A RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE OF SERVICE COMPANIES IN INDIA

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ABSTRACT

Capital is an important and critical resource for all companies. Under the capital structure, a company has to determine the proportion in which capital should be raised from different securities. A capital structure or a combination of owned capital and debt which enables to maximize the value of the firm is called optimum capital structure. The main objective of this paper is to find out present practices of capital structure adopted by service companies in India and to find out the relationship between capital structure and financial performance of service companies taken as sample during the study period. For achieving the objective of the study data has been collected from Prowess software from 2005-2017 and 196 service companies has been taken. For analysis purpose, data is processed through SPSS software by using multiple regression models. Different capital structure and financial performance variables has been used i.e. Long term Debt to capital, Short term debt to capital, Total debt to total capital, Total debt to equity, Return on Equity, Return on assets, Earnings per share, Tobin's Q, Firm Size and Assets Growth. The findings of the study reveal that most of the companies were using the Debt in their capital structure as per ideal standard and also all variables of capital structure have a significant relationship with financial performance ratio.

KEYWORDS: Capital Structure, Financial Performance, Tobin's Q. SPSS.

Introduction

The term capital structure is used to represent the proportional relationship between debt and equity. Equity includes paid-up share capital, share premium and reserve and surplus (retained earnings). "Capital structure is essentially concerned with how the firm decides to divide its cash flows into two broad components, a fixed component that is earmarked to meet the obligations toward debt capital and a residual component that belongs to equity shareholders" (P. Chandra). The capital structure of a company is made up of debt and equity securities that comprise a firm's financing of its assets. It is the permanent financing of a firm represented by long-term debt, preferred stock and net worth. So it relates to the arrangement of capital and excludes short-term borrowings. Again, each component of capital structure has a different cost to the firm. In case of companies, it is financed from various sources. In proprietary concerns, usually, the capital employed, is wholly contributed by its owners. In this context, capital refers to the total of funds supplied by both-owners and long-term creditors. The question arises: what should be the appropriate proportion between owned and debt capital? It depends on the financial policy of individual firms. In one company debt capital may be nil while in another such capital may be greater than owned capital. The proportion between the two, usually expressed in terms of a ratio, denotes the capital structure of a company.

Review of Literature

Haron Razali (2014) examined Capital Structure inconclusiveness evidence from Malaysia, Thailand, and Singapore. The purpose of this paper is to examine the possible factors contributing to the issue of inconclusiveness in capital structure. Comparisons are also made between emerging market and developed market to see whether findings are consistent with both markets landscapes. The sample

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consist 790 Malaysian firms, 269 Thailand firms and 546 Singaporean firms for the time period 2000-2009. The data is collected through data stream and country data from World Bank database. Different regression models are used for the analysis purpose. This study found that the use of different models and different leverage definitions give different results including signs.

Khatoon and Hossain (2017) examined the effect of capital structure on firm's performance. This paper uses four performance ratios namely ROE, ROA, EPS and Net profit margin as the dependent variables and SDTA, LDTA, TDTA, LTDCE, TDTQ (five capital structure ratios), size, growth of the company, tangibility of assets, cash flows and liquidity as independent variables. This paper uses panel data procedure for a sample of 5 companies out of 7 listed cement companies of Dhaka Stock Exchange (DSE) over the period 1999 to 2011. The panel data regression Fixed Effects Model (FEM) analysis demonstrated that short-term debt and cash flows have significant positive effect on performance variables. But long-term debts, tangibility of assets and liquidity have significant negative effect on the financial performance variables except on ROE.

Hashim and Hassan (2017) examined the relationship between capital structure and performance. The objective of this study is to determine the impact and significance of capital structure on profitability, the relationship between DA with ROE, ROA and NPM and the relationship between DE with ROE, ROA and NPM. Quantitative methodology using random sampling was employed and the data collected were analyzed using excel and E-views 7 econometric software to come up with descriptive, regression and correlation results. The significance of data was measured using normality test and related, correlation, autocorrelation and Multicollinearity and of the data was investigated to check the significance of the model. The findings revealed that capital structure impact's financial performance of construction firms was significant with DE and not significant with DA as per p-value of the coefficient of correlation.

