

Leverage Behavior of Indian InfoTech of the IT Sector's Companies in Indian Stock Exchange



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An important consideration in financial decisions is determining optimal level of capital structure since a right choice can maximize shareholder's value. The objective was to observe the influence of explanatory variables on the corporate debt ratio. To examine capital structure data was obtained from annual report of forty six IT companies listed Indian stock exchange during ten-year period. Six independent variables were analyzed to measure their impact on debt ratio. Additionally a macro-economic variable was also examined to evaluate the impact of GDP rate on debt. The result reveals that only three variables growth, profitability and risk affect the capital structure

Keywords: Tangibility, Profitability, Liquidity, Size, Growth, Risk and GDP

1. Introduction

To determine optimal level of capital structure is a very important reflection in financial decisions because it is a right choice can maximize shareholder's wealth. Success or the failure of the business is dependent on this corporate financial decision. Poor management of capital structure will outcome in poor performance of a firm. Companies require to be supported by finance activities in order to meet their working capital requirements and investment activities in today's business. The financial sources for companies are different; they can be supported by internal or external resources. However, it is the concern of financial managers to choose the right choice of finance to fund the business. Thus, many important factors should be taken into account when a company plans its capital structure. Owing to the fact that each country has its own meticulous situation of the business, the definite nature of industries and the regulatory system, the capital structure decision of firms can be influenced by the environment in which they operate.

Capital structure is one of the most significant financial themes in corporate finance and various studies use capital structure theory to highlight the implication of debt financing. We can define capital structure of a firm by its leverage; that is a mix of debt and equity financing which is subject to different financial involvednesses. Leverage is viewed as a consequence of events that determines companies' source of financing to run the business.

The objective of this study was to observe the influence of different explanatory variables on the corporate debt ratio. For this purpose and to examine capital structure of IT companies data was obtained from annual report of forty six IT companies during ten-year period from 2003-2013. Six independent variables were analyzed to measure their impact on debt ratio. Additionally a macro-economic variable was also examined to evaluate the impact of GDP rate on debt. Multiple regression was run to analyze data and to find out impact.

2. Review of Literature

Baharuddin and Khamis (2011) made an attempt to study Bursa Malaysia's 22 public listed companies Construction sector. After studying their debt and equity structure, they concluded that size; growth and assets tangibility and total debt ratio were positively correlated. But on the other hand, this study couldn't find any grounds for a negative relationship, as between the profitability and debt ratios.

Hassan (2011) conducted a study to examine the capital structure of Nigerian listed insurance companies. The study done for the period of 2001-2010 found a negative relationship shared by profitability, size and leverage, in accordance with the prediction of the Pecking Order theory. The results of the study also affirmed with the prediction of the Trade-off theory, showing a positive relationship as shared by asset tangibility and leverage.

Hossain Faruk and Ali Ayub Studied on "Leverage Behavior of Malaysian Manufacturing Companies a Case Observation of the Industrial Sector's Companies in Bursa Malaysia" data of 39 firms of Dhaka Stock Exchange (DSE) for a period of 2003-2007, in order to ascertain the impact which a firm's specific factors had on capital structure decision. The research tested a firm's specific factors, like non-debt tax shield, tangibility, growth opportunity, liquidity, size, profitability, earnings volatility, managerial ownership, dividend payment and industry classification, assuming a null hypothesis that these factors have a significant impact on a firm's leverage. Using Ordinary Least Square (OLS) regression 'estimate of fixed effect model, the research checked multi collinearity and also made regression analysis using Karl Pearson's correlation

and autoregressive model. The findings of this empirical research showed liquidity, managerial ownership, profitability and tangibility had a significant negative impact on firm's leverage. While the factors like growth opportunity and non-debt tax shield had a Positive and significant impact on leverage. The dividend payment, size and earnings volatility were not a significant explanatory variables of a firm's leverage.

Kila and Wan Mansor (2009) examined 17 Malaysian's public listed companies, studying their capital structure and concluding a negative correlation between size, liquidity, interest coverage ratio and total debt ratio.

