

An Empirical Study on the Relationship Between Institutional Ownership and Capital Structure

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In the present study, the authors have attempted to investigate the relationship between institutional ownership and capital structure of the companies listed in India. The authors have taken companies that are part of NIFTY 100 as the sample for the study for the period FY2009-10 to FY2018-19. Debt of companies has been considered in two ways: one in relation to the equity, Debt to Equity Ratio (D/E Ratio); and the other one in relation to the total assets, Total Debt to Total Assets (TD/TA). This study used a few variables in the form of control variables, which include return on assets, size, business risk, sales growth and tangibility. Using fixed effect ordinary least squares regression model, the study found negative association between institutional shareholding and leverage levels of companies, and it was also found that institutional investors preferred to invest in companies with low debt levels.

Introduction

Raising debt is one of the crucial financial decisions taken by the management of any company to expand business operations or to fund their new investment opportunities. Companies choose debt policy based on tax advantages associated with debt financing and possible bankruptcy costs for employing excess debt proportion in capital structure, according to traditional finance theory. Pecking order postulates that companies first prefer to utilize internal funds as the primary liquid source of capital followed by raising debt which is less risky and then go for riskiest source of finance i.e., issue of equity, when no other means of finance is available (Myers and Majluf, 1984). Agency theory suggests, the employment of debt can alleviate the agency problems (Jensen and Meckling, 1976). According to Agency theory, the lower managerial holdings necessitate the need to monitor the actions of management as managements mostly have incentives linked to performance and invest in big and risky projects. This problem may get mitigated by the employment of debt in capital structure of a company as debt acts like an external monitoring mechanism. The problem gets worsened with companies that are in mature stage with less growth opportunities, and the companies with surplus cash flows with less growth opportunities will resort to debt as a source of finance to monitor the actions of management (Jensen, 1986).

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Debt holders of a company cannot overtly have control over the affairs of management of companies, but the levels of leverage can certainly influence the behavior of management and performance of companies. Monitoring the affairs of companies is usually undertaken by large shareholders, as small investors are devoid of majority interest and cannot exert control over the management and such monitoring acts as a control mechanism. The presence of institutional investors serves as protection to the interests of small and minority investors by way of disciplining the actions of management (Shleifer and Vishny, 1986), according to active monitoring hypothesis. Such intervention may also lead to aligning the interests of management with that of shareholders.

The institutional investors are increasingly becoming an important set of investors in financial markets and their role has become more pronounced post the economic reforms initiated by various countries towards privatization of their economies and as a consequence their presence has led to some influence on corporate governance practices of companies. Institutional investors, compared to individual investors, enjoy superior ability of sourcing and interpreting information on various material aspects about the companies (Gompers and Metrik, 2001), trade on the information and they also engage in disseminating the information to other investors and stakeholders of invested companies.

The association between institutional investors and capital structure has been probed well and quite a decent amount of literature is available, however, the subject has not been explored to a great extent as it has been explored in other developed economies. The present study uses company-level data of 86-listed companies in India to examine the said relationship. This study is expected to contribute to existing literature on the subject with findings pertaining to the Indian context.

Literature Review and Hypothesis Development

Institutional Ownership and Leverage

Institutional ownership, as defined in the existing literature, is a portion of total shares outstanding, owned by the institutional investors. Institutional investors, over time, have evolved into a dominant set of investors. These are non-individual investors which include insurance companies, financial institutions, banks, pension funds, etc.

The relationship between ownership and capital structures has attracted a lot of interest from academicians and researchers. In an attempt to become habitat for investments from institutional investors, firms generally resort to strategies that are responsive to goals of institutions. Every organization crafts its own leverage level which optimizes trade-off among agency costs, cost of financial distress, information asymmetries and taxes (Fama and French, 2002; and Oztekin and Flannery, 2012). According to Pecking Order Theory, firms resort to retained earnings as preferred source of internal financing since it does not involve any direct costs. Debt is the next best choice for raising finance for companies as it commands lower costs compared to equity and any other source of finance.