Abdul Basit and Nur Fasirah Irwan (2017) identified that the impact of capital structure on firm performance of Malaysia listed industrial product company. Convenience sampling technique was used in this research to select 50 industrial product companies listed in Bursa Malaysia main exchange market based on available of 2011 to 2015 annual report. The independent variables used in this research are debt to equity ratio, total debt ratio and total equity ratio. Return on asset (ROA), return on equity (ROE) and earnings per share (EPS) are used as dependent variable to measure firm performance. Descriptive statistics and multiple regressions are used in this research to analyses the data. This research found that, the regression result total debt has positive impact on ROE and total equity has insignificant impact on ROE, debt to equity has a negative significant impact on EPS, total debt ratio has positive significant impact on EPS and total debt has insignificant impact on EPS.

Offiong and Ajaude (2017) evaluated that the capital structure and the performance of quoted companies in Nigeria. The focus was to identify the relationship that exists between capital structure and performance indices such as the net profit margin, return on assets and return on equity. The theoretical component of the study attempted to evaluate the major contending theories of capital structure with the purpose of finding the best empirical explanation for corporate financing choice of a cross section of 94 Nigerian quoted companies. The result showed that Capital mix has a significant relationship with the earnings per share of quoted firms in Nigeria. Debt equity ratio has a significant positive impact on the return on assets of quoted companies in Nigeria and debt asset ratio has a significant inverse relationship with the return on assets of quoted companies in Nigeria.

Nenavath Sreenu (2018) examined the relationship between the capital structure impacts on SMEs performance. The study test hypothesis is that financial leverage positively affects SMEs (Malaysia, India, Thailand and Singapore) activity through disciplining managers, but the main important components has consider for this paper tax shield and signalling effects. According to Modigliani & Miller (1958, 1963) the analysis of the capital structure decisions has been significant area of research inside the field of finance. In present study it is SMEs and examined whether the factors that affect capital structure are the same for companies belonging to these different size-based groups of SMEs. The paper analysed the determinants of the probability that a SMEs is using long-term debt financing are the same as determinants of the proportion of this type of financing in capital structure.

Juwita, A. (2018) analyzed the effect of capital structure, liquidity, and growth both partially and simultaneously toward corporate performance. The object of the research is a small capitalization company on Indonesia Stock Exchange Period 2011-2016. This research design used explanative method with causality study. The small capitalization companies are represented by Pefindo 25 Index

amount to 25 companies. The data analysis technique used multiple regression analysis and Hypothesis with SPSS program. The result of this research concludes that the capital structure, liquidity, and growth have a significant effect on the corporate performance that included small capitalization on Indonesia Stock Exchange period 2011-2016 either partially or simultaneously.

Singh and Singh (2018) investigated that the relationship between capital structure and firm's financial performance by using five years data from 2011 to 2016 of Taiwan exchange listed companies. The data has been analyzed by using descriptive statistics, correlation analysis to find out the association between the variables and t-statistics to test the hypothesis. The findings at overall market as well as sector levels were unspectacular but remarkably consistent. Capital structure and various financial parameters exhibit correlation coefficients that were mixed in signs with relatively weak correlation strength. Further the results suggest that t-test statistics registered statistical insignificance for the three research objectives.

Hafeez, Khan and Azeem (2018) investigated the impact of capital structure on Islamic banks performance in Asian country (Pakistan, Jordan, Egypt, and Bahrain) over the period of 2007 to 2016. The impact of capital structure on Islamic banks performance is calculated through regression analysis. ER, EM, DR and DE treated as regrassors and ROA and ROE as regressand in this research. Eviews Software used for analysis the time serious data over the period of 2007 to 2016. According to the findings, there is a positive and significant relation EM and DR with ROA while ER has negative and significant relation with ROA.

Nwude and Anyalechi (2018) evaluated the influence of financing mix on the performance of commercial banks, and the causal link between debt-equity ratio. Data collated were analyzed using correlation analysis, pooled OLS regression analysis, fixed effect panel analysis, random effect panel analysis, granger causality analysis, as well as post estimation test such as restricted f-test of heterogeneity and Hausman test. The findings show that while debt finance exerts negative and significant impact on return on asset, the debt-equity ratio has positive and significant influence on return on equity. There was neither unidirectional nor bidirectional relationship between capital structure and performance of commercial banks in Nigeria.