Kumar Rahul (2008) investigated "Determinants of Firm's Financial Leverage: A Critical Review" and made a research to find out the factors which had an impact on a firm's financial leverage from the viewpoint of the basic foundational theories. A diligent effort made by the author led to various factors like static trade off, asymmetric information signaling framework, pecking order and leverage irrelevance being of partly help to understand the factors affecting the firm's financial leverage. There was no thumb rule for any factor to be a determinant of financial leverage of any firm. The author in his future research has to tackle two challenges first, how to make a common framework which assimilates the various factors which determine a firm's financial leverage and second, what factors determine and explain firm's financial leverage in a situation of network phenomena

Mashar and Nasr (2010) in their five year study(for the period of 1999 – 2006) of 80 private and 11 government owned Pakistani companies, listed in Islamabad Stock Exchange ,identified presence of a negative relationship which asset tangibility, profitability, return on assets shared with leverage, and also a positive relationship shared by size, growth, tax rate and debt.

Mishra (2011) analyzed the factors affecting Indian central PSUs. The analysis Pointed towards capital structure being affected by asset tangibility, profitability and tax in case of profit making manufacturing PSUs. The analysis also confirmed that leverage ratio is positively affected by tangibility and growth and capital structure is negatively affected by profitability and tax.. But, the study was incapable to find any significant relation between non-debt tax shield, Volatility, Size and capital structure.

Pandey et al (2007) in his investigation involving 208 Malaysian companies, tried to find out the relationship between their capital structure and their market structure .The findings of the investigation suggested a saucer-shaped relationship as shared by capital structure and profitability because of the interaction among agency costs, external financing costs and interest-tax shield. The investigation also showed size, assets, tangibility and capital structure being positively related while growth, risk and ownership being negatively related with capital structure.

Paydar and Bardai (2012) studied on "Leverage Behavior of Malaysian Manufacturing Companies a Case Observation of the Industrial Sector's Companies in Bursa Malaysia " and made an in depth analysis of the Bursa Malaysia' market listed 117 manufacturing companies. After studying the data relating to their capital structure for a period of seven years from 2004 to 2010, their study revealed only tangibility, profitability and liquidity making an affect on the capital structure. Their study analyzed six independent variables using multiple regressions and their effect on debt ratio. Their analysis showed no correlation between size, growth, risk variables and leverage ratio. Also, their study included a macro-economic variable to measure the affect of GDP rate on debt but they were not able to comment on the affect of GDP rate on debt as a result of lack of evidence.

Penman and Richardson and Tuna (2005) critically examined "The Book-to-Price Effect in Stock Returns: Accounting for Leverage" and found how book to price ratio (B/P) absorbed leverage. This B/P ratio concerns to operations and points to the operating risk and a component of leverage reflecting financing risk. Their research showed a positive correlation between book-to-price ratio and share returns but it is negatively correlated to the future share prices. Both book-to-price ratio and leverage explained returns associated with book-to-price factor although negatively correlated with leverage. Albeit intractable, but leverage component of B/P survived the control for size, return volatility, momentum, estimated beta and default risk.

Poddar Neha and Mittal Manish (2014) studies on "Capital Structure Determinants of Steel Companies in India: A Panel Data Analysis" made a study to identify the financing decisions which were indispensable for the financial welfare of the firm. The study emphasized that a wrong decision related to capital structure may lead to financial suffering, leading to bankruptcy. The theoretical research suggested to existence of an optimal capital structure, for which there was no universal methodology. Like all other research, this study also made a move to find the factors which affected decisions of capital structure. For this, the authors identified several factors but out of these firm's own characteristics were of prime concern except legal framework, corporate governance and institutional environment of the country of firms operation. The research analyzed a few of the firm's own characteristics which probably affected Indian steel companies leverage. As a result of global demand and growth in infrastructure projects, the Capital structure of steel companies(large/medium) of India witnessed various changes, making the entire Indian steel industry grow in a wide range by the way of reducing debt.

