

Capital structure and performance: Evidence from a transition economy on an aspect of corporate governance

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Abstract. This paper examines the relationship between the levels of debt in the capital structure and performance for a sample of Indian firms. Existing theory posits a positive relationship; however, analysis of the data reveals the relationship for Indian firms to be significantly negative. The structure of capital markets in India, where both short-term and long-term lending institutions are government-owned, is hypothesized to account for the finding of this relationship, and it is asserted that corporate governance mechanisms which work in the West will not work in the Indian context unless the supply of loan capital is privatized.

1. Introduction

A core issue in the corporate governance literature is the nature of the relationship between the level of debt in firms' capital structure and economic performance (Williamson, 1988). Though the Modigliani and Miller (1958) theorem suggested that the level of debt or equity was inconsequential from an economic view-point, a number of qualifications suggest that the level of debt might have a non-neutral impact on firms' behavior and performance (Jensen and Meckling, 1976; Myers and Majluf, 1984; Stiglitz, 1988).

This paper reports the results of a study examining the relationship between the levels of debt in firms' capital structures and their performance, for a large sample of Indian firms. From the point of view of enhancing awareness and understanding of corporate governance issues, a relevant question is: do the canons of the contemporary governance literature also hold in the context of a transition economy? The ideas in the governance literature have evolved against a backdrop of contemporary capitalist institutions, and their development has been heavily influenced by the nature of the political and economic environment firms face in the West. While there is now a large literature evaluating the behavior and performance implications of debt in a Western context (Barton and Gordon, 1988; Bettis, 1983; Bradley, Jarrel, and Kim, 1980; Hoskisson and Hitt, 1994; Titman and Wessels, 1988), very little is empirically known about such issues in transition economies. Therefore, a

point at issue is: are Western corporate governance ideas valid in transition or developing economy contexts, or do they need to be re-assessed in light of what data might reveal about these different economies?

The Indian economy is in the throes of a major economic transition since 1991, and India is in the news as a location of contemporary economic consequence; yet, extremely little factual evidence about the behavior and performance of Indian firms exists in the literature. This paper attempts to fill the gap that exists between interest and evidence, exploring a narrow governance issue to do so, and the paper unfolds as follows. In Section 2 theoretical issues are discussed, and the empirical details of the study are described in Section 3. Section 4 briefly reports the results obtained which are discussed in detail in Section 5, while Section 6 concludes the paper.

2. Theoretical issues

2.1. *The Modigliani-Miller idea*

The Modigliani-Miller (MM) idea deals with the issue of value differences between leveraged and unleveraged firms. Leverage is a measure of firms' indebtedness relative to the size of its asset base. It is a mechanism by which a company can magnify the results of the activities undertaken on behalf of its owners. By adding lenders' funds to its owners' funds, a company can increase the scope of its operations and still retain the residual claim to the profits that remain after payment of interest on the borrowings. As Auerbach (1987) states, financing firms' operations with more borrowed funds has the effect of increasing the risk and return per unit of equity; therefore, an issue is does the total value of the debt plus equity fluctuate as the leverage process occurs? If an investment of A were to be financed fully by equity, then its return of rA might have a value of V_0 . The same investment, if financed partially by debt D carrying interest i , would yield its owners a return of $rA - Di$, with a value V_1 . $V_1 < V_0$ since the total return to equity is reduced by the interest payments, but the point at issue is does the value of equity fall (Auerbach, 1987)?

The MM theorem asks: can the firm change its overall value by changing the division of its underlying returns? If the returns and investors' abilities to enjoy them remain unaffected by the way the firm divides them between equity earnings and interest payments, then the value of the firm's equity is derived as the residual of the value of its equity as if it had no debt less the value of the debt it has incurred. The key MM ideas are that: the total market value of a firm is independent of its capital structure; the cost of equity is a linear function of the leverage ratio; the market value of a firm is indepen-

dent of its dividend policy; and the shareholders of a firm are indifferent to its financial policy. These ideas are corollaries of the supposition that if shareholders can undertake the same financial transactions as the firm, and at the same prices, they can reverse the effect of any corporate financial policy at no cost, with the absence of arbitrage being a compelling assumption in the MM scheme (Duffie, 1987; Ross 1988).