Institutional investors, as a category of large investors, have the capacity and motive to monitor invested companies in their best capacities with the aim of protecting their investments and see to it that management executes strategies for the benefit of shareholders (Grossman and Hart, 1980; and Shleifer and Vishny, 1997), whereas small investors usually lack majority and interest which makes it extremely costly for them to monitor invested companies. It is more probable that institutional investors influence actions and decisions of management by virtue of their large holdings which may include decisions pertaining to financing too. Institutional investors prefer and invest in companies with low debt levels (Chaganti and Damanour, 1991). The presence of institutional ownership calls for better corporate governance practices which acts as replacement for debt (Jensen, 1986). Institutional investors invest in companies with better disclosure practices to avoid monitoring costs (Bushee and Carter, 2010) as good corporate governance practices reduce outside monitoring and thus costs which in turn improves performance of companies (Brown and Caylor, 2009). Consistent institutional ownership in a company enables the management to focus on long-term goals of companies and earn good reputation in the debt market (Elyasiani *et al.*, 2007). The strength of institutional investors emerges from the increase in their stakes (Aghion *et al.*, 2009), and blurring legal hurdles which thwart institutional investors' ability to oversee management (Kahan and Rock, 2007).

The extant research depicts organizational settings and company-specific factors that influence the choice of capital structure. Tangible assets of firms are mostly financed by debt (Rajan and Zingales, 1995). Equity is the common source of finance for the companies and economies in growing stages due to lesser developed bond markets and where financial institutions are required to have better governance and on other side mature companies and economies depend more on financing from banks (Shleifer and Vishny, 1997).

A decent amount of research has also been conducted as to how institutional ownership impacts corporate governance practices of companies. The presence and increase of institutional ownership resulted in better practices of corporate governance (Chung and Zhang, 2011). Shareholder activism brought in by institutional investors in the US resulted in higher quality levels of corporate governance (Palmiter, 2002; and Admati and Pfleiderer, 2009). It is also important to investigate how debt and equity levels alter with variations in ownership structure of companies. The level of information carried by institutional ownership impacts their stock selection leading to substitution effect between debt and investment (Myers and Majluf, 1984). Agency costs get mitigated because of active monitoring of institutional investors by way of resolving issues related to interests between shareholders and management which leads to reduction in the cost of equity (Michaely and Vincent, 2012).

Taking a cue from the aforementioned literature, it is hypothesized that increase in institutional ownership leads to reduction in debt levels in capital structure of companies because of active monitoring by them and adverse stock selection because of their information-procuring ability, which in turn makes the equity of a firm more attractive and collectively catapult to the reduction in debt levels of companies.

Objective

This study has been carried out to examine the association between institutional ownership and leverage of Indian-listed companies and compare its findings with the research findings of the studies conducted earlier on this subject across various countries and see whether the findings in the Indian context are the same or differ from the findings of the earlier studies as institutional structures vary between developed countries and developing countries. In addition to the main variable, a few control variables have also been inducted into the study and probed as to how they share a relationship with leverage of companies and to study to what extent the control variables impact the debt levels of companies.

Data and Methodology

Sample

The hypothesis was investigated on the sample of the Indian companies listed on National Stock Exchange. The companies that are part of one of the broad indices, i.e., NIFTY 100, have been chosen as sample companies for this study. The study is primarily focused on listed companies for NIFTY 100 is a dynamic index and the companies that were not listed for the complete sample period and which were delisted midway of the sample period have been omitted and therefore the sample size was marginally reduced to 86. The sample includes both financial and non-financial companies. Primarily, these companies are huge in size, highly consistent and have great potential to impact the Indian economy. Secondly, these companies enjoy great accessibility to external source of finance than other segment of companies, since these companies have huge assets base with collateral values.

