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OWNERSHIP STRUCTURE AND CAPITAL STRUCTURE: EVIDENCE FROM INDIAN FIRMS

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ABSTRACT

The purpose of present work is to study and empirically investigate the effect of ownership structure on capital structure of companies in India. The study examines the cross-sectional variation in leverage with respect to changes in promoters' shareholding and institutional investors' holding along with other control variables for top 100 companies listed on NSE as on 31st March 2016. Ordinary Least Squares Regression technique is employed to analyze the data. The study finds that there is significant positive and significant negative effect of promoters' shareholding and institutional investors' shareholding respectively on leverage.

KEYWORDS: *Ownership Structure, Promoters' Shareholding, Institutional Investors' Shareholding, Leverage.*

Introduction

Capital structure decision pertains to how a firm uses different sources of funds to finance its overall operations and growth needs. These sources of finance mainly comprise debt and equity. Thus a firm's capital structure can be a mixture of different forms of debt and equity such as long term debt, short term debt, common stock, preferred stock, retained earnings. Modern thinking on capital structure finds its base in the pioneering research by Modigliani & Miller (1958). Although the theory is impractical in the real world for the reason of assuming away various factors critical to the capital structure decision making, it is surely a foundation to understand the various concepts introduced over the years to adopt the theory to the present world. Since then, a good amount of seminal works have been done and various features have been incorporated to the capital structure choice.

Good corporate governance mechanism holds a significant importance in the economy. According to Shleifer & Vishney (1997), corporate governance deals with the ways in which the suppliers of finance to the corporations assume themselves of getting a return on their investment. Agency problem and control have emerged as two important aspects of corporate governance in the corporate finance literature. One of the principal agent problems is reflected in the separation of ownership and management. Agency theory postulates that there exists an innate conflict of interest between managers and shareholders (owners). Owing to separation of ownership and control, managers of the firm may involve themselves in activities that pursue their self-interests and make decisions that do not fulfill the owners' interests. Jensen & Meckling (1976) point out that managers have natural tendency to make decisions that serve their own interests. Dispersion of ownership exacerbates the problem due to the inability of the small investors to monitor the managers; the problem is called collective action problem. One of the mechanisms proposed to resolve the collective action problem is seen in the partial ownership and control concentration in the hands of one or few large shareholders (block holding) since their interests are more intensely aligned with that of the firm Shleifer & Vishney (1997). Holding by large shareholders may be seen as a mitigating device of agency problems since block holders will closely monitor the actions and decisions of the professional managers, pertaining to their alignment of interest. Another framework suggests that increase in managerial ownership

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can reduce agency cost since managers then will have to bear the cost of private benefit consumption in proportion to their shareholding (Jensen & Meckling, 1976). Moreover, agency theory posits debt as a disciplining mechanism where the activities of the managers are monitored by the lenders. This gives rise to the research question i.e. if both debt and concentration of shareholding (by managers & shareholders) work for resolving the conflict of interest between shareholders and managers then what could be the possible relation between debt (leverage) and structure of ownership?

In case of dispersed shareholding, managers are at a greater discretion to pursue their self-interest as they are subject to lesser monitoring and scrutiny by dispersed shareholders. In such situation management would make such actions and decisions that safeguards their self-interests and prevents concentration of shareholding. Managers can avoid monitoring by insiders by raising debt for financing, but they shall in such cases, subject themselves to monitoring by the lenders. So, what do managers prefer- monitoring by large shareholders or monitoring by lenders is another dimension of this research. Although debt was an important factor in reducing agency cost, but it is also associated with the risk of bankruptcy which may compel managers for increasing the efficiency. The interest commitment of debt helps to resolve the free cash flow problem [(Grossman & Hart, 1982) and (Jensen, 1986)]. Moreover there are considerable researches on the relationship between ownership structure and firm performance whereas the studies relating to the effect of ownership structure on capital structure are comparatively lesser especially in an emerging economy like India. This paper attempts to fill this gap. Based on the arguments of agency issue, this paper empirically attempts to examine the effect of ownership structure on capital structure. The paper uses ordinary least square method to do a cross sectional analysis of capital structure variation across firms from ownership structure.