S10mukaga (2018) examined the effects of capital structure on the financial performance of commercial and service sector firms listed in the Nairobi Securities Exchange in Kenya. The study sought to address the following specific objectives: the effects of long-term debt to equity ratio on return on assets, return on equity and earnings per share. Data collected was analyzed using both descriptive and inferential statistics with the aid of Statistical Package for Social Sciences (SPSS) version 24. The annual financial statements of 9 listed firms was used for this study covered a five-year period from 2013-2017. Regression analysis results showed that there was a significant positive correlation between long-term debt to equity ratio and return on assets, return on equity and earnings per share. Further tests on the statistical significance as presented by the p-values reveal that the variables were statistically significant.

Objectives of the Study

- To study the present practice of capital structure of selected companies from service industry in India.
- To examine the relationship between capital structure and financial performance of service companies in India.

Research Methodology

The following research methodology was used to attain the objectives:

- Sample Size and Data Collection: The sample size is 196 companies listed on Bombay Stock Exchange from service industry have been selected on the basis of capitalization. The data was collected from prowess from the year 2005 to 2017 has been taken.
- Statistical Tools and Techniques: SPSS software programmer exclusively applicable to statistical processing is used for processing the data. Results are based on the data processing by MS Excel and multiple regressions.

Variables of the Research

- Dependent Variables
 - Return on equity = net profit attributed to shareholders/total shareholders' equity.
 - Return on assets=operating income/total assets.

- Earnings per share=net earnings/number of shares.
- Tobin's Q=Market value of equity+ book value of debt / book value of assets.

Independent Variables

- Long term debt to capital = Long term debt/capital
- Short term debt to capital = Short term debt/capital
- Total debt to capital = Total debt/ capital
- Total debt to total equity= total debt/total equity.

Control Variables-A number of studies from the literature have shown the importance of firm size and assets growth in influencing the performance. So, in this study firm size and assets growth is going to be use as control variables.

• **Firm Size:** to measure the firm size different methods are used by scholars. In this study book value of total assets will be used to calculate the firm size.

Firm size= Log (book value of assets)

 Assets Growth: assets growth is used by many scholars in their studies and for the purpose of research, it is calculated by following formula.

Assets growth= (assets of current year-assets of previous year)/assets of current year

Research Model Specification

Multiple regression models will be used to find out the relationship between capital structure and financial performance service companies listed in India. Four regression models will be used to find out the relationship between capital structure and financial performance of service companies listed in India. The base models will be taking the following form:

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Yit = + Xit +µit

Where: Yit = the dependent variable.

0 = intercept.

Xit = independent variable.

µit = error terms.
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i = number of firms andt = number of time periods.

Return on Asset

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ROAit = 0it + 1LTDTCit + 2STDTCit + 3TDCit + 4TDTEit + 5SIZEit + 6AGit + \muit Return on Equity
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\mathsf{ROEit} = \ \mathsf{0it} + \ \mathsf{1LTDTCit} + \ \mathsf{2STDTCit} + \ \mathsf{3TDCit} + \ \mathsf{4TDTEit} + \ \mathsf{5SIZEit} + \ \mathsf{6AGit} + \mathsf{\mu it}
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Earnings per Share

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EPS = 0it + 1LTDTCit + 2STDTCit + 3TDCit + 4TDTEit + 5SIZEit + 6AGit + <math>\muit Tobin's Q
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Tobin = 0it + 1LTDTCit + 2STDTCit + 3TDCit + 4TDTEit + 5SIZEit + 6AGit + µit
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Analysis & Interpretation

For analysis purpose the data has been processed through Microsoft Excel and Multiple Regression by using SPSS 21 software. The following section provides the analysis and interpretation objective wise.

First Objective is to study present practices of capital structure of selected companies in India.

For the fulfillment of first objective data of 196 services industry companies have been processed through MS Excel and capital structure ratio of different companies has been divided into different ranges. The practices of capital structure shows that in which proportion the companies were using Debt in comparison to Equity.