This study covers a period of 10 financial years starting from the financial year 2009-10 to 2018-19. A decade of study period over the sample list of 86 companies resulted in 860 firm observations or data points. This period witnessed very many changes in the country on political and economic fronts, starting from the change of government to a more stable one with a clear majority, implementation of many structural economic reforms like demonetization, Goods and Services Tax (GST), etc.

The study required the data pertaining to institutional shareholding and financial data of companies and the same has been sourced from the Center for Monitoring Indian Economy (CMIE Prowess) and from the annual reports of respective companies. The study used year-end financial figures denominated in rupees and the changes between quarterly results have not been considered in the study.

Dependent Variable

Leverage: Leverage is the dependent variable of this study. Financing decision is one of the crucial decisions to be taken by a company and it has been measured in two ways based on equity and total assets, namely,

- Debt Equity Ratio (D/E Ratio) based on equity (net-worth); and
- Total debt divided by total assets (TD/TA) based on total assets of companies.

Explanatory Variables

There are two categories of independent variables in this study. The first category consists of institutional investors, which is the dependant variable and locus of this study and the second category comprises control variables like size, tangibility, Return on Assets (ROA), business risk and sales growth which collectively have the substance to impact the debt levels of companies.

Institutional Ownership: The quantum of total shareholding in the hands of institutions as a proportion of total shares outstanding of companies. Institutions include banks, financial institutions, insurance companies, pension funds, etc. Institutional investors include both foreign institutional and domestic institutional investors.

Control Variables

The following set of control variables have been inducted into the regression models to check whether they influence debt policies of companies, however the main focus of this paper is to find out the impact of institutional shareholding on debt ratios of the sampled listed Indian companies.

Profitability: Return on Assets (ROA) has been considered as a proxy for the measurement of performance of companies. Firms with higher profits may adhere to the Pecking Order Theory and prefer to raise more capital from internal sources and prefer less debt from the market and share negative relationship with ownership structure, therefore, a negative relationship is hypothesized between profitability and leverage of companies (Friend and Lang, 1988; Grier and Zychowicz, 1994; Rajan and Zingales, 1995; and Booth *et al.*, 2001).

Business Risk: Companies are expected to service debt promptly and companies with volatile income may be underleveraged. Business risk is one of the fundamental factors looked at while lending and it affects the capital structure and Bankruptcy theory postulates a negative association between business risk and leverage levels of companies. Companies with high volatility in profits are more likely to have higher probability of default. Institutional investors show interest to invest in companies with lesser volatility in earnings (Badrinath *et al.*, 1996) and therefore, a negative relationship is hypothesized between institutional ownership and capital structure.

Sales Growth: Companies with high growth rate require more financing and debt should be one of the main and convincing sources of finance that companies look at (Myers and Majluf, 1984), and firms in the growth stage invariably need finance to expand their asset base, therefore, a positive relation is hypothesized between sales growth and debt levels (Baskin, 1989). The sales growth of companies is calculated by taking the net change in sales of the company year-on-year.

Firm Size: Leverage levels vary because of the size of the companies. The companies that are too big to fail have greater access to debt (Crutchley and Hansen, 1989; and Grier and Zychowicz, 1994) and are in a better position to service debts and expected to have positive relationship with debt. A positive association is hypothesized between debt and size of the firm. The size of companies has been computed by taking logarithm of total assets of companies.

Tangibility: Tangibility of companies is calculated by taking the proportion of fixed assets in relation to the total assets. The companies with greater amount of fixed and tangible assets will be in a position to raise debt in the market easily since they can offer collateral security to the extent desired by the lenders and financial institution. A positive relationship is hypothesized between tangibility and debt levels of companies (Huang and Song, 2006).

The empirical analysis of this study contains panel data and to gauge the relationship between institutional shareholding and capital structure, Hausman test has been conducted primarily to identify the suitable regression model for the dataset of this study and accordingly Fixed effect regression model has been deployed, as advised by the results of the Hausman test. Debt of companies has been measured in two ways as explained under explanatory variables (Table 1): (1) Debt Equity Ratio (D/E Ratio); and (2) Total debt divided by total assets (TD/TA). The following regression models have been developed to probe the relationship between institutional shareholding and debt ratios.