Review of Literature

Agrawal and Mandelker (1987) examined the relationship between common stock and option holdings of managers and the choice of financing and investment decisions by firms. They found a positive relationship between the security holdings of managers and the changes in firm variance and in financial leverage. Their results are consistent with the hypothesis that executive security holdings have a role in reducing agency problems.

Friend and Lang (1988) investigated the relationship between managerial self-interests and capital structure decisions of firms for a sample of 984 firms listed on NYSE from 1979 to 1983 and found that the debt ratio was negatively related to management's shareholding. They also found that no substantial increase of debt can be realized unless there is a non-managerial principle stockholder.

Jan Mahrt Smith (2000) developed a model and analyzed the interaction of capital structure an ownership structure of manager run firms. They found a positive relationship between the concentrated equity ownership and concentrated debt holdings. They also predicted that the ability of debt holders to control managers' self-interest may be a compliment to (& not a substitute for) the ability of equity holders to control managerial self-interest. They also demonstrated that the capital and ownership structure are useful for providing incentives for both managers and investors, even if monetary incentive schemes are optimally designed.

Brailsford, Oliver and Pua (2002) studied the link between ownership structure and capital structure using an agency framework. Their study found a positive relationship between external block-holders and leverage whereas a non-linear relationship between the level of managerial ownership and leverage. Their results are consistent with the active monitoring hypothesis by block-holders, and the effect of convergence of interest and management entrenchment hypothesis. They also found that the relationship between external block ownership and leverage varies across the level of managerial ownership.

Cespedes, Gongalez and Molina (2008) studied the capital structure determinants of the Latin American firms for a comprehensive sample from 1996-2005, covering seven countries. They found a U-shaped relation between ownership concentration and leverage. They also found that the firms with more growth opportunities exhibit higher leverage.

Lakshmi (2009) examined the effect of ownership structure on capital structure for firms in India. Using OLS for a cross sectional sample of 1314 non-financial companies for the year 2008, they found an inverse (negative) relationship between ownership structure and capital structure.

Liu, Tian and Wang (2011) examined the effect of state control and ownership structure on leverage decision of firms listed in the Colombo Stock Exchange. They found that state owned enterprises (SOEs) had higher leverage ratios than non SOEs. They also found a negative relationship of largest

shareholding in SOEs (percentage of shares held by the largest shareholders) with the leverage ratio. Also, largest shareholding in non-SOEs had a non-linear relationship with short term and long term debt ratio.

Objective

The paper attempts to study and empirically examine the effect of ownership structure (promoters holding and institutional investors holding) on capital structure (leverage) of selected Companies in India for the financial year ending 2016.

Hypothesis

H_{o1} : There is no significant effect of promoters' shareholding on leverage.

H_{o2} : There is no significant effect of institutional investors' shareholding on leverage.

Methodology

For the purpose of above study, 100 companies were taken from NSE CNX 100 list for the year 2016. Nifty 100 Index is a diversified 100 stock index accounting for 38 sectors of the economy. Nifty 100 represents top 100 companies based on full market capitalization from nifty 500. The Nifty 100 index represents about 77% of the free float market capitalization of all the stocks listed on NSE as on 31st March 2016. The sample excludes all the financial and government companies subject to different legislative system and ownership patterns. Also, companies with missing data for any variable are excluded from the sample. The final sample consists of 63 firms for the year 2016. The study uses OLS (ordinary least squares) method to do a cross sectional analysis of capital structure variation across firms from ownership structure.

