke and Gertler, 1987).

The MM theorem and its assumptions came to be questioned in the course of time. The major outcome of this was the acceptance of the presence of tax, information asymmetry, and the existence of financial intermediaries. What are the implications of these relaxed assumptions for the financing practices and consequently capital structure? We discuss them in detail below.

**a. Tax and Financing Practices**

In corporate taxation, debt and equity finance are given different treatment. While interest payments (cost of debt) are generally allowed to be treated as part of costs,

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5 In essence, MM had shown that the average cost of capital of a firm was independent of its capital structure and a firm undertook investment if the capitalization rate, which was used to capitalise its expected stream of return, was greater or equal to rate of return on investment.

In an extended form, it was shown that a firm's financial policy was of no consequence to wealth and capital market opportunity sets of individuals or security holders. See Stiglitz, 1969, 1974; Fama and Miller, 1972; Fama, 1978.
dividend payments (cost of equity) are not. Because of this, the relative cost of debt decreases. This operates only if firms show taxable income and the extent of the gain from leverage would depend upon tax rate facing firms. To the extent of its deductibility, interest payments thus shield profit (known as interest tax shield), which increase value of firms.

In their own later version, MM (1963) recognized the gain associated with debt because of interest deductibility. They had shown that in the presence of taxes that allowed interest deductibility, value of leveraged firms was greater than unleveraged firms implying that a firm could increase its value by increasing leverage.

It is also argued that such leverage gain need not arise under bankruptcy and when non-interest tax shields are available. Firstly, an increase in debt increases the probability of debt obligations exceeding the earnings of firms. This leads to bankruptcy and so debt

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6 MM allowed deduction of all debt repayments and assumed all firm's debt as perpetual in nature (Fama and Miller, 1972: 173-174 Footnote No. 28; Wrightsman, 1978; Bhattacharya, 1988). But in practice, only interest payments are allowed to be deducted. Fama and Miller (1972), on the other hand, considered earnings and showed that post tax earnings of leveraged firms was higher than unleveraged firms by tax rate times interest paid. Wrightsman (1978), however, argued that once leverage gain of Fama and Miller was capitalised, it became the gain as shown by MM.

7 Also see Kraus and Litzenberger, 1973; Myers, 1974; Hite, 1977; Chen and Kim, 1979; Modigliani, 1982, 1988; Dotan and Ravid, 1985; Ross, 1988; Smith, 1990; Lyon, 1995.


9 See DeAngelo and Masulis, 1980b; Bradley, Jarrell and Kim, 1984; Dammon and Senbet, 1988.

10 In addition, Miller (1977) argued that leverage gain need not arise when personal tax rates varied for dividend and interest income and offset the gain obtained at the firm level. Graham (1999) found that while personal tax reduced rather than eliminated the use of debt across firms, it did not have an impact on intertemporal corporate financing decision. Also see Stiglitz, 1973; Kim, Lewellen and McConnell, 1979; Dammon and Senbat, 1988; DeAngelo and Masulis, 1980a, 1980b; Modigliani, 1982, 1988; Miller, 1988, 1991.
becomes risky. The risk averse firms would, therefore, not be indifferent to debt. It has, thus, been argued that firms have an optimal capital structure, which is essentially a trade off between tax advantage of debt and bankruptcy cost.

And, secondly, availability of non-interest tax shields arising from various investment-related incentives also reduces tax liability of firms. Higher is the ceiling of such shields, lower is the debt because expected marginal interest tax shield would decline as an additional unit of debt is added to capital structure (DeAngelo and Masulis, 1980b). 11 Thus, when there is a possibility of losing non-interest tax shield, there is likely to be a substitution between interest tax savings and non-interest tax savings. 12

b. Asymmetric Information and Financing Practices

Symmetry of information, implicit in MM theorem, came to be questioned with the development in the theories of economics of information in general and information asymmetry in particular. As a result, the theory of asymmetric information got extended to the study of financial market as well. 13 Beginning with Jensen and Meckling (1976)


12 Besides this substitution effect, interest tax shield has an income effect (Dammon and Senbet, 1988). That is, with an increase in output, interest deductibility becomes more valuable to shield corporate income at the margin. Thus, what is important is the magnitude of differences between 'income and substitution effect'. It has been shown that income effect was more dominant.

13 Information problem is an integral part of contracts, where information available to one party is not fully divulged to other party. There are three main themes discussed under this, namely, moral hazard, adverse selection, and signalling (Macho-Stadler and Perez-Castrillo, 1997). Moral hazard is a situation where the action of agents (firms) is unobservable or where principal (suppliers of funds) has no control over the action of agents. This phenomenon is sometimes termed as incentive problem. Adverse selection is one where agents have private information, which is not fully dispensed with while entering into contract. And, signalling is a situation where a firm sends signals that could be observed by investor with a view to distinguish them as of having higher value.
and Leland and Pyle (1977), in the finance literature this methodology was used to develop theories of capital structure and intermediation. We discuss some of its major issues in detail below.