Soni Sr. and Trivedi (2013) studies on" A Study on Leverage Analysis and Profitability for Selected Paint Companies in India" and made an unprecedented attempt of studying the impact of leverage both operating as well as financial on the profitability (EPS) of Indian paint companies. The research included 5 listed paint companies of India, selected on the basis of market capitalization. Using correlation tool, the study also analyzed the impact of debt-equity ratio on EPS, so as to ascertain the affect of debt on the company's wealth. Their study concluded no significant correlation between financial leverage and profitability, but on the other hand operating leverage shared a significant relationship with profitability, keeping aside certain exceptions.

3. Objectives

1. To find out significant impact of Size on leverage ratio of IT companied in India.
2. To find out significant impact of profitability on leverage ratio of IT companied in India.
3. To find out significant impact of risk on leverage ratio of IT companied in India.
4. To find out significant impact of growth on leverage ratio of IT companied in India.
5. To find out significant impact of tangibility on leverage ratio of IT companied in India.
6. To find out significant impact of liquidity on leverage ratio of IT companied in India.
7. To find out significant impact of GDP on leverage ratio of IT companied in India.

4. Research Methodology

Type of Study: The study on the topic “Leverage Behavior of Indian InfoTech a Case Observation of the IT Sector’s Companies in National Stock Exchange ” relies more on practical approach rather than theoretical, hence is empirical in nature.

Sample Design and Size

- i. IT companies having ten years track record are only considered for the study.
- ii. The time period chosen for the study is 10 years (1st April 2003 to 31st March 2013).
- iii. All forty six IT companies listed in NSE and BSE have been selected in study.
- iv. Random sampling has been used for this purpose.

Data Collection: The primary source of the data for this paper is annual report of all IT software companies listed in NSE and BSE. The accounting data for these companies are extracted for the year 2003-04 to 2012-13 from Balance sheet dataset for this study.

Variable Description

Characteristic of Capital Structure: Leverage ratio is pointer that assesses a firm’s capital structure. In the emerging markets and developed countries, it is quite common for firms to employ both long- term and short- term debt in their financing activities. For that reason, it is more reasonable to use total debt ratio as a proxy of capital structure. In this study, two measures are employed as the proxy of capital structure. The financial leverage is determined by two proxies. The first proxy of capital structure is total debts to total assets and the second one is identified by short-term debts to total assets. Thus, the proxy of financial leverage is defined as below:

Total Debt Ratio = Total Debt / Total Assets

Short-term Debt Ratio = Short-term Liabilities /Total Assets

Size: Size is considered to be the first important characteristic of firm. Size is measured by the natural logarithm of total assets

Profitability: Profitability is considered as another important characteristic of firms that can affect capital structure.

Profitability = Net Profit / Total Sales

Risk: Profit as a proxy for company’s risk Thus, in this study, risk is defined by sale on operating income.

Risk = Sale /Operating Income

Growth: The literature is not decided about the relationship between growth of firm and leverage. In this study firm’s growth is measured by the percentage change in sale during that year and this way we lose the first year of data for our models.

Thus Growth = Percentage Change in Sale

Liquidity: Liquidity is computed by dividing current assets by current liability. Liquidity stands for the capital amount that is on hand for use as an investment and or expenditure. It also shows the capacity of a firm to meet their current liabilities as and when they mature (Ross, 1977). Excessive amounts of current assets possessed by a firm would possibly increase the chances of internal funding resulting in a relation between leverage and liquidity

Liquidity = Current Assets/Current Liabilities

Tangibility: Tangibility is computed by dividing fixed assets by total assets. It is a fundamental aspect of determining the

firm's leverage. Firms with small tangible assets generally have low leverage ratio and therefore would be hard to collateralize such assets to raise additional funds accompanied with the risk of bankruptcy. On the contrary, firms with large volume tangible assets are more likely to collateralize their assets to raise additional funds with little risk due to the investments diversifications which at the end reduces the risk of bankruptcy

The asset structure of a company has an important impact on its capital structure. The findings of studies by Booth et al (2001), Huang and Song (2006) suggested a negative correlation between tangibility and leverage. In this study, firm's capital structure is defined as asset tangibility and liquidity and they are measured by fixed-asset ratio and current asset ratio. So

Tangibility = Fixed Assets /Total Assets

Specification of the Model: Multiple Regression Model is run in order to test the theoretical relation between the financial leverage and determinants of capital structure. SPSS software is used to do the statistical analysis. The statistical test employed in our quantitative analysis is regression analysis. The average of each variable for the ten year period of 2003 - 2013 is used to present the overall picture.

The model is as follows:

$$\text{Leverage} = a + \beta1 \text{ Size} + \beta2 \text{ Profitability} + \beta3 \text{ Risk} + \beta4 \text{ Growth} + \beta5 \text{ Tangibility} + \beta6 \text{ Liquidity} + \beta6 \text{ GDP}$$

5. Hypotheses

- H1:** There is no significant impact of Size on leverage ratios of IT firms in India
- H2:** There is no significant impact of profitability on leverage ratios of IT firms in India
- H3:** There is no significant impact of risk on leverage ratios of IT firms in India.
- H4:** There is no significant impact of growth on leverage ratios of IT firms in India
- H5:** There is no significant impact of tangibility on leverage ratios of IT firms in India.
- H6:** There is no significant impact of liquidity on leverage ratios of IT firms in India.
- H7:** There is no significant impact of GDP on leverage ratios of IT firms in India.

Tool Used to Analyze Data: Multiple regressions was used to know the impact of Size, profitability, liquidity, risk, tangibility and GDP on Leverage ratio of IT firms listed in Indian Stock Exchange with the help of SPSS 21.0.

6. Analysis and Discussion

ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.503	6	1.751	2.758	.025(a)
	Residual	24.749	39	.635		
	Total	35.253	45			

a Predictors: (Constant), SIZE, PROFITABILITY, LIQUIDITY, RISK, GROWTH, LIQUAIDITY, TANGIBILITY

b Dependent Variable: LEVERAGE RATIO

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.634	2.170		.292	.772
	SIZE	.334	.209	.293	1.603	.117
	PROFITABILITY	-.657	.241	-.513	-2.721	.010
	RISK	-.995	.461	-.352	-2.160	.037
	GROWTH	.582	.280	.347	2.078	.044
	LIQUIDITY	.115	.674	.024	.171	.865
	TANGIBILITY	-.828	.649	-.213	-1.275	.210

a Dependent Variable: LEVERAGE

- **H1:** There is no significant impact of Size on leverage ratio of IT firms in Indian stock exchange. The null hypothesis has been accepted because (p>0.05, .117) in this study. There is no significant Impact of Size on leverage ratios of IT firms in Indian stock exchange.

- **H2:** There is no significant impact of profitability on leverage ratio of IT firms in Indian stock exchange. The null hypothesis has been accepted because ($p < 0.05$, .010) in this study. There is significant Impact of profitability on leverage ratios of IT firms in Indian stock exchange.
- **H3:** There is no significant impact of risk on leverage ratio of IT firms in Indian stock exchange. The null hypothesis has been accepted because ($p < 0.05$, .037) in this study. There is significant Impact of risk on leverage ratios of IT firms in Indian stock exchange.
- **H4:** There is no significant impact of growth on leverage ratio of IT firms in Indian stock exchange. The null hypothesis has been accepted because ($p < 0.05$, .044) in this study. There is significant Impact of growth on leverage ratio of IT firms in Indian stock exchange
- **H5:** There is no significant impact of tangibility on leverage ratio of IT firms in Indian stock exchange. The null hypothesis has been accepted because ($p > 0.05$, .865) in this study. There is no significant Impact of tangibility on leverage ratio of IT firms in Indian stock exchange
- **H6:** There is no significant impact of liquidity on leverage ratio of IT firms in Indian stock exchange. The null hypothesis has been accepted because ($p > 0.05$, .210) in this study. There is no significant Impact of liquidity on leverage ratios of IT firms in Indian stock exchange

ANOVA (b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.990	1	20.990	3.497	.098(a)
	Residual	48.013	8	6.002		
	Total	69.003	9			

a Predictors: (Constant), GDP

b Dependent Variable: LEVERAGE RATIO

Coefficients (a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.241	4.087		3.240	.012
	GDP	-.946	.506	-.552	-1.870	.098

a Dependent Variable: LEVERAGE RATIO

- **H7:** There is no significant impact of GDP on leverage ratios. The null hypothesis has been accepted because ($p > 0.05$, .098) in this study. There is no significant Impact of GDP on leverage ratios. of IT firms in Indian stock exchange

Summary of the Hypotheses Test

S/N	HYPOTHESES	STATUS
1	There is no significant impact of Size on leverage ratios of IT firms in India.	Accepted
2	There is no significant impact of profitability on leverage ratios of IT firms in India.	Not Accepted
3	There is no significant impact of risk on leverage ratios of IT firms in India.	Not Accepted
4	There is no significant impact of growth on leverage ratios of IT firms in India.	Not Accepted
5	There is no significant impact of tangibility on leverage ratios of IT firms in India.	Accepted
6	There is no significant impact of liquidity on leverage ratios of IT firms in India.	Accepted
7	There is no significant impact of GDP on leverage ratios of IT firms in India.	Accepted

7. Findings

- The null hypothesis “There is no significant impact of Size on leverage ratios of IT firms in India” has been accepted because ($p > 0.05$, .117) in this study. There is no significant impact of Size on leverage ratios of IT firms in India.
- The null hypothesis “There is no significant impact of There is no significant impact of profitability on leverage ratios of IT firms in India” has not been accepted because ($p < 0.05$, .010) in this study. There is significant impact of profitability on leverage ratios of IT firms in India.
- The null hypothesis “There is no significant impact of risk on leverage ratios of IT firms in India” has not been accepted because ($p < 0.05$, .037) in this study. There is significant impact of risk on leverage ratios of IT firms in India.

- The null hypothesis “There is no significant impact of growth on leverage ratios of IT firms in India” has not been accepted because ($p < 0.05$, .044) in this study. There is significant impact of growth on leverage ratios of IT firms in India.
- The null hypothesis “There is no significant impact of tangibility on leverage ratios of IT firms in India” has been accepted because ($p < 0.05$, .865) in this study. There is no significant impact of tangibility on leverage ratios of IT firms in India.
- The null hypothesis “There is no significant impact of liquidity on leverage ratios of IT firms in India” has been accepted because ($p < 0.05$, .210) in this study. There is no significant impact of liquidity on leverage ratios of IT firms in India.
- The null hypothesis “There is no significant impact of GDP on leverage ratios of IT firms in India” has been accepted because ($p < 0.05$, .098) in this study. There is no significant impact of GDP on leverage ratios of IT firms in India.

8. Conclusion

The findings of this paper contribute towards a better understanding of leverage behavior of IT companies in India. Six explanatory variables namely size, profitability, growth risk, liquidity and tangibility were used to assess their effect on capital structure among the IT companies. Another macro-economic factor (GDP rate) as independent variable has been added to find out whether capital structure of IT sector is affected by GDP rate. Based on availability of data, the number of 46 IT companies is selected as the sample size. This study utilizes quantitative data. Multiple regression analysis is used for the purpose of analyzing. The objective of this study was to observe the influence of different explanatory variables on the corporate debt ratio.

The result reveals that among all the possible explanatory variables, only three variables which are growth, profitability and risk affect the capital structure. The results also indicate that size, tangibility and liquidity variables have insignificant effect on leverage ratio. There is no indication found to support the influence of GDP rate as a macroeconomic indicator on debt ratio.

The size of the firms is very important factor; it has a favorable position over smaller firms in terms of credit ratings. In addition, these results clearly explain the financing approach by listed companies and also support decision makers to establish their capital structure in order to improve shareholders wealth. In light of the financial insecurity in India, financial decision makers and creditors ought to work out a financial mechanism to enables them to avoid more financial distress and improve financial security of listed companies. This in turn may attract more foreign investments and secure the financial situation in the country.

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