Table 1: Description of Variables		
Variable	Description	Source of Data
<i>DER</i>	Total long-term debt/ Total networth	CMIE Prowess
<i>TD/TA</i>	Total Debt/book value of total assets	CMIE Prowess
<i>Institutional Ownership</i>	Ownership in the hands of institutional investors	CMIE Prowess
<i>Profitability</i>	ROA (Return on Assets)	CMIE Prowess
<i>Sales Growth</i>	$Sales_t - Sales_{t-1}$	CMIE Prowess
<i>Size</i>	Logarithm of total assets	CMIE Prowess
<i>Tangibility</i>	Proportion of fixed assets of total assets	CMIE Prowess
<i>Business Risk</i>	Variation in ROA	CMIE Prowess
<i>Dividend Payout</i>	Dividend per share/Earnings per share	CMIE Prowess

$$DER_{it} = \alpha + \beta_1 Insts_{it} + \beta_2 Business Risk_{it} + \beta_3 ROA_{it} + \beta_4 Size_{it} + \beta_5 Tangibility_{it} + \beta_6 Sales Growth_{it} + e_{it} \quad \dots(1)$$

$$TD/TA_{it} = \alpha + \beta_1 Insts_{it} + \beta_2 Business Risk_{it} + \beta_3 ROA_{it} + \beta_4 Size_{it} + \beta_5 Tangibility_{it} + \beta_6 Sales Growth_{it} + e_{it} \quad \dots(2)$$

Descriptive Statistics

Table 2 talks about the descriptive statistics for the sample of 86 companies for the period under study of 10 financial years and for the categories of variables which include both explanatory

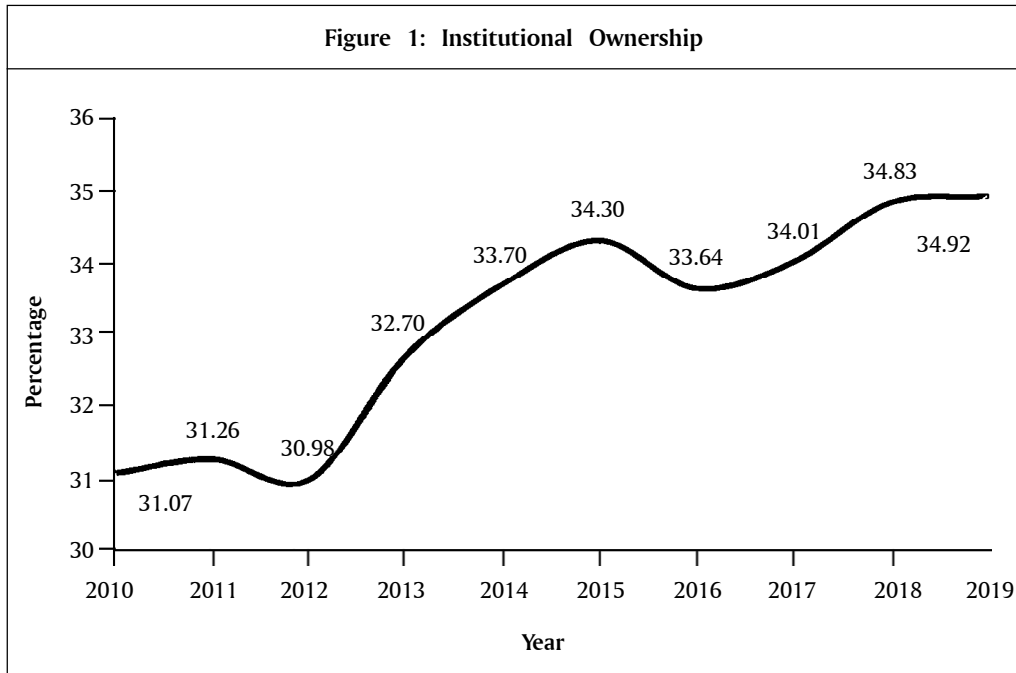
and control variables. The table details the mean percentage of shareholdings to the extent of 32.93% is in the hands of institutional investors (which include both foreign institutional investors and domestic institutional investors), which is quite phenomenal and staggering amount of shareholding, in the country where concentrated type of ownership is dominant and prevalent.