Variables

- **Dependent Variable:** Capital structure is the dependent variable in the study and is measured through the debt ratio. Debt ratio is defined as the book value of long term debt divided by the sum of market value of equity and book value of long term debt.
- **Independent Variables:** Promoters and institutional investors are used as two categories of shareholders for the purpose of defining ownership structure in the study. Promoters' holding is measured through the percentage of shares held by the promoters. Institutional shareholding is measured by the percentage of total shares held by them.
- **Control Variables:** There are certain firm specific characteristics that are proposed to have an impact on capital structure of the firm by earlier studies such as size of the firm, profitability, tangibility, free cash flow, business risk, growth opportunities, non-debt tax shield and age of the firm. A brief explanation of the definition and measures of the variables used are given in Table 1.

Table 1: Definition of Variables with Explanation

Definition of Variables with Explanation	
Capital Structure	Debt ratio is defined as the book value of long term debt divided by the sum of market value of equity and book value of long term debt.
Promoters' Shareholding	Promoters' holding is measured through the percentage of shares held by the promoters.
Institutional investors' Shareholding	Institutional shareholding is measured by the percentage of total shares held by institutional investors.
Size	Natural log of the book value of total assets at the end of the financial year 2016 has been used as a proxy for size of the firm.
Profitability	Profitability of the firm is measured through return on assets (ROA). ROA indicates how profitable a firm is with respect to its total assets. ROA is measured as ratio of profit before debt, interest and taxes (PBDIT) upon total assets.
Tangibility	Tangibility is measured as ratio of net fixed assets to total assets.
Free Cash Flow	Free cash flow is calculated as operating income before taxes, depreciation and amortization and deducting the taxes and dividends paid divided by total assets.
Business Risk	Business risk is the uncertainty in profits or danger of loss. It is measured by the standard deviation of the annual percentage change in the operating income before interests, taxes and depreciation over 2011-2016.
Growth Opportunities	The finance theory identifies two measures of growth i.e. revenue based and market/book value based. In the present study growth opportunities are measured by market to book value ratio since it is more accurate representation of long term perception of growth. Moreover revenue changes may be because of many year specific factors, for example acquisitions. The level of debt that a firm chooses to finance its projects (investments) is determined by the growth opportunities.

Non-debt Tax Shield	The same measure as used by Brails ford et al. (2002) is used as a measure of non-debt tax shield in the study also. It is defined as ratio of depreciation upon total assets.
Age	The age of the firm is measured with the number of years the company has been in existence since its incorporation to the date of observation.

Model

To capture the relationship between capital structure and ownership structure, following two equations have been formulated. First equation studies the effect of shareholding by promoters on capital structure of the firm and equation second tries to explain the effect of institutional investors' shareholding on firm's capital structure.

$$LEV_i = \propto_0 + \propto_1 PSH_i + \propto_2 SIZE + \propto_3 ROA_i + \propto_4 TANG_i + \propto_5 FCF_i + \propto_6 BR_i + \propto_7 GROWTH_i + \propto_8 NDTS_i + \propto_9 AGE_i + u_{1i} \quad \text{.....(Equation 1)}$$

$$LEV_i = \beta_0 + \beta_1 PSH_i + \beta_2 SIZE + \beta_3 ROA_i + \beta_4 TANG_i + \beta_5 FCF_i + \beta_6 BR_i + \beta_7 GROWTH_i + \beta_8 NDTS_i + \beta_9 AGE_i + u_{2i} \quad \text{.....(Equation 2)}$$

Test of Multicollinearity

When the explanatory variables correlate with each other, there is possibility of problem of multicollinearity. As a consequence, the effect of each specific variable on the dependent variable becomes difficult to identify. Tolerance Value (TV) and Variance Inflation Factor (VIF) for each variable were used to test multicollinearity. Generally, a set of explanatory variables are said to correlate if tolerance is low and VIF exceeds 10. No problem of multicollinearity is found in each of the regression equations OLS regression method was applied on the two regression equations simultaneously.