The MM argument assumes two firms with identical cash flows, with one firm fully financed by equity and the other financed by a combination of debt and equity; also, the firm that is leveraged is worth less than the unleveraged firm. Purchasing an equal percentage share of the leveraged firm's debt and equity will then cost less than the same percentage share of the unleveraged firm, but entitle the investor to the same cash flow. Such an arbitrage possibility would raise the price of the leveraged firm's equity and lower that of the unleveraged firm until the two firms had the same value. Conversely, if the leveraged firm were to be relatively overvalued, then by combining the unleveraged firm's equity with private borrowing an investor could duplicate the return on the leveraged firm's equity at a lower cost (Ross, 1988).

With respect to the no arbitrage idea, Dybvig and Ross (1987:43) write that: "One appeal of results based on the absence of arbitrage is the intuition that absence of arbitrage is more primitive than equilibrium, since only relatively few rational agents are needed to bid away arbitrage opportunities, even in the presence of a sea of agents driven by 'animal spirits.'" Therefore, the composition of the capital structure of a firm cannot systematically predict excess positive or negative returns to shareholders over time. Excess returns will be arbitrated away, according to the MM theorem. The MM model deals with firms' valuations which are a function of their cash flows. What the MM model explicitly assumes is that the size of the cash flows of leveraged and unleveraged firms are both equal. This assumption, however, is unrealistic because the profitability or cash-flow generating ability of firms can also intrinsically depend on the composition of their capital structure, and it is the specific relationship between capital structure and performance which is empirically tested in this paper.

2.2. *Capital structure and performance*

A large body of literature has evolved to deal with cases where the MM results may not apply. Shareholders may not be able to undertake the same financial transactions as firms and at the same price (Duffie, 1987), or face a credit constraints (Stiglitz, 1988). The idea of the debt tax shield (Modigliani and Miller, 1963; Miller, 1977) has also been influential in altering the applicability of the original MM model. Another major strand of literature, how-

ever, has evolved which suggests that leverage has a non-neutral impact on firms' behavior and performance, irrespective of whether or not arbitrage is possible, thus leading to the generation of greater or lesser cash flows than if a firm were to be fully equity financed.

In the alternative strand of literature, four ideas are relevant. The first is the incentive signaling approach. If two firms have differing prospects, which are known by management but not discerned by investors, debt can be used to signal the fact that prospects differ and equity issues may be interpreted as a negative signal (Greenwald, Stiglitz and Weiss, 1984; Leland and Pyle, 1977; Myers and Majluf, 1984). Ross (1977) argues that a firm with better prospects can issue more debt than one with lower prospects, because the issue of debt by the latter will result in a higher probability of bankruptcy because of debt-servicing costs which is a costly outcome to management. Therefore, a higher level of debt will be associated with a higher level of performance.

The second idea, one of resource constraints, is advanced by Jensen and Meckling (1976). Where an entrepreneur has limited resources, then should capital be raised as equity or debt becomes an issue. The placement of equity dilutes an owner-manager's share of profits, and thereby entrepreneurial incentives, motivating on-the-job consumption. Raising debt avoids the sacrifice of incentive intensity since the entrepreneur can internalise to a greater degree the benefits of superior profitability. Therefore, more highly leveraged firms will be more profitable, since the entrepreneur or owner-manager will not have undertaken on-the-job consumption.

As Williamson (1988) contends, however, the modern corporation with no single owner-manager, with diverse ownership, and where there is separation of ownership and control, is more ubiquitous in the contemporary industrial landscape. Therefore, the role that debt plays in influencing corporate performance when it is a part of the capital structure of a large corporation, an organizational form seen also in the Indian context, is more germane. The relevant idea with which to address it is one of bonding (Grossman and Hart, 1986; Jensen, 1986). The behavioral assumption underlying the idea of bonding is one of managerialism (Marris, 1964), and the bonding idea combines ideas of both incentive signaling and resource constraint.

Assuming that management owns little equity, as a result of which a switch from debt finance to equity finance does not change managements' benefit from an increase in profit directly, the incentive effect of debt is to avoid bankruptcy, because the calling-in of a loan can quite easily upset the liquidity position of a firm and jeopardise growth possibilities (Baxter, 1967). Grossman and Hart (1986) and Jensen (1986) assume managerial discretionary behavior, and debt serves both as a signal as well as a check on

managerial discretion. The issuance of debt, a fact which is easily observed, permits the market to make inferences about a firm's strategies, the quality of projects and its likely performance, and these influences are reflected in the market's valuation of a firm. Since the seeking of external funding exposes firms' strategies to scrutiny, managers are exposed to increased monitoring which inhibits their engagement in discretionary behavior and the threat of default also elicits greater managerial effort (Jensen, 1989).