Situations of information asymmetry arise in the financial market (credit and equity) when a firm possesses information about its future streams or investment opportunities but does not dispense it fully with suppliers of funds.\textsuperscript{14} So much so, in a given situation, financial market can be inundated with projects of low quality as well as high quality. Due to information asymmetry, market would not be able to distinguish the quality of projects. As a result, it is possible that the market could place premium on low quality projects at the expense of high quality projects (Akerlof, 1970; Leland and Pyle, 1977). This can drive high quality projects out of market leading to inefficient functioning of financial market.

To elaborate, when credit market is characterized by imperfect information with indistinguishable borrowers, credit rationing occurs.\textsuperscript{15} Costs of credit is positively related to the riskiness of loans, that is, higher the risk, higher is interest rate. Because lenders cannot observe the riskiness of borrowers' projects, they raise the interest rate. Any increase in interest rate leads to a revision of critical value of investment, which affects the probability of repayment. This could attract risk neutral borrowers (adverse selection effect) or induces borrowers to switch from safe projects to risky (moral hazard / incentive effect). As a result, those borrowers with good projects get rationed out

\textsuperscript{14} Direct transfer of information is not possible because firms would have to compromise their competitive advantage (Fazzari and Athey, 1987).

because of the hike in cost of credit. Firms' ability to raise funds from equity market with imperfect information is also limited. A firm, which comes to equity market, is considered bad because good firms can always increase leverage. As a result, equity market adds to the return not only monetary interest rate but bankruptcy cost which eventually increases effective cost of equity (Greenwald, Stiglitz, and Weiss, 1984). Those firms who do not face credit constraints also find it difficult to raise equity because of this increase in effective cost. Besides this, the informational problems in equity market also leads to under pricing of equity so that managers sometimes pass on projects even with positive net present value.\textsuperscript{16}

Information asymmetry in financial market, thus, has strong implications for the availability and cost of credit and equity financing. And, consequently, firms face financial constraints.\textsuperscript{17} Firms facing financial constraints have to take greater recourse to internal funds.\textsuperscript{18} This has a bearing on the ability of firms to undertake investment.\textsuperscript{19}

\textsuperscript{16} See, for instance, Myers, 1984; Myers and Majluf, 1984; Asquith and Mullins, 1986.

\textsuperscript{17} According to Lyon,"A firm may be considered to be finance constrained if internal funds are exhausted before the firm has been able to undertake all projects with yields in excess of the firm's opportunity cost of capital, and the yields from the projects are insufficient to cover the cost of external funds" (1995: 206).

\textsuperscript{18} A number of empirical studies in recent years has lend credence to this hypothesis. See, for example, Fazzari and Athey, 1987; Fazzari, Hubbard and Petersen, 1988; Hoshi, Kashyap and Scharfstein, 1990; Whited, 1992; Fazzari and Petersen, 1993; Schaller, 1993; Carpenter, Fazzari and Peterson, 1994; Athey and Reeser, 2000.

\textsuperscript{19} Firms, however, attempt to mitigate the problem by signalling, whereby actions of insiders transfer information. Ross (1977) argued that if these signals were valid, inferences drawn by public would be correct, and in equilibrium all firms could be correctly distinguished. Some forms of signalling include ownership stake of equity (Leland and Pyle, 1977), incentive schedule of managers with penalty provisions (Ross, 1977), dividend payments (Bhattacharya, 1979; Miller and Rock, 1985), choice of debt ratios (Heinkel, 1982; Harris and Raviv, 1990) and, decision to issue equity to finance investment and retire outstanding debt at face value (Brennan and Kraus, 1987).
In addition to this, asymmetric information can also arise after contracting, leading to a moral hazard situation.\textsuperscript{20} This arises because suppliers of external funds cannot monitor and control allocation of funds by firms among different uses.\textsuperscript{21} This can also have implications for investment. To elaborate, due to asymmetric information, suppliers of external funds cannot observe objective conditions on which firms base their portfolio decision (Bernanke, 1981)\textsuperscript{22} and unaware about the assets composition (Greenwald and Stiglitz, 1988). Under these circumstances, expectations regarding return from investment may differ between firms and suppliers of funds. In other words, regarding returns ex-ante expectation and ex-post realizations can differ.\textsuperscript{23} Thus, both suppliers of external funds and firms are subject to uncertainty arising from information asymmetry (Wolfson, 1996). The relaxation of symmetry of information, thus, led to the recognition of the importance of the link between finance and investment activity.

\textsuperscript{20} This explains why firms issue of risky debt in the absence of tax advantage or follow conservative debt policy when bankruptcy cost falls short of tax advantages. See Chen and Kim, 1979; Kane, Marcus and McDonald, 1984; Ross, 1988.

\textsuperscript{21} Patterned after agency cost of Jensen and Meckling (1976).