The average total debt as a proportion of equity and total assets of companies stood at 0.66 and 0.44 with standard deviations of 1.09 and 0.20 respectively which indicate that the sampled Indian-listed companies relied extensively on debt than equity capital as a source of finance. During the sample period, the sample companies clocked mean sales growth of 15.64% and registered average performance (measured through ROA) of 9.87% with standard deviation of 45.51% and 8.40% respectively. The figures indicate that companies performed quite well during the period under study. Companies maintained 21.45% of assets in tangible form with median of 19.94%.

Table 2: Descriptive Statistics – Sample of 86 Companies					
Variable	Mean	Median	Std. Deviation	Minimum	Maximum
<i>DER</i>	0.6590	0.2700	1.0937	0.0000	7.3800
<i>TD/TA</i>	0.4409	0.4450	0.2012	0.0095	0.8865
<i>INST</i>	32.9398	29.7500	16.6463	3.1500	92.2300
<i>Growth</i>	15.6449	12.6387	45.5067	-69.5015	1128.5246
<i>ROA</i>	9.8723	8.5750	8.3966	-31.7900	48.7000
<i>Bus Risk</i>	3.1303	12.6388	2.4817	0.0829	15.2686
<i>Size</i>	5.3598	5.2617	0.7054	3.4372	7.5384
<i>Tangible</i>	0.2145	0.1994	0.1639	0.0010	0.8023

Institutional Ownership Versus Leverage

Figure 1 plots the ownership held by the institutional investors in the sampled Indian companies over the period of 10 years, i.e., from financial year 2009-10 to financial year 2018-19. Institutional investors continued to evince interest to invest in India and their stakes substantially increased from 31.07% in FY 2009-10 to 34.92% at the end of FY 2018-19, making them a sizeable and one of the dominant group of shareholders of Indian companies. The Securities Exchange Board of India (SEBI) mandated that at least 25% of the total shareholding must be made available to public for investing, rendering a maximum of 75% stake can be in the hands of promoters and groups, and as a result of this mandate, promoters of companies diluted their stakes to the desired level indicated by the guideline. Foreign institutional investors and domestic institutional investors evinced continued interest in investing in the Indian