A firm may, therefore, issue debt to persuade the market that the management will pursue profits, which will generate the necessary cash so as to service the debt, rather than indulge in managerial discretionary behavior. By issuing debt, management, as agent, deliberately changes its incentive structure so as to bring it in line with those of shareholders, the principals, because of the resulting impact on market value; or, in other words, management bonds itself to act in the best interest of its shareholders. Hence, higher levels of debt in the firm's capital structure will be directly associated with higher performance levels (Grossman and Hart, 1986). The principal hypothesis prevalent in the literature is that a higher level of debt in a firm's capital structure is associated with a higher level of performance, leading to the generation of greater cash flows.

An alternative hypothesis, however, also exists which states that high leverage is associated with long-term performance declines. Debt holders are assumed to be more risk averse than equity holders (Smith and Warner, 1979). Consequently, they force managers to abandon risky projects and cut back on R&D expenditures. There is evidence suggesting that a negative relationship exists between R&D intensity and long term debt (Baysinger and Hoskisson, 1989). Leverage is, therefore, associated with decline in firms' innovativeness and the long-run consequences of such decline in innovativeness is a worsening of performance.

2.3. *The property rights situation*

The principal assumption associated with the above hypotheses is that suppliers of debt capital are privately-owned institutions, which themselves are subject to monitoring by their own owners or suppliers of capital. Where debt capital is supplied to firms by state-owned enterprises a negative association between leverage and performance can be the primary observed relationship because of the distinctions that exist between privately-owned and state-owned enterprises. State-owned enterprises have been very visible on the financial and industrial landscape of most developing and transition economies. Therefore, their role as debt suppliers warrants specific theoretical analysis.

As in prior work (Majumdar, 1996a), the property rights thesis can be invoked to analyze the behavior and performance differences between private and state-owned enterprises. Property-rights, which are rights over the enjoyment and disposal of income streams and assets, are attenuated in state or government-owned institutions because a market for corporate control is absent. Unlike in the situation where privately-owned financial institutions themselves are subject to market discipline and control from their owners, in situations where financial institutions are state-owned they do not face any such constraints, and there is one major consequence as a result of the existence of such a situation.

Because state-owned financial enterprises are not subject to any discipline by their owner-principal, which is the government, firms which have taken loans from these financial institutions do not feel the need to change their own incentive structures by the bonding behavior that Grossman and Hart (1986) suggest might happen. The state-owned financial institutions which are owed debt by firms are not likely to be called upon to suffer from making bad loan-decisions by their own principals, because the government, in theory, has deep pockets and the encouragement of industrial development in economic environments where capital markets are thin is often one of the goals of the government when setting up financial enterprises (Jalan, 1991). Financial institutions, therefore, have reduced incentives for monitoring their debtor firms. From the debtor firms' point of view, the knowledge that debt-holders' presence is irrelevant or inconsequential, then, can encourage managers towards undertaking discretionary behavior, with negative performance consequences.

In a practical sense, the above situation also ought not to exist because financial institutions' ownership is normally vested in one government department which holds all the shares on behalf of the government. Thus, ownership is not diffused but vested in one owner who can exercise control. From the debtor firms' perspective, this fact ought to encourage bonding because their debt suppliers are likely to face strong monitoring pressures themselves. This, however, is not the case since the fuzziness of owners' identity crops up. The government department which owns shares in financial institutions is itself an agency for citizens who are the de jure owners of the financial institutions. This implies that the control of state-owned financial enterprises, being undertaken by civil servants of the concerned government department, is vested in persons who are themselves agents of the citizens of the state, monitoring other agents, the financial institutions' managers.

The consequences of the above situation can be articulated as follows. As a collection of many principals, citizens of a state face several agency problems. Citizens in a democracy neither have the incentives, because of free-

riding problems (Olson, 1965), nor do they find it easy to control managers in state-owned enterprises such as financial institutions. The very diffuseness of public ownership implies that citizens acting individually have small probabilities in influencing outcomes, or in expressing their voice. As a result, financial enterprises become proprietary organizations owned de-facto by civil servants or politicians, who seek their own rents, while managers in such institutions know that they are free of both market discipline or sanctions from the ultimate principals, the citizens of the state.

For debtor firms' managers, debt is felt to be owed to the public-at-large who can effectively do nothing. Thus, the greater the quantum of debt in the capital structure, the greater is the profligacy or the lack of effort on the part of managers, unlike the situation where privately-owned debt suppliers can exercise a check on discretionary managerial behavior (Jensen, 1986), and corporate performance is negatively impacted. The principal alternative hypothesis that can be advanced is that: where debt capital is primarily supplied by state-owned financial institutions a negative relationship will be noted between the level of debt and performance.

