THE FIRM SPECIFIC DETERMINANTS OF CAPITAL STRUCTURE – AN EMPIRICAL STUDY ON INFORMATION TECHNOLOGY SECTOR MULTINATIONAL AND DOMESTIC COMPANIES

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Abstract:

The present study attempts to examine the determinants of capital structure of information technology sector multinational and domestic companies. Firm-specific characteristics such as Profitability, Return on Assets, Return on Capital Employed, and Non Debt Shield Tax are tested with the dependent variable i.e., Debt equity ratio over the period of ten years from 1st January 2009 to 31st December 2018. The study concluded that the profit, return on assets, return on capital employed and non debt shield tax variables are the significant determinants of capital structure.

Keywords: Capital Structure, Multinational, Domestic Companies and Econometric Equation Regression Model.

I. INTRODUCTION

The important financing decision of the company is the choice of financial policy. The financial policy refers to the decision regarding the capital structure of a firm. The capital structure of a firm represents a combination of debt and equity sources of funding that allows the company to finance its overall operations and growth. A firm taking advantage of raising funds from various financing channels is one of the crucial financing decisions that influence firm's survival, daily operations and future growth potential. Multinational companies have usually low debt ratio as compared to domestic corporations. This study aims to evaluate the determinants of capital structure for multinational and domestic technology companies in India.

II. RESEARCH METHODOLOGY

2.1 OBJECTIVES OF THE STUDY

- To assess the relationship between selected determinants and capital structure of Information technology Sector Multinational Companies in India.
- To found the relationship between selected determinants and capital structure of Information Technology Sector Domestic Companies in India.
- To analyse the impact of select determinants factors such as profit, return on assets, return on capital employed, non debt shield tax on the capital structure of Information Technology Sector Multinational Companies in India.
- To investigate the impact of select determinants factors such as profit, return on assets, return on capital employed, non debt shield tax on the capital structure of Information Technology Sector Domestic Companies in India.

2.2 HYPOTHESIS OF THE STUDY

- **H01:** There is no significant relationship between selected determinants and capital structure of Information Technology Sector Multinational Companies in India.
- **H02:** There is no significant relationship between selected determinants and capital structure of Information Technology Sector Domestic Companies in India.
- **H03:** There is no significant impact of selected determinants such as profit, return on assets, return on capital employed, and non-debt shield tax on the capital structure of Information Technology Sector Multinational Companies in India.
- **H04:** There is no significant impact of selected determinants such as profit, return on assets, return on capital employed, and non debt shield tax on the capital structure of Information Technology Sector Domestic Companies in India.

2.3 POPULATION AND SAMPLE

The study investigated the determinants of capital structure of information technology sector multinational and domestic companies in India. The sample consists of the information technology companies that are constituents of S&P BSE 500. Based on the data availability, the sample consists of 17 multinational and 6 domestic companies included in S&P BSE 500. The sample information technology sector multinational companies includes Astral Poly Technik Ltd, Cyient Ltd, H C L Infosystems Ltd, H C L Technologies Ltd, Hexaware Technologies Ltd, Infosys Ltd, Larsen & Toubro Ltd., Mphasis Ltd, Oracle Financial Services Software Ltd, Polaris Consulting & Services Ltd, Redington (India) Ltd, Sonata Software Ltd, Tata Consultancy Services Ltd, Tata Elxsi Ltd, Tech Mahindra Ltd, Wipro Ltd and Zensar Technologies Ltd. The sample information technology sector domestic companies include K P I T Technologies Ltd, Mindtree Ltd, N I I T Ltd, Persistent Systems Ltd, Rolta India Ltd and Vakrangee Ltd.

2.4 DATA AND SOURCES OF DATA

The secondary data were collected from the "PROWESS" Database. The dependent variable i.e., Debt equity ratio is computed as Total Debt / Total Equity. The independent variables such as Profitability is computed by Net Income / Total Sales, Return on Assets is computed as Profit before Interest Tax/ Total Assets, Return on Capital Employed is computed as EBIT/ (Total Assets – Current Liabilities) Non Debt Shield Tax which is computed as Depreciation / Total Assets.

2.5 THEORETICAL FRAMEWORK

Rataporn Deesomsak and **Krishna Paudyal.et.,al (2004)** investigated the determinants of capital structure of firms operating in the Asia Pacific region, in four countries namely Thailand, Malaysia, Singapore and Australia with different legal, financial and institutional environments. The results suggest that the capital structure decision of firms is influenced by the environment in which they operate, as well as firm-specific factors. **Usha R. Mittoo and Zhou Zhang (2008),** examine the capital structure of Canadian MNCs to gain some insights into the influence of country-specific factors on leverage Contrary to the U.S. The results found that Canadian multinational corporations display higher leverage than domestic firms. **Husni Ali Khrawish** and **Ali Husni Ali Khraiwesh (2010)** examined the capital structure of listed industrial companies on Amman Stock Exchange. The results showed that a significant positive relationship between Long Term Debt and size, and the significant negative relationship between leverage ratio and Profitability of the firm. **Ena Mostarac and Suzana Petrovic (2013),** found the highly positive significant impact of tangibility and negative significant impact of profitability on financial leverage. **Mumtaz Hussain Shah and Atta Ullah Khan (2017)** investigated the factors determining the capital structure decision of non-financial Pakistani firms. The results show the influence of profitability, liquidity, size, tangibility and non-debt tax shield are strongly significant. **Thusyanthi and Yogendrarajah (2018)** examined that the impact of determinants of capital structure on capital structure of listed manufacturing companies in Sri Lanka. The result reveals that the Profitability and tangibility were determinant for Sri Lankan manufacturing companies. **Pushparaj Kulkarni (2018)** analysed the pattern of capital structure and earnings per share of Metal and Automobile Sector companies and found that there exist a positive relation between debt equity ratio and earnings per share. **Jayanthi and Saravanan (2018)** found a significant impact of capital structure on profitability of selected infrastructure companies. The short term debt ratio, long term debt ratio, total debt ratio, debt equity ratio and interest coverage ratio are the capital structure variables considered by them. **Devipriya (2018)** found significant relationship between ROE and Long and Short term debt to Total Assets, and also found no significant relationship between ROE, ROA and EPS on Debt to Equity on selected sample banks. **Prabodh Kumar Panda (2018)** reviewed the determinants of capital structure from international and national perspective and concluded that no study on comparing the capital structure practices of traditional and modern industries was made.

A company has to take investment decision since the capital structure affects the cost of capital, trading on equity, cash inflows, political risk and exchange policy of the company. There are many factors that determine the value of a firm. Multinational Companies financial and exchange policies at the corporate level are influenced by their greater exposures in comparison to Domestic Companies. Hence the study helps to identify these factors and also to determine the financial position of the firms in order to help them to take decisions for the betterment of the information technology firms.

2.6 STATISTICAL TOOLS AND ECONOMETRIC MODELS

- Kolmorow-Smirnov (K- S) test
- Pearson Correlation
- Econometric Estimation Models - Fixed Effects Model and Ordinary Least Square Method

III. RESULTS AND DISCUSSION

Table 3.1: Results of One-Sample Kolmogorov-Smirnov Test for Sample Multinational Companies

	Debt to equity ratio	Profit	Return on Assets	Non Debt Shield Tax	Return on Capital Employed
K- Z	4.088	4.377	4.141	6.229	6.033
A. Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000

Source: Data collected from prowess database and computed using SPSS 21.0

Table 3.1 shows the results of normality test, by using Kolmorow-Smirnov (K- S) test, of the Capital Structure for the Information Technology Sector Multinational Companies in India during the Study Period from 1st January 2009 to 31st December 2018. The results of K – S Tests indicate that the dependent variables and independent variables of the multinational companies were normally distributed during the study period.

Table 3.2: Results of One-Sample Kolmogorov-Smirnov Test for Sample Domestic Companies

	Debt to equity ratio	Profit	Return on Assets	Non Debt Shield Tax	Return on Capital Employed
K- Z	4.254	3.682	2.757	2.555	1.704
A. Sig. (2-tailed)	0.000	0.000	.000	.000	.000

Source: Data collected from prowess database and computed using SPSS 21.0

Table 3.2 presents the results of normality test, by using Kolmorow-Smirnov (K- S) test, for the Information Technology Sector Domestic Companies in India during the Study Period from 1st January 2009 to 31st December 2018. The results of K – S Tests indicate that the dependent and independent variables of domestic companies were normally distributed during the study period.

Table 3.3: Correlation Results for the Sample Multinational Companies

	DER	Profit	ROA	NDTS	ROCE
Profit	.078 (0.357)	1			
ROA	-.089 (0.296)	.112 (0.186)	1		
NDTS	-.002 (0.984)	**.173* (0.041)**	.025 (0.768)	1	
ROCE	.111 (0.045)	.187 (0.673)	.034 (0.127)	.551(0.043)	1

Source: Data collected from prowess database and computed using SPSS 21.0

ROA – Return on Assets, NDTS – Non-Debt Tax Shield, ROCE – Return on Capital Employed

Table 3.3 shows the results of correlation matrix for the sample multinational companies. It shows that Return on Assets and Non-Debt Tax Shield have negative correlation with debt equity ratio. Return on Capital Employed is positively correlated with Debt Equity Ratio. The significance values given in the parentheses reveal significant results for Return on Capital Employed. Therefore **H01: "**There is no significant relationship between selected determinants and capital structure of Information Technology Sector Multinational Companies in India" is accepted.

Table 3.4: Correlation Results for the Sample Domestic Companies

	DER	Profit	ROA	NDTS	ROCE
Profit	.056 (0.647)	1			
ROA	-.041 (0.735)	.125 (0.304)	1		
NDTS	-.052 (0.670)	.178 (0.141)	**.492** (0.000)**	1	
ROCE	-.036 (0.766)	.202 (0.094)	.049 (0.688)	-.054 (0.659)	1

Source: Data collected from prowess database and computed using SPSS 21.0

ROA – Return on Assets, NDTS – Non-Debt Tax Shield, ROCE – Return on Capital Employed

Table 3.4 shows the results of correlation matrix for the sample domestic companies. It shows that Return on Assets, Non-Debt Tax Shield and Return on Capital Employed have negative correlation with debt equity ratio. The significance values in the parentheses reveal the insignificant results for all the sample variables. Therefore "**H02:** There is no significant relationship between selected determinants and capital structure of Information Technology Sector Domestic Companies in India" is accepted.

Table 3.5: Results of Econometric Estimation for the Sample Multinational Companies

Variables	Fixed Effects Model		Ordinary Least Square	
	t-Statistic	Prob.	t-Statistic	Prob.
Profit	-1.2874	0.2980	-1.3893	0.167
NDTS	9.1177	0.0000	6.7153	0.000
ROA	0.3782	0.0011	2.6707	0.009
ROCE	-0.1075	0.0000	-5.7206	0.000
C	-8.6654	1.4915	-5.8099	0.000
Prob(F-statistic)	0.0000			

Source: Data collected from prowess database and computed using E-views-7

ROA – Return on Assets, NDTS – Non-Debt Tax Shield, ROCE – Return on Capital Employed

Table 3.5 shows the results of the econometric estimation models. It is clear that the variables profit and return on capital employed has significant negative relationship with the debt equity ratio. Non-debt tax shield and Return on Assets recorded significant positive relationship with debt-equity ratio. Hence **H03:** "There is no significant impact of selected determinants such as profit, return on assets, return on capital employed, and non-debt shield tax on the capital structure of Information Technology Sector Multinational Companies in India" is rejected.

Table 3.6: Results of Econometric Estimation for the Sample Domestic Companies

Variable	Fixed Effects Model		Ordinary Least Square	
	t-Statistic	Prob.	t-Statistic	Prob.
Profit	-75.0902	0.000	-9.9963	0.000
NDTS	346.8536	0.000	13.1483	0.000
ROA	-38.3162	0.000	-5.1347	0.000
ROCE	0.3344	0.000	7.4728	0.000
C	236.6103	0.000	13.1969	0.000
Prob (F-statistic)	0.001			

Source: Data collected from prowess database and computed using E-views-7

Table 3.6 shows the results of the econometric estimation models. It is clear that the variables profit and return on capital employed has significant negative relationship with the debt equity ratio. Non-debt tax shield and Return on Assets recorded significant positive relationship with debt-equity ratio. Hence **H04:** "There is no significant impact of selected determinants such as profit, return on assets, return on capital employed, and non-debt shield tax on the capital structure of Information Technology Sector Domestic Companies in India" is rejected.

IV. CONCLUSION

The study investigated the capital structure of Information Technology Sector Multinational and Domestic Companies in India during the study period from 1st January 2009 to 31st December 2018. The Kolmorow-Smirnov (K- S) test for Capital Structure of Technology Domestic and Multinational Companies in India reveals normal distribution. The correlation result reveals that insignificant relationship between the capital structure of Multinational and Domestic Technology Companies. The fixed effects model and ordinary least square method concluded that there is significant impact of selected determinants on capital structure of information technology sector multinational and domestic companies.

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