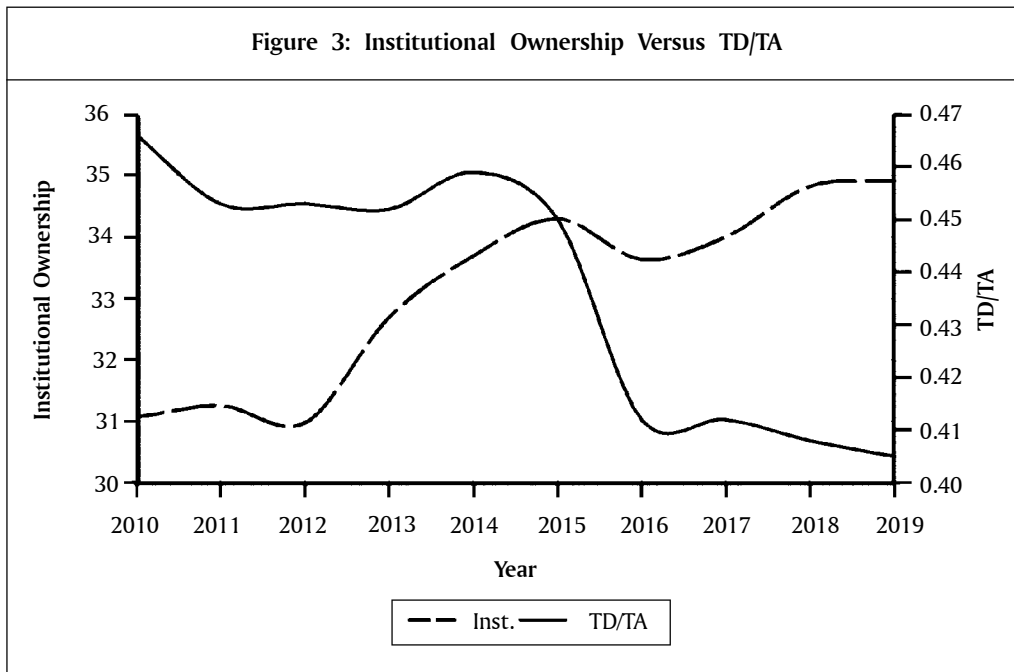
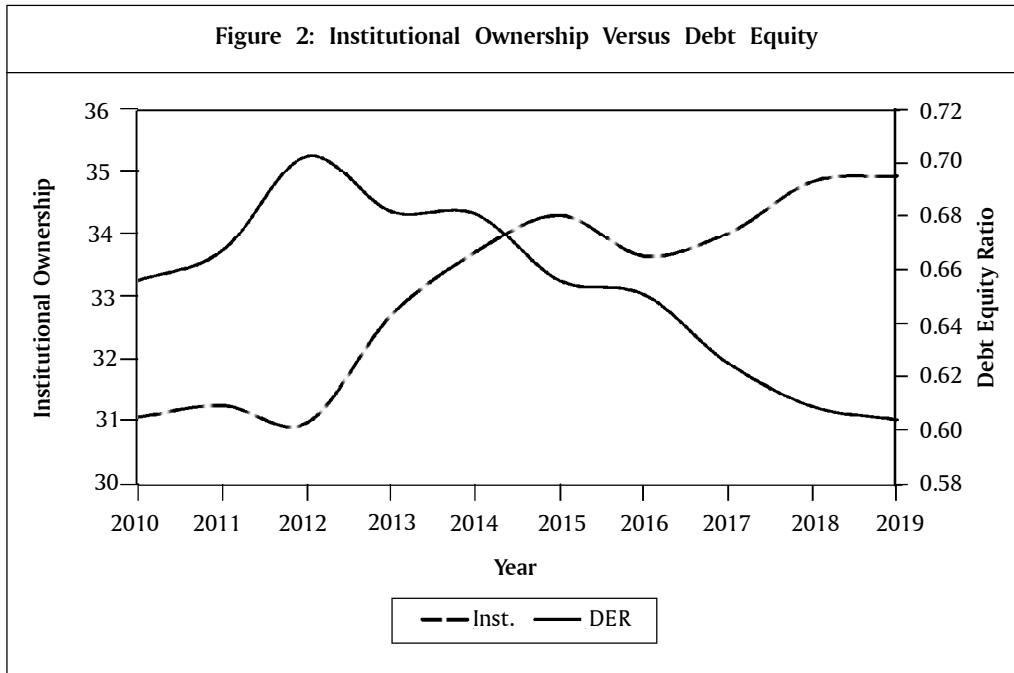


companies and collectively they held an average of 34.92% of the total ownership in the sample companies at the end of financial year 2018-19, which was 31.07% at the end of FY 2009-10.

The domestic and foreign institutions collectively, referred to as institutional investors, continued to invest in the Indian companies and the debt levels of the invested companies continued to spiral down in the opposite direction. In Figures 2 and 3, the authors have plotted institutional ownership on the left axis and debt equity ratio and total debt divided by total assets on the right axis. The debt levels of companies measured by debt equity ratio and total debt divided by total assets traveled in opposite directions, as can be observed from Figure 2 and Figure 3. These results signify that institutional investors prefer to invest in companies with lower debt levels, which espouses the findings of Chaganti and Damanour (1991) and Crutchley and Jensen (1996).