3. Empirical analysis

An extensive firm-level data set, containing information for over 1,000 Indian firms, forms the basis for empirical analysis. These data were obtained from the Center for Monitoring the Indian Economy and supplemented by Bombay Stock Exchange data. Guidance in data collection was provided by the Department of Statistical Analysis and Computer Services of the Reserve Bank of India. The data are cross-sectional for each firm and are collected for one of the years between 1988 and 1994, depending on the availability of all key variables for that year, with missing value problems being sought to be avoided. Given data-collection constraints which were not resolvable, it was not possible to develop a full cross-sectional time-series panel data set.

To assess the impact that leverage has on corporate performance in the Indian context, DEBT EQUITY, which is a ratio of the debt to equity in the capital structure of the firms studied, is used as the principal explanatory variable in a model where the dependent variable is profitability. Profitability may be measured as the percentage of profit to sales, following precedence in the industrial organization and strategic management literatures (Capon, Farley, and Hoenig, 1990; Cowling and Waterson, 1976). However, the profit rate of sales has no necessary link with either agency or governance influences, since the investment dimension is ignored in this profit measure. A more relevant measure, therefore, is the return on net worth. If governance influences are at work, then they should reflect themselves in incentives for management to work effectively for shareholders. Accordingly, the appropri-

ate measure of profitability is return on net worth which captures the return that accrues to shareholders on their investments.

In explanations of profitability a number of other factors can have an impact. These may be firm-related, industry-related or related to aspects of the institutional environment and have to be controlled. The control variables are discussed next, and the discussion with respect to these variables is kept as short as possible, since the objective is to control for other intrinsic and extrinsic factors which also impact on performance.

How large firms are can be an important determinant of performance, and following standard practice *SIZE* is measured as the log of total sales. Larger firms have a greater variety of capabilities and can enjoy economies of scale; these can impact positively on performance (Penrose, 1959). Additionally, larger firms can exploit market power (Shepherd, 1986), both in product-markets as well as in factor-markets, an issue which is particularly germane in the Indian context where institutional factors have fostered rent-seeking (Bardhan, 1984) and firms are able to earn greater profits. Conversely, larger firms have problems of coordination which can negatively influence performance (Williamson, 1967). Nevertheless, given the Indian institutional scene, it is likely that market power arguments with respect to size are likely to dominate over coordination failure issues, and size and profitability is expected to display a positive relationship.

The age of firms is also an important determinant of performance, with *AGE*, measured as the number of years since inception to the date of observation, introduced as a control variable. Older firms can gain experience-based economies based on learning and can avoid the liabilities of newness (Stinchcombe, 1965); however, with age inertia and rigidities in adaptability set ins leading to lower performance (Marshall, 1920). A-priori, no relationship is posited and is left to be empirically determined from the data.

Diversification by firms is one way for excess resources to be exploited (Penrose, 1959), and the subsequent foray into new lines of business increases the repertoire of total skills and capabilities within firms which impacts upon the total performance of the organization. Data on sales from specific business areas, per se, are not available; therefore, an index variable, *DIVERSITY*, is created, taking on the values of 0 for no diversification, 1 for multiple lines of activities in related areas and 2 if firms are very widely diversified.

Similarly, in the Indian context a number of firms are owned by a common industrial house (Mohan and Aggarwal, 1990), much in the manner of Korean chaebols. Such common ownership can lead to the spillover of firm specific capabilities among all members of the group, with an impact on the performance of each member (Amsden, 1989). However, a number of these business groupings are family-dominated, if not family-controlled by virtue

of ownership patterns, and a recent phenomenon has been the occurrence of family feuds, with respect to the division of spoils, and controversies as to what parts of the family control which companies. The number of such feuds have lately been the grist of the popular business-press mill, and it is quite likely that such behavioral factors may have had a negative impact on the performance of individual companies within the group. GROUP is a dummy variable taking on the value 1 if the firm belongs to an Indian industrial group, and is 0 otherwise. The sign of the relationship is left to be empirically ascertained.

The impact of foreign ownership has to be controlled, and a reason why firms invest abroad is that they possess superior capabilities (Dunning, 1981). The possession of these capabilities may lead a firm to display superior performance relative to domestically-controlled firms, and FOREIGN, which is a dummy variable taking the value 1 if there is some non-zero element of foreign ownership present in the Indian firm and with the variable taking the value of 0 if no foreign ownership at all is present, is introduced into the regression.