Capital Year Avg. 2016-2004 2005 2006 2008-2009 2014-2015struc-2010ture (%) 07 09 11 12 13 -05 -06 08 10 14 15 17 16 42.35 0-25 34.69 45.26 40.30 40.82 25-50 21.43 20.41 22.96 0.25 27.55 26.53 22.96 20.92 18.37 19.39 22.45 21.94 22.45 20.59 50-100 35.71 37.76 36.73 50.18 32.65 33.67 30.62 27.55 27.04 27.04 20.91 25.51 24.87 31.56 3.58 100-200 4 08 3.06 2.55 2.04 3.57 10.71 14.80 14.28 13.27 13 76 10.71 11.73 8.32 200-300 2.56 0.51 0 0 0 0.51 0.53 1.02 0.13 0.40 300-400 0 0 0 0 0 0.51 0 0 0 0 0 0.51 0 0.08 400-500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4.08 3.06 2.05 2.27 0.52 0.92 0 0 0 0 0 than 500 Total 100 100 100 100 100 100 100 100 100 100

Table 1: Capital Structure (Total Debts to Total Assets)
Practices of 196 Companies from Service Industry

Table 1 demonstrates the percentage distribution of 196 companies from Service industry having Total Debts to Total Assets ratio in different ratio in different ranges during the study period. Maximum number of companies who was using Total Debts to finance its assets has been found 38.13 per cent 0-25 per cent range followed by 31.56 per cent in 50-100 per cent range. The analysis reveals that most of companies from service industry adopting modern approach to finance its assets by using more long term debt to finance its assets.

Table 2: Capital Structure (Total Debts to Total Equity)
Practices of 196 companies from Service Industry

Capital	Capital Year								Avg.					
Structure (%)	2004- 05	2005- 06	2006- 07	2007- 08	2008- 09	2009- 10	2010- 11	2011- 12	2012- 13	2013- 14	2014- 15	2015- 16	2016- 17	
0-25	19.86	19.86	22.41	22.96	19.90	21.43	22.47	22.93	25.96	19.90	25.94	24.43	29.59	22.90
25-50	11.69	12.71	13.22	12.76	14.80	13.80	12.24	12.73	12.76	17.86	17.22	19.96	13.27	14.23
50-100	14.28	16.84	18.37	19.90	22.96	20.9	17.86	17.86	16.85	15.31	19.39	17.35	20.92	18.37
100-200	28.53	26.02	26.49	22.45	21.43	22.45	18.89	21.43	19.90	19.39	15.82	21.43	21.43	21.97
200-300	6.63	7.65	4.59	11.22	8.67	7.14	12.24	9.18	6.12	11.67	5.10	4.59	2.55	7.49
300-400	6.61	6.12	4.59	3.06	3.57	6.12	4.06	2.04	4.64	1.59	2.76	1.02	2.55	3.75
400-500	1.02	2.64	2.17	2.55	2.55	2.55	4.08	2.12	3.06	2.04	1.53	1.53	1.53	2.26
More than	11.38	8.16	8.16	5.10	6.12	5.61	8.16	11.71	10.71	12.24	12.24	9.69	8.16	9.03
500														
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 2 shows the percentage distribution of companies in various different ranges of capital structure of 196 service companies during the time covered in the study. It shows the usage of total debts in comparison to equity. Total debts are the combination of short term debt as well as long term debt. The analysis reveals that maximum use of total debts in comparison to equity has been found 22.90 per cent in 0-25 per cent range. The overall analysis reveals that only 55.5 per cent companies were following Total debt to equity ratio standard i.e. 1:1. Remaining 44.5 per cent companies were using more than 100 per cent total debt in comparison to equity.

Table 3: Capital Structure (Debt Equity Ratio) Practices of 196 Companies from Service Industry