Pearson Correlation Matrix

Table 3 presents Pearson's correlation between both explanatory and control variables considered in this study. The shareholding held by institutional investors shared negative relationship with debt levels of companies, in both instances, when debt measured as proportion of equity and debt measured as proportion of total assets, which indicate that debt level and institutional shareholding move in opposite directions. Additionally, no two variables in the correlation matrix reported a pairwise correlation of more than 0.8, which can be construed that there is no presence of multicollinearity in the variables of this study and the dataset is free from the threat of multicollinearity, which, if present, would render the results of the study as non-reliable.



Multicollinearity is a serious problem in panel dataset regression models. In addition to the Pearson correlation, Variance Inflation Factor (VIF) test has been performed on the dataset to check for the presence of collinearity in the variables that have been part of the Fixed effect

Variable	DER	TD/TA	Inst	Growth	ROA	Size	B.Risk	Tangible
DER	1.0000							
TD/TA		1.0000						
Inst.	-0.0603	-0.1319	1.0000					
Growth	0.0763	0.0500	-0.0184	1.0000				
PBDITA	-0.3594	-0.0922	-0.1718	-0.0096	1.0000			
Size	0.3955	-0.0160	0.3538	-0.0124	-0.4542	1.0000		
B. Risk	0.0907	0.1051	0.0375	-0.0846	0.1929	0.0985	1.000	
Tangible	-0.1832	0.2617	-0.0843	-0.0142	0.0587	-0.0652	0.0251	1.0000

ordinary least squares regression model. Table 4 presents that all the variables reported VIF values far less than 10, which suggests that the data of this study does not suffer from the threat of multicollinearity (Gujarati, 2011).

Variable	Variance Inflation Factor (VIF)
Flls	1.110
Dlls	1.149
Growth	1.002
PBDITA	1.262
Size	1.434
Tangible	1.067

Results and Discussion

Hausman test was performed preliminarily to identify the suitable regression model for the panel dataset of this piece of research study and the result of such test suggested Fixed effect ordinary least squares regression model as more suitable and superior method of regression model when compared to Random effect ordinary least squares regression model. The results of Fixed effect ordinary least squares regression model are discussed, interpreted and presented in Table 5.

Dependent Variable	DER	TD/TA
Independent Variable		
<i>C</i>	0.8997 (0.0118 ^{**})	0.9041 (0.9041 ^{***})
<i>Institutional</i>	-0.0066 (0.0042 ^{***})	-0.0012 (0.0636 [*])
<i>ROA</i>	-0.0153 (0.0000 ^{***})	-0.0041 (0.0000 ^{***})
<i>Business Risk</i>	0.015 (0.7341)	-0.024 (0.0532 [*])
<i>Size</i>	0.0098 (0.8692)	-0.0613 (0.0002 ^{***})
<i>Tangibility</i>	0.099 (0.5795)	0.0703 (0.1569)
<i>Growth</i>	0.0005 (0.0280 ^{**})	0.0003 (0.0000 ^{***})
<i>R²</i>	0.944	0.872
<i>Adjusted R²</i>	0.936	0.855
<i>F-statistic</i>	126.4089	51.0691
<i>SE of Regression</i>	0.2754	0.0766
Note: ^{***} , ^{**} and [*] specify significant at 1%, 5% and 10% levels respectively.		

The results of Fixed effect ordinary least squares regression model exhibited that institutional ownership does matter in leverage decisions of the sampled listed Indian companies. The result of the regression model indicates a strong and statistically significant negative association between institutional ownership and debt levels (measured by both debt equity ratio and total debt as proportion of total assets) of the sample Indian listed companies, which confirms that institutional shareholders prefer to invest in companies with lower debt levels and try to stay away from investing in companies with higher debt levels. This result indicates that institutional investors monitor the role of debt, and this finding is in line and consistent with the findings of earlier research studies in this subject, which include Friend and Lang (1988), Harris and Raviv (1990), Chaganti and Damanour (1991), Grier and Zychowicz (1994), Rajan and Zingales (1995), Crutchley and Jensen (1996), Booth (2001), Tong and Ning, (2004) and Chung and Wang (2014), and the low debt levels could lead to the lower probability of default of companies.

The evidenced negative and statistically strong significant relationship between profitability and debt levels indicates higher profits lead to lower debt levels, which signifies that the sampled Indian companies prefer to use internally generated funds as the most preferred

source of financing instead of resorting to external source of finance in the form of debt or issuance of fresh equity to raise the capital required. This evidence is in very much adherence to that of Pecking Order theory, which postulates companies' preference for financing will be in the cascade form starting from internal funds, followed by debt and equity. This finding is also in line with the findings of earlier research studies (Friend and Lang, 1988; Rajan and Zingales, 1995; and Booth *et al.*, 2001).

Institutional investors were found to be disinterested in investing companies with greater volatility in returns, and the result is consistent with the findings of the study of Badrinath *et al.* (1996). The relationship between tangibility and leverage of companies was found to be positive but statistically insignificant, rendering the relationship as insignificant between the two said variables, and this finding is in contradiction with the finding of Huang and Song (2006).

As depicted by the results of R^2 , the independent variables explained the variation in dependent variables of debt equity ratio and total debt to total assets ratio to the extent of 0.944 and 0.872 respectively, which is quite reasonable and dependable and adjusted R^2 of the two results too did not vary significantly and hovered around 0.936 and 0.855 respectively. The results of R^2 and Adjusted R^2 convey that results of the Fixed effect ordinary least square regression model are reliable to a decent extent, rendering the findings of this study reliable.

Conclusion

This study investigated the relationship between institutional shareholding and leverage of listed Indian companies that are part of NSE 100 consistently for the period FY2009-10 to FY2018-19. The institutional investors have become a vital category of investors overtime as they have strengthened themselves by continuing to enhance their shareholding in the Indian listed companies, thus becoming a dominant group of investors in the companies. This study is an attempt to examine the potential relationship between the institutional investors and the debt levels of companies of the sampled listed companies in India that are part of NSE NIFTY 100 for the study period 2009-10 to 2018-19, with the inclusion of other variables such as ROA, sales growth, business risk, size and tangibility of companies.

The shareholding of companies in India is still concentrated type of shareholding. With respect to the query raised in the introduction of this study, the consistent negative and significant relationship between institutional shareholding and leverage of companies indicates that institutional shareholding does matter and they prefer to invest in companies with lower debt levels, as evidenced by Figures 2 and 3. Similar to earlier studies in the developed markets, the sample companies listed in India largely preferred to utilize available liquid assets in the form of retained earnings for investment purposes and adhere to the Pecking Order theory. Institutional investors avoid to invest in companies with higher volatility in rate of return. Leverage of companies measured by debt equity and total debt divided by total assets ratios decrease with increase in profitability and institutional ownership. Tangibility and size of companies have no impact on the leverage of companies.

Limitations and Scope for Further Research: This study suffers from a limitation as the authors have studied only companies that are listed and part of NIFTY 100 and reached the above-mentioned results and conclusions using Fixed effect ordinary least squares regression model. Had the authors included companies outside NIFTY 100 and entire gamut of firms in the sample, perhaps the results may drift and could lead to other findings which may or may not be consistent with that found by this study. Therefore, from this view, the findings of this study may not be generalized to the Indian corporates in entirety.

Since the authors considered only listed companies that are part of NIFTY 100, this area of research has further scope and reach, and it can be extended to companies which have been omitted in this study; further a comparative analysis can also be conducted between financial and non-financial companies to find out how institutional ownership impacts the capital structure decision of companies.

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