EXPORTS, which captures the export orientation of the firms studied, is introduced to control for the export orientation of Indian firms. If domestic and overseas markets are equally competitive, or both closed for that matter, differences in competitive intensity are going to be similar and performance differences between export-oriented and domestically-oriented firms are likely to be minimal. On the other hand, if domestic markets are controlled and closed, as has been the case in many developing and transition economies such as India, as compared to the export markets in which firms from these countries operate in, then significantly superior performance will be noted for firms that have a relatively greater export orientation (De Melo and Urata, 1984). Thus, the sign for EXPORTS is postulated to be positive.

A number of control variables are introduced based on empirical performance studies and literature reviewed in Caves (1992). The ratios of advertising, distribution and marketing expenditures to total operating expenditures, ADVERTISING, DISTRIBUTION and MARKETING, control at once both firm-related and industry-related factors. Some firms may spend heavily on advertising, distribution and marketing to gain increased market shares, with a consequent impact on profitability. The variables, therefore, capture firm-level predilections. On the other hand, some industry-setting may require heavier spending on advertising, distribution and marketing activities; thereby, industry-effects are also controlled to some degree.

Another industry-related factor is capital intensity, which is measured as the ratio of net fixed assets to total assets, CAPITAL INTENSITY. Additionally, the ratio of inventory to total assets, INVENTORY, helps control indus-

try-effects given situations where some industries need greater stockholding, but business-cycle effects are also controlled for since in downturns inventories tend to accumulate, and vice-versa. No a-priori relationship is posited for CAPITAL INTENSITY, but INVENTORY is expected to yield a negative relationship since the stocking of inventories means greater need for working-capital, higher interest costs and, therefore, an erosion of profitability.

A variable which also has attributes in controlling industry-related and business-cycle factors is LIQUIDITY, which is the quick assets ratio or the ratio of cash to total current liabilities. Cash requirements may be conditioned by industry practices, but also by the overall economic climate, since in lean times cash-flow crises can arise. Additionally, LIQUIDITY also helps capture firm-specific attributes, since the ability to manage working capital and acquire a greater quantity of cash balances relative to current liabilities reflects superior skills which are also likely to be reflected in a firm's ability to generate relatively greater profits since a lesser cost burden with respect to the use of short-term finance is faced.

SALES GROWTH, which is the rate of change in sales between the observation-year and the preceding years also captures business-cycle effects and environmental volatility. In markets where sales growth is high, there are possibilities for firms to make larger profits; on the other hand, such growth trends may attract new entrants, quite a common occurrence in India in the post-reform period, and average profits for all players may be reduced. The actual relationship between SALES GROWTH and performance is left to be empirically determined.

EXCISE and IMPORTS are two variables controlling institutional factors specific to the Indian context (Mohan and Aggarwal, 1990). The ratio of excise duties borne to gross sales, EXCISE, captures the indirect tax incidence firms face. The greater this ratio, the lower the performance of firms since there are less incentives to be commercially-successful if a principal task is being an adjunct arm of the Indian customs and excise collecting authority. The ratio of imports to total operating expenses, IMPORTS, is introduced to control the impact of import-control regimes that firms face. While greater penetration of imported goods in any particular sector pressurizes domestic firms to perform better, whether allowability of imports of raw materials and supplies by individual firms does so is debatable. On the contrary, the existence of a quota system and import licensing, which has been the case in India (Marathe, 1989), is expected to engender rent-seeking and the likely sign of IMPORTS is expected to be negative.

Finally, TIME is an index variable taking on the values between 0 and 5 for each of the years 1988 to 1994, since the observations being evaluated belong

Table 1. Regression results

| Variable | Coefficient estimate | t-statistic |
|-------------------|----------------------|-------------|
| Debt equity | -16.675 | 30.76*** |
| Size | 8.591 | 4.44*** |
| Age | -0.321 | 2.12** |
| Diversity | 16.685 | 2.47*** |
| Group | -8.385 | 1.61* |
| Foreign | -7.916 | 1.23 |
| Exports | 0.056 | 0.38 |
| Advertising | 3.041 | 1.63* |
| Distribution | -1.116 | 1.19 |
| Marketing | -1.126 | 1.12 |
| Capital intensity | 0.115 | 0.77 |
| Inventory | 0.597 | 2.64** |
| Liquidity | 6.962 | 1.47* |
| Sales growth | -0.005 | 0.95 |
| Excise | -0.602 | 1.81** |
| Imports | 19.190 | 1.10 |
| Time | -9.889 | 4.18*** |
| Constant | 59.327 | 3.70*** |
| R ² | 0.500 | |
| F | 60.911 | |
| N | 1043 | |

***p<.01; **p<.05; *p<.10 (one-tailed).

to either of these years. Time effects are thereby controlled, and whether the reforms process has led to a structural change in performance patterns of Indian firms can also be tested. If, indeed, firms have become more profitable as a result of the opening-up of markets, then TIME and profitability will display a positive relationship. Conversely, the unleashing of competitive forces can lead to a structural profitability decline for firms. The issue requires empirical validation.