Results of OLS Regression

Table 2 presents the results of OLS regression analysis to study the effect of ownership structure (promoters' shareholding and institutional shareholding) on capital structure. Both, holdings by promoters as well as institutional investors appear to be statistically significant, at 1 percent level of significance, in explaining the differences in the level of debt employed by the sample companies. The promoters' holding bears a positive sign, which means higher the promoters' holding, higher is the level of debt employed. On the other hand, institutional shareholding bears a negative sign which means higher the shareholding by institutional investors, lower is the level of debt employed by sample firms. Moreover, firms' growth opportunities, non-debt tax shield and tangibility are found to be statistically significant control variables. Both growth and NDTS show negative effect on the level of debt i.e. as the growth opportunities and NDTS increase, firms employ lower levels of debt. Tangibility has statistically significant positive effect on the levels of debt which means that the level of debt employed by the firms increase as the amount of tangible assets relative to the total assets with the firms increase. Business risk, free cash flow, ROA, size and age are not statistically significant in explaining the cross sectional variation in capital structure. In light of the above results, both null hypothesis Ho1 and Ho2 stands rejected.

Table 2: Cross Sectional Regression Analysis with Capital Structure as Dependent Variable

Variables	Promoters' Shareholding	Institutional Shareholding
Constant	.079 (.377)	.553 (3.169)***
Promoters' shareholding	.004 (3.087)***	-
Institutional shareholding	-	.005 (-3.071)***
Business risk	.036 (1.005)	.023 (.645)
Free cash flow	.061 (.687)	.093 (1.029)
Growth opportunities	-.166 (-7.450)***	-.155 (-7.350)***
Return on Assets	-.019 (-1.135)	.028 (-1.677)*
Size	-.011 (-.258)	-.007 (-.162)
Non debt tax shield	-3.150 (-2.825)***	-3.590 (-3.195)***
Tangibility	.581 (4.541)***	.577 (4.506)***
Age	.025 (.659)	-.005 (-.131)
R square	.650	.650
Adjusted R square	.590	.589
F-statistic	10.734***	10.708***

Note: t-statistics are in the parentheses, *** indicates statistical significance at 1% level, ** indicates statistical significance at 5% level, *indicates statistical significance at 10% level

Conclusion

The empirical findings of the study shows that ownership structure of the firm measured by promoters' shareholding and institutional shareholding have statistically significant (at 1 percent level of significance) positive and negative effects respectively on the level of debt employed by the sample firms. This means that higher the percentage of shareholding by promoters more will be the level of debt employed by the firm whereas higher the percentage of shareholding by institutional investors less will be the level of debt employed by the companies. It is argued that, in case of dispersed shareholding, managerial discretion is more and shareholders' monitoring is less, hence the managers influenced by their self-interest would further prevent monitoring by creditors as well. However, in case of present study where the Indian companies are characterized by concentration of ownership it may be possible that promoters may issue more debt to avoid additional cost of equity. Moreover they may engage themselves in financing high risky projects through issue of debt, also known as the asset substitution problem (Jensen & Meckling, 1976). Nevertheless, debt is associated with the cost of financial distress which creates financial risk for the firms employing higher levels of debt. Therefore, institutional investors may prefer firms with lower levels of debt (Chen & Steiner, 1999). The findings of the study are also in line with results of some earlier studies (Changati & Damanpour 1991, Bathala et al. 1994). Among the control variables, growth opportunities, non-debt tax shield and tangibility are found to exert significant effect on leverage of the firm. Growth opportunities and non-debt tax shield have negative significant effect on debt employed by the firm which means that as the firm discovers or recognizes new growth opportunities for the business it prefers to employ lower levels of debt. Also, with increase in the amount covered under non-debt tax shield, the company employs lower amounts of debt. Tangibility has significant positive effect on capital structure of the firm which means that with increase in tangible assets with the firm, the capacity of the firm to issue assets as collaterals against the debt increases. Collaterals offered as security reduces the cost of debt and hence firms can employ more amount of debt at reduced costs. The study thus concludes that ownership structure of Indian companies have an important role in explaining cross-sectional variations in the capital structure. Both null hypothesis H_{o1} and H_{o2} stands rejected.

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