\textsuperscript{22} Consider the following. There are cash commitments associated with liabilities and cash flows associated with investments. So long as firms have cash flows greater than cash commitments, they have a great degree of margin of safety. When firms rely more on external funds relative to internal funds, cash commitments increase relative to cash flows. Because of risk associated with commitment to a fixed capital (Kalecki, 1937), firms have an incentive to exploit diversification opportunities.

\textsuperscript{23} Because of moral hazard, firms can put their funds into assets that are poor generators of cash flows or whose realizable value oscillates, so that cash commitments can exceed cash flows they would get over short period from their operation. Firms expect to meet the difference between cash commitments and cash flows in the short period by refinancing. They are lured to invest in these assets because they expect the cash flows to be greater than cash commitments in the long term. Minsky calls these firms as speculative firms (Minsky, 1975b, 1977, 1982a, 1982b, 1986). Information asymmetry, thus, creates uncertainty. In the presence of uncertainty, bankruptcy occurs (Greenwald and Stiglitz, 1988), which aggravates the risk factor.
c. Financial Intermediaries and Financing Practices

Yet, another implication of MM's theorem is that existence of financial intermediaries is of no consequence for real activity (Bernanke and Gertler, 1987). As noted by Gertler (1988), the relevance of this proposition is questioned and the emphasis of earlier literature\(^{24}\) on the central place of financial system in the development process of an economy is increasingly well recognized.

Essentially, financial system facilitates intermediation between savers (public) and investors (firms), and helps to translate savings into investment. The system can be of credit (banks) based and securities (capital) market based.\(^{25}\) Credit based financial system is one where firms depend largely on credit from banks and other financial institutions, whereas securities market based financial system is one where issuing of securities is the main sources of funding (Studart, 1995/96).

The severity of information asymmetry is likely to be different for each system. Banks have long term relationship with firms and have less cost of obtaining information, monitoring, and enforcing repayment. In addition, they have the expertise to scrutinize projects and are not subject to free raider problems in respect of information that is common in capital market.\(^{26}\) It is, thus, easy in an credit (bank) based system to eschew


\(^{25}\) See Rajan, 1992; Aoki, Patrick and Sheard, 1994; Studart, 1995/96.

adverse selection and prevent moral hazard. On the other hand, in securities market based system, monitoring of actions of firms by public is costly. Under these circumstances informational problems are severe. The presence of intermediary institutions can, thus, reduce market imperfections arising from informational problems and improve allocation of resources.

To conclude, it is seen that the presence of tax, information asymmetry, and financial intermediaries can have implication for the financing practices of firms and therefore investment.

Objectives of the Study

Against this theoretical background, this study aims to analyse the financing patterns of the private corporate manufacturing sector in India and their implications for investment. More specifically, this study analyses the structure of corporate finance and examines the role of the financial intermediaries, tax policies, and information in influencing financing patterns and, thereby, capital structure. In addition, the study examines the relationship between financing patterns and investment.

Period of Study

To get a historical perspective and for comparisons with the period of liberalization, the period of study begins from 1956/7, that is, Second Plan onwards - when

27 For instance, the main bank system in Japan was an effective monitoring device that helped to reduce problems arising on account of informational problems. With securities market orientation of corporate financing since the early 1970s, the monitoring capacity of main bank system has been under severe test. See, Aoki (1994).
industrialization received a major thrust in the overall development strategies, and ends with 1998/9.

Sources of Data

Various sources of data were used for the study. The study had primarily relied on company finance data on non-government non-financial public limited companies published by Reserve Bank of India (RBI). The study also required information at the firm level. Firm level data were collected from CMIE's electronic database known as PROWESS. However, the share price data of selected companies were available in PROWESS only from 1996/7 onwards whereas we needed them from 1988/9 onwards. This gap was filled by using Bombay Stock Exchange Official Directory (BSEOD). For those companies for which BSEOD did not provide information, we collected share price data from Economic Times.

Information relating to supply of funds from various segments of financial system were collected from other publications of RBI such as Report on Currency and Finance, Banking Statistic: Basic Statistical Return, Statistical Tables Relating to Banks in India, and Report on Trend and Progress of Banking in India. For information on tax and related polices, Budget Volumes were relied on. Besides these, wherever necessary we resorted to various other publications of Government of India such as Annual Survey of Industries and National Accounts Statistics.
Chapter: Scheme

This thesis consists of six chapters. This, Chapter 1, provides the introduction and the analytical framework for the study. As the industrialization strategy was an integral part of the overall planning framework, Chapter 2 tries to provide a broad overview of the policy and institutional framework within which corporate sector had to function. This helps to understand the importance given to private corporate investment over the years. This chapter also analyses the various fiscal and financial policies within which the corporate sector had to operate.

In Chapter 3, we analyse structure of corporate finance and the role of fiscal factors and the developments in the financial system in shaping it. Chapter 4 studies capital structure and its determinants, namely, the role of tax factors and information asymmetry. Chapter 5 assesses the implications of changes in financing pattern with particular reference to the 1990s and its relationship with investment. And, Chapter 6 provides a summary and conclusions of the study.