4. Results

The regression results are obtained using weighted least squares estimation to correct for the presence of heteroscedasticity (Gujarati, 1986) and are shown in Table 1.

DEBT EQUITY is found to be negative and significant. The magnitude of the coefficient that is estimated is also substantial, and the significance of the relationship is at the $p < .001$ level. These are counter-factual findings which

go against the postulates of received theory advanced by financial economists in the corporate governance area. Explanations as to why the presence of a greater level of debt in the capital structure of firms have to be rooted in the Indian context, and applicability of concepts of corporate governance to transition economies needs re-appraisal in light of institutional factors that are commonly-noted in such economies, such as India. A detailed discussion of these findings follows separately in Section 5, after the results for the control variables have been described in this section.

Of the several control variables introduced into the model, 9 of these are significant, at a minimum of 10% level of significance using a one-tailed test. It is the relationship of the significant control variables, and the implications of the results for corporate performance analysis in the Indian context, that are discussed. *SIZE* is positively related to performance, reflecting the ability of large firms in India to exercise power in product and factor markets. The data available have not been adequate for the purpose of constructing market share or concentration variables which more reflect the market structure that firms may face; hence, following Shepherd (1986), *SIZE* is used as a surrogate. However, big firms may also enjoy scale economies; therefore, detailed disaggregated study of these effects is necessary. *AGE* is negative, implying that inertia characterises older firms in India. Newer firms, on the other hand, seem to be more flexible in adapting to the realities of the newly-competitive market place.

DIVERSITY is positive and significant, implying that the utilization of firms' resources in other business areas is conducive to overall firm-level performance. Correspondingly, there may be an increase in organizational variety engendered by diversification moves as a result of which capability spillovers may take place from the new business areas into the core business, with an impact on performance. *GROUP* is negative and significant, implying that membership of an industrial group is fraught with deleterious consequences on economic performance.

ADVERTISING is positive and significant, and this is in consonance with industrial organization theory. A higher level of advertising spending enables product differentiation to take place, with consequent impact on profitability. The sign for *INVENTORY* is as predicted. *LIQUIDITY* is positive and significant, denoting both the ability of firms to be superior working-capital managers, as well as gain, in profit terms, from lower interest costs. *EXCISE* is also negative and significant, implying that firms which play a role of being tax collectors for the government have muted incentives to be profitable commercial operators. Also, in a relatively demand-constrained economy like India a higher rate of excise duty on products sold limits the margins that manufacturers can charge, given the inability of the Indian customers to

afford to pay more than a particular price for the products on sale. Finally, TIME is negative, the result implying that liberalization may be leading to a structural profitability decline for firms in general. However, this aspect of performance needs more disaggregated analysis.

5. Discussion and implications of principal findings

In this section some explanations are advanced in respect of the key findings that are obtained. The supply of debt capital in India is almost fully in the hands of the public sector, though equity capital is supplied by private individuals, and every conceivable major institution in the Indian financial sector is owned by the government (Jalan, 1991). In 1956 the life insurance business in India was nationalized, followed by the nationalisation of the general insurance sector in 1973. This created a government-owned duopoly in the insurance sector. Similarly, the largest mutual fund agency, the Unit Trust of India, is fully owned by the government and other smaller mutual funds are owned by the banks. While insurance companies and mutual funds are not primarily lenders of debt, the objective is to highlight the pervasive hand of government in the operations of the financial sector of India.

In 1969, the principal commercial banks, making short-term working capital loans to industry, were almost fully nationalized. Financial institutions making long-term loans were established, de-novo, by the government. For example, the Industrial Finance Corporation of India was set up in 1948, and the Industrial Development Bank of India in 1964. These are the two major suppliers of long-term debt to Indian industry. There are also a number of specialized long-term lenders, all owned by the government, such as the Industrial Reconstruction Bank of India, the Small Industries Development Bank of India and the Shipping Credit and Investment Corporation of India.