Capital	Year A										Avg.			
structure	2004-	2005-	2006-	2007-	2008-	2009-	2010-	2011-	2012-	2013-	2014-	2015-	2016-	_
(%)	05	06	07	80	09	10	11	12	13	14	15	16	17	
0-25	41.35	41.84	42.86	41.84	38.27	37.24	37.75	35.72	37.77	42.36	45.95	44.9	46.94	41.14
25-50	16.33	14.29	12.24	11.22	15.82	14.29	14.29	16.33	12.75	11.73	11.22	14.29	13.78	13.74
50-100	14.80	15.30	17.41	19.90	18.37	18.88	17.86	18.37	18.37	17.86	13.76	15.82	15.82	17.17
100-200	15.82	11.22	11.73	13.27	11.22	14.28	15.82	11.22	12.24	12.24	11.73	10.20	10.71	12.17
200-300	2.01	7.65	5.61	4.08	5.61	5.10	4.59	6.12	5.10	3.06	3.57	3.57	2.55	4.51
300-400	1.53	3.06	3.06	3.57	4.08	4.59	2.55	4.59	4.08	2.55	2.55	2.04	1.53	3.06
400-500	1.53	2.04	1.02	1.53	2.55	1.53	1.53	0.51	3.06	2.55	2.04	1.02	2.04	1.77
More	6.63	4.60	6.07	5.61	4.59	5.61	5.61	7.14	6.63	7.65	9.18	8.16	6.63	6.47
than 500														
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 3 demonstrates the usage of long term debt in companies in comparison to equity. The table shows that maximum 41.14 per cent companies was using long term debt up to 25 per cent. The broader analysis reveals that 84.22 per cent companies were following the standard ratio for Debt-Equity i.e. 2:1. Remaining 15.78 per cent companies were using long term debt in comparison to Equity more than ideal ratio.

Second Objective: To examine the relationship between capital structure and financial performance of service companies in India. For attaining the second objective four multiple regressions models have been used. The following section presents the results according to model individually. Model 1- Model 1 represents the relationship between Return on Assets (Dependent variable) and all other Independent and control variables.

ROAit = 0it + 1LTDTCit + 2STDTCit + 3TDCit + 4TDTEit + 5SIZEit + 6AGit + uit

Table 4: Descriptive statistics of Independent Variable, control variables and Return on Assets

R	R ²	Adj. R ²	F	Std. Error of Estimate	P value				
0.82 ^a	0.75	0.751	615.668	0.13606	0.00				
*Level of significance at 5%									

Table 4 represents the model summary of multiple regression models. Model summary indicates that only Control variable, Asset growth explains 82 per cent variation in dependent variable (Return on Asset) along with adjusted R^2 at 75 per cent. Hence both R and R^2 shows that a significant variation in dependent variable is explained by selected control variable and other Independent Variables do not have a significant relationship with dependent variable (Return on Asset). Table 4 also indicates that the model is found statistically highly significant (F==615.68, p<0.00).

Model 2: model 1 analyzed the impact of independent variables on the Return on Equity. It was measured through the following equation:-

ROE= + 1 LTDC+ 2 STDC+ 3 TDTC+ 4 TDTE+ 5 Size+ 6 Growth;

Table 5: Descriptive Statistics of Independent, Control and ROE

ſ	R	R^2	Adj. R ²	F	Std. error of estimate	P value
	0.884	0.781	0.780	690.747	5.34593	0.00

^{*} Level of significance at 5%

Table 5 shows that variables of model 1, together explained significant amount of variation 88.4.8 per cent with R^2 78.1 per cent. Hence both R and R^2 shows that a significant variation in dependent variable is explained by selected independent variables. So, finally the model is found statistically highly significant (F=690.747, p<0.00).

Model 3: model 3 analyzed the impact of independent variables on the Earnings per share. It was measured through the following equation:-

EPS = 0it + 1LTDTCit + 2STDTCit + 3TDCit + 4TDTEit + 5SIZEit + 6AGit + µit

Table 6: Descriptive Statistics of Independent Variables, Control Variables and EPS

R	R ²	Adj. R ²	F	Std. error of estimate	P value
0.243 ^a	0.059	0.054	12.88	16.55	0.01
* 1	. =0/				

^{*} Level of significance at 5%

Table 6 represents the model summary of multiple regression models. Model summary indicates that only Independent variable, STDC explains 24.3 per cent variation in dependent variable (Earnings per share) along with adjusted R^2 at 5.9 per cent. Hence both R and R^2 shows that a nominal variation in dependent variable is explained by selected independent variable and other Independent Variables do not have a significant relationship with dependent variable. Table 6 also indicates that the model is found statistically highly significant (F=12.88, p<0.05).

Model 4: model 4 analyzed the impact of independent variables on the Tobin's Q. It was measured through the following equation:-

Tobin's Q = 0it + 1LTDTCit + 2STDTCit + 3TDCit + 4TDTEit + 5SIZEit + 6AGit + µit

Table 7: Descriptive Statistics of independent variables, control variables and Tobin's Q Model Summary

R	R ²	Adj. R