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CAPITAL STRUCTURE OF CHEMICAL SECTOR MULTINATIONAL AND DOMESTIC COMPANIES

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ABSTRACT

The capital structure is the major decision taken by the company as a part of its financial policy. The present study aims to identify the major capital structure determinants for the chemical sector multinational and domestic companies. The sample consists of twenty six multinational and eight domestic companies included in the S&P BSE chemical sector for the period of ten years from 1st January 2009 to 31st December 2018. The data was collected from Prowess Database. The study concluded that the tangibility, profit, return on capital employed and liquidity variables are the major capital structure determinants for the multinational and domestic chemical sector companies.

KEYWORDS*:* Capital Structure, Multinational, Domestic Companies & OLS Regression

INTRODUCTION

The capital structure is the major decision taken by the company as a part of its financial policy. These decisions affect the profitability performance of the companies. The choice of various sources of finance has the impact on the firm's performance, growth and survival. Each source of finance has its own benefit and cost. Thus a firm's capital structure decision was driven by many influencing factors. Therefore, firm managers should consider the economy wide factors in making financing decisions. The capital structure decision of a Multinational Corporation is still broader due to the global capital market opportunities. Multinational Corporation has an opportunity to obtain finances through domestic and international sources. Multinational companies prefer more of equity rather than domestic companies due to factors namely political risk, business risk, differences in taxes and exchange rate risk. This study focuses to examine the capital structure determinants for multinational chemical sector companies and domestic chemical sector companies in India.

REVIEW OF LITERATURE

Rataporn Deesomsak and Krishna Paudyal et al., (2004) found that environment and firm-specific factors influence the capital structure decisions of the firms operating in Asia Pacific Region. Ena Mostarac and Suzana Petrovic (2013), found tangibility has positive impact, profitability has negative impact and no impact for business risk. Laura Serghiescu and Viorela-Ligia Vaidean (2014) investigated the Romanian firms and found that the profitability and liquidity ratios are negatively affecting the total debt ratio. The asset tangibility has recorded negative impact. Rakeshkumar Rasiklal Jani and Satyaki J. Bhatt (2015) investigated the Automobile firms' and found that the determinants vary for long and short-term forms of debt. Suresh Babu.M and G.V.Chalam (2016) examined the determinants of Automobile companies and found that profitability, size, tangibility, growth, and non-debt tax shield are negatively related with leverage, risk and liquidity are positively related with leverage. Dongyang Zhang and Deqiang Liu (2017) found that financial constraints affect the relation between Total Factor Productivity and measures of leverage significantly.

The previous studies reviewed reveal the relationships of independent variables with financial leverage. The results differ depending upon the measurement of independent variables. Thus the present study analyse the capital structure determinants for Multinational Companies and Domestic Companies in India.

DESIGN OF THE STUDY

The research design of the study comprising of statement of the problem, objectives of the study, hypothesis, and methodology are discussed hereunder**.**

STATEMENT OF THE PROBLEM

There are several factors that affect the firm value. The equity form of finance is subject to public subscription of shares whereas the debt form of finance enhances the credit risk of the firm. Multinational Companies financial policies at the corporate level are affected by their greater exposures in comparison to Domestic Companies. Hence the study helps to identify these sources and also to determine the financial position of the firms in order to help them to take decisions for the betterment of the firms.

OBJECTIVES OF THE STUDY

- To find that relationship between the capital structure and its determinants for Multinational Chemical Sector Companies and Domestic Chemical Sector Companies.
- To find the impact of select determinants on capital structure of Multinational Chemical Sector Companies and Domestic Chemical Sector Companies.

HYPOTHESIS OF THE STUDY

$H0_1$: There is no significant relationship between the capital structure and its determinants for Multinational Chemical Sector Companies and Domestic Chemical Sector Companies.

$H0_2$: There is no significant the impact of select determinants on capital structure of Multinational Chemical Sector Companies and Domestic Chemical Sector Companies**.**