Apart from these central government-owned financial institutions, almost every major Indian state, there being 25 states in India's federal structure, has a State Financial Corporation and a State Industrial Investment Corporation. These corporations are also major long-term debt suppliers to industry. The only major private-sector financial institution in India is the Industrial Credit and Investment Corporation of India; however, on its board of directors the government has a very noticeable presence and for all practical purposes it behaves like a state-owned enterprise. In all Indian financial institutions, the granting of loans to the extent of often twice the level of equity capital, and often much more, of the firms has been the norm (Majumdar, 1996b), unlike in the U.S. where such high leverage ratios are rarely noted.

The financial sector in India is almost completely state-owned, with the present empirical results supporting the alternate hypothesis that there is a

negative relationship between leverage and corporate performance. From the point of view of policy-making, not only in the Indian context but also from that of many other transition economies, there is one major implication. India, in common with many other transition economies, is opening up her hitherto-closed markets and industries to large-scale entry by domestic and foreign firms. Attempts are being made to privatize commercial and industrial Indian state-owned enterprises, as in other transition economies, though not at all very successfully. Yet, little attention is being paid to reform of the financial sector, and this reform is fundamental for other micro-level reforms to succeed.

Though a number of private foreign and domestic financial institutions have entered the Indian capital market, they have initially entered as portfolio investors in equity and have only lately been allowed to become suppliers of debt. If the canons of corporate governance, as commonly-understood in Western economies, are to apply in India, as well as other transition economies such as those of the United Kingdom and the United States, then a fundamental policy-switch necessary is the privatization of Indian state-owned financial institutions. Only then might the presence of debt in the capital structure of firms have a disciplining impact on Indian managers. Yet, the issue of transferring financial institutions' ownership to the private sector has never been voiced in the Indian reforms process. Though privatization of state-owned enterprises is a major issue in the reform of economies that are in transition, the issue of financial sector privatisation has hardly been raised.

Financial sector privatization has an impact in enforcing hard-budget constraints on firms, and with regard to the privately-owned supply of capital to Indian industry a contemporary phenomenon which is occurring may have positive impact in the future. That phenomenon is the increasing presence of institutional investors in the capital markets generally, and the increasing presence of institutional investors has had a salutary impact in influencing managerial behavior in the United States in the 1980s (Majumdar and Nagarajan, 1996). If the role of institutions as a supplier of capital is increased over time, these institutions may be able to bring disciplinary pressures to bear on firms' managers and enforce hard-budget constraints.

The repetition of the trend in India, where over time the supply of debt capital as well equity investments via mutual funds will become increasingly concentrated in private institutional hands, both domestic and foreign, might force discipline on the Indian capital market as well as on Indian firms. An empirical exercise that can then be carried out is to evaluate whether unexpected changes in the levels of debt supplied by government-owned institutions has a one-time effect on returns via the mechanism of an events study.

Such a study is not feasible using the present data set because the sources of all corporate debts are state-owned financial institutions.

Additionally, foreign financial institutions have entered the Indian capital market in a substantial way. These foreign financial institutions are well capitalized and can draw on the deep-pockets of their parents for resources. As foreign financial institutions exercise their financial muscle in forcing firms in India which use the capital market as a source of funds to meet the standard norms of behavior that are commonly accepted in the West, then firms' performance is also likely to improve. The entry of foreign institutional investors into the Indian capital market has considerable implications, and over time it is expected that these institutions will develop into major suppliers of capital. This will be de-facto privatization of the supply of debt capital in India, a financial sector reform which is needed.

Other than an agency reason, the evidence suggests that the capabilities of Indian banks and financial institutions may not be up to par, since a high debt-equity ratio is associated with low performance. The loan and project appraisal skills of the government-owned Indian banks and financial institutions are likely to be called into question, since promoters with inherently-unsound projects may have obtained large sums of money from these institutions. These sums, may have had to be lent because of political considerations, and banks and financial institutions may be merely serving as a conduit for the channel of government largesse to specific parties. Also, even if appraisal skills are at par, banks and financial institutions may have no options but to continue funding, as an agency of government, because the political consequences of calling in low-performing loans is likely to be fraught with significantly negative political consequences.

With respect to how the financial sector is presently structured in India, two issues become important. The role of financial institutions' nominee members' presence on the boards of firms which have significant borrowings, a standard practice, is also likely to be questioned, since their presence in highly-leveraged firms may not matter in any critical way. Their role has been to explicitly monitor the performance of highly leveraged firms. Yet, it is the highly leveraged firms which are unsatisfactory performers. Simultaneously, the supervisory abilities of the Department of Banking in the Ministry of Finance, which is a fully-fledged government department with a secretary or additional secretary at its head, or of the Reserve Bank of India's various monitoring functions have to be called into question. Assuming that these bodies have roles to play as overseers of the banking sector in the Indian economy, those roles do not seem to have been fulfilled in any meaningful manner if the firms in which the financial institutions under their control have a larger exposure are ones which display low economic performance.

Nevertheless, there can be a great deal of variation in the quality of capabilities that the state-owned banks and financial institutions possess. There may be a number of quite capable state-owned financial institutions and banks, and a number of these banks and institutions whose performance is considerably below average, given the very large number of such institutions that do exist in India. For example, 300 banks operate over 60,000 branches in India (Mistry, 1995); consequently, heterogeneity in banks' capabilities is bound to exist. Thus, more detailed empirical research which identifies the relationships that the explicit sources of loan capital in the corporate sector have with profitability is warranted. Also, in the future the increasing presence of foreign financial institutions may serve to enhance the capabilities of all financial institutions operating in the Indian capital market through the operation of a spillover process. Whether this phenomenon actually occurs or not is, of course, an empirical question. If it does, then Western concepts of corporate governance may begin to be applicable to the Indian context.

The high cost of borrowing in the Indian context may also, in part, account for the results obtained. The cost of borrowing in India is phenomenally high by international standards. Where investors are presently being offered rates of interest of between 15% and 18% per annum by financial institutions, the cost to borrowers of funds from banks and financial institutions is considerably more, given the risk premium and the administrative spread that are added on. For highly-leveraged firms to service such high interest rates means that the gross margin on sales has to be enormously high. The realization of such margins in competition with firms which are less highly leveraged may not be feasible in the contemporary Indian market context, where the liberalization of entry has simultaneously exacerbated competitive pressures for incumbents. The consequence is that highly-leveraged firms are considerably less profitable than firms with a greater level of equity in their capital structure.

Within the framework of the debt literature, in this paper we have studied the narrow issue of whether the level of debt impacts firms' profitability. The MM propositions relate to firms' value, and in the context of Western institutional practices the standard assumption is that capital markets are efficient enough for investors to not violate the no arbitrage condition. In India, however, the secondary market for shares is not efficient. The Bombay Stock Exchange is the principal secondary market in India. It is over a century old, accounts for 70% of daily stock exchange turnover in India, 75% of the total market capitalisation of shares in India and trading is voluminous. 6,000 shares are listed, yet trading in the shares of 50 companies accounts for 80% of the market activity (Mistry, 1995). A system of speculative forward trading by the broker community accounts for the bulk of trades within the Bombay

Stock Exchange and enables brokers to earn incomes at the expense of the individual investors they represent. Market rigging is endemic and Mistry (1995: 190) remarks that “broker behavior...is severely inimical to the market’s integrity and to the interests of all other market participants.” Thus, if we were to study the postulates of the MM ideas as they relate to firms’ values, we will be unable to find empirical support for their propositions in the Indian context because of the institutional characteristics of the Indian secondary market for stocks, shares and bonds.

Additionally, though equity markets have been operating for over a century in India a genuine bond market in trading government and corporate debt issues, similar to such markets in the developed world, has remained undeveloped. The development of the fixed income instruments trading segment of the capital market has been stultified largely as a consequence of the government pre-empting a large share of banking deposits at below market rates of interest. Not only does the government pre-empt a large share of banking deposits, but its borrowing in the capital markets is not transparent. Therefore, conditions for a secondary debt market which is transparent in its operation to exist are vitiated. Controlled interest rates and the absence of credit risk differentiation have further contributed to that neglect. Proper markets in risk-management and derivative instruments have not yet developed. Financial sector reform in India, so far, has been conspicuous in its omission of the need to develop a wide, deep and liquid bond market for corporate debt issues.

6. Conclusion

Using contemporary data, this paper has investigated the relationship between leverage, or the level of debt in the capital structure, and performance for a large cross-section of Indian firms, finding a negative relationship which is not in accordance with the assumptions of theory as commonly-accepted in Western economies. In India, suppliers of debt are government-owned financial institutions, and the postulates of agency theory, as applied to contemporary corporate governance issues in the West, have to be re-assessed in light of state-ownership of financial institutions. The fact that suppliers of debt capital to firms in India are state-owned has major behavioral ramifications which impact on whether the presence of loan creditors induces managers in firms to strive for superior corporate performance. Privatization of state-owned Indian financial institutions is suggested as a fundamental policy change which may ensure that debt-holders can exercise a disciplining influence upon Indian managers and ensure superior corporate performance. Correspondingly, the entry of foreign-owned financial institutions into the

Indian capital market may also have a salutary effect on the performance of Indian firms.

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