METHODOLOGY OF THE STUDY

Selection of Sample

The study examined the determinants of capital structure of multinational chemical sector companies and domestic chemical sector companies. The sample consists of the chemical sector companies that are constituents of S & P BSE 500. For 26 multinational chemical sector companies and 8 domestic chemical sector companies, the data was available in Prowess Database. Thus the sample include 26 chemical sector multinational companies namely Aarti Industries Ltd., Akzo Nobel India Ltd., Asian Paints Ltd., Atul Ltd., Berger Paints India Ltd., Chambal Fertilisers & Chemicals Ltd., Coromandel International Ltd., Deepak Fertilisers & Petrochemicals Corpn. Ltd., Dhanuka Agritech Ltd., Essel Propack Ltd., Finolex Industries Ltd., G H C L Ltd., Gujarat Alkalies & Chemicals Ltd., Gujarat Fluoro Chemicals Ltd., Gujarat Narmada Valley Fertilizers & Chemicals Ltd., Gujarat State Fertilizers & Chemicals Ltd., Jain Irrigation Systems Ltd., Kansai Nerolac Paints Ltd., P I Industries Ltd., Pidilite Industries Ltd, Rallis India Ltd., Rashtriya Chemicals & Fertilizers Ltd., Solar Industries India Ltd., Tata Chemicals Ltd., U P L Ltd., Uflex Ltd. The 8 domestic companies namely are B A S F India Ltd., Bayer Cropscience Ltd., Gruh Finance Ltd., Monsanto India Ltd, Nilkamal Ltd., Supreme Industries Ltd., V I P Industries Ltd., Vinati Organics Ltd. were considered for the study.

PERIOD OF THE STUDY

The data for the ten year period from 1st January 2009to 31st December 2018 was considered for analysis.

TOOLS USED FOR THE STUDY

- Descriptive statistics
- Correlation
- Ordinary Least Square Regression Model

LIMITATIONS OF THE STUDY

- The study is based on secondary data collected from Prowess Database.
- The study is limited to a particular period from 1st January 2009 to 31st December 2018.
- This study applied for research relevant tools in Descriptive Statistics, Correlation and Ordinary Least Square Regression model.

ANALYSIS AND INTERPRETATION

Computation of Variables

The dependent variable i.e., leverage is computed using formula: Debt / Total Assets. The independent variable such as tangibility is computed by Net Fixed Assets/ Total Assets, profit is computed as Profit before Interest Tax/ Sales. Capital Employed is computed as EBIT/ (Total Assets – Current Liabilities) and liquidity is computed as current liabilities/ current assets.

Table 1 reveals the positive mean values for the variables namely leverage, tangibility, capital employed, profit and liquidity variables for all the sample firms during the study period from1st January 2009 to31st December 2018. It is clear from the above table the highest mean value of 12.2379 is recorded for the variable liquidity for multinational Companies. The highest volatility 7.8265 was recorded for the variable Return on capital employed for Domestic Companies.

TABLE 1: Results of Descriptive Statistics for Multinational and Domestic Chemical Sector Companies

MULTINATIONAL COMPANIES					
	LEV	PROFIT	TANG	CAEMP	LIQ
Mean	5.7205	4.175	7.525	9.3364	12.2379
Std. Dev.	4.9214	0.692	6.541	5.9337	7.8265
Skewness	1.1332	0.068	0.593	0.9896	1.1627
Kurtosis	2.3229	1.185	1.2037	2.8718	2.2234
Jarque-Bera	0.9113	0.519	0.5529	0.6707	0.7891
DOMESTIC COMPANIES					
	LEV	PROFIT	TANG	ROCE	LIQ
Mean	3.2191	1.1868	2.6374	11.0437	4.8105
Std. Dev.	4.3945	5.3261	1.2219	5.1780	1.7501
Skewness	3.6173	3.8875	1.4976	1.2098	0.9083
Kurtosis	11.1224	16.4072	4.7423	4.9163	2.2384
Jarque-Bera	9.2370	20.3095	9.15884	8.5294	0.2718

Source: Data Collected from Prowess Database and Computed using E-views 7

LEV- Leverage, Profit, TANG- Tangibility, ROCE- Return on Capital Employed and LIQ- Liquidity.

TABLE 2: Correlation Results for Multinational and Domestic Chemical Sector Companies

MULTINATIONAL COMPANIES					
	LEV	**ROCE**	**PROFIT**	**TANG**	**LIQ**
LEV	1	.949**(0)	.699**(0.001)	-0.127 (0.577)	-0.061 (0.744)
ROCE	.949**(0)	1	.655**(0.001)	-0.007(0.903)	-0.137(0.538)
PROFIT	.699**(0.001)	.655**(0.001)	1	-0.055(0.792)	-0.128(0.501)
TANG	-0.127 (0.507)	-0.007(0.903)	-0.055(0.792)	1	0.175(0.473)
LIQ	-0.061 (0.744)	-0.137 (0.538)	-0.128 (0.501)	0.175(0.473)	1
	DOMESTIC COMPANIES				
	LEV	**ROCE**	**PROFIT**	**TANG**	**LIQ**
LEV	1	.971*(0.019)	-0.79(0.21)	-0.512(0.488)	-0.734(0.266)
ROCE	.971*(0.019)	1	-0.685(0.315)	-0.442(0.558)	-0.588(0.412)
PROFIT	-0.79(0.21)	-0.685(0.315)	1	0.869(0.131)	0.914(0.086)
TANG	-0.512(0.488)	-0.442(0.558)	0.869(0.131)	1	0.625(0.375)
LIQ	-0.734(0.266)	-0.588(0.412)	0.914(0.086)	0.625(0.375)	1

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Data Collected from Prowess Database and Computed using SPSS.16.0

LEV- Leverage, Profit, TANG- Tangibility, ROCE- Return on Capital Employed and LIQ- Liquidity.

The skewness was positive value for all variables of Domestic Companies in Chemical Sector. The kurtosis value reveals leptokurtic distribution for leverage, tangibility, Capital Employed, profit except liquidity. The Jarque – Bera values reveals normality of leverage, tangibility, Capital Employed, profit except liquidity for all sample firms in India.

Table 2 shows the results of correlation between the Capital Structure of Multinational and Domestic Companies included in the S&P BSE Chemical Sectors in India.

TABLE 3: Results of Ordinary Least Square Regression Model for Multinational and Domestic Chemical Sector Companies

	MULTINATIONAL COMPANIES				**DOMESTIC COMPANIES**			
Variables	Coefficient	Std. Error	t-Statistic	Prob.	Coefficient	Std. Error	t-Statistic	Prob.
RCEMP	0.044	1.7171	0.205	0.049	0.372	0.8901	1.446	0.04
TANG	0.829	0.1436	0.082	0.064	0.865	0.0625	2.518	0.005
LIQ	0.369	1.8295	0.358	0.795	-0.731	0.4375	-2.798	0.004
PROFIT	0.705	0.2273	2.774	0.04	0.045	0.9864	3.138	0.025
C	1.569	6.6202	0.612	0.001	6.604	2.2296	2.842	0.016
R-squared	0.525							
Adjusted R-squared	0.471							
S.E. of regression	5.197							
Sum squared resid	30.805							
Log likelihood	31.859							
F-statistic	3.903							
Prob (F-statistic)	0.001							
Mean dependent var				7.901				1.503
S.D. dependent var				1.319				1.071
Akaike info criterion				2.336				1.928
Schwarz criterion				3.868				1.522
Hannan-Quinn criter.				6.178				1.696
Durbin-Watson stat				2.103				2.034

Source: Data Collected from Prowess Database and Computed using E-views 7

Dependent variable: LEV- Leverage, Independent Variables: Profit, TANG- Tangibility, ROCE- Return on Capital Employed and LIQ- Liquidity.

Significant positive relationship was recorded between Leverage and Return on Capital Employed (94.9%) and leverage and profit (69.9%). There is significant positive relationship between Profit and Return on Capital Employed (65.5%) of multinational companies. Capital Structure is positively correlated with Return on Capital Employed (97.1%) for domestic companies. Therefore the H01: "There is no significant relationship between the capital structure and its determinants for Multinational Chemical Sector Companies and Domestic Chemical Sector Companies" is rejected. Table 3 shows regression analysis results estimated by Ordinary Least Square. The table consists of coefficient of various deterministic factors, their estimate t – statistics as well as their probability value. The table indicates that all explanatory variables are significant with dependent variables except size. This is depicted by Durbin Watson value recorded 2.103 and 2.034 for multinational and domestic companies. It is noted from the above table that 0.525 and 0.994 was the R squared value. Further only 0.471 and 0.899of variation in Leverage was explained jointly by the four capital structure variables. However the adjusted R squared is high which indicates the model is good. The Probability F statistic value was found to be 0.001 and 0.000which is lesser than 0.05 at 5% level for multinational and domestic companies in chemical sector. Hence the H02: "H02: There is no significant the impact of select determinants on capital structure of Multinational Chemical Sector Companies and Domestic Chemical Sector Companies" is rejected.

FINDINGS AND SUGGESTIONS

The Descriptive Statistics result reveals positive mean value for all variables. The skewness was positive for all variables. There was leptokurtic distribution for leverage, tangibility, Profit, Return on Capital Employed except liquidity variables for domestic companies for chemical sector. The correlation result reveals that significant relationship between the capital structure and its determinants. The ordinary least square regression model result concluded that there is significant impact of selected determinants on capital structure of sample companies.

CONCLUSIONS

This study investigated the determinants of capital structure for Multinational and Domestic Companies in India during this period 1st January 2009 to 31st December 2018. The study concluded that there is significant impact on capital structure determinants such tangibility, Profit, Return on Capital Employed and liquidity on the capital structure of Multinational Chemical Sector Companies and Domestic Chemical Sector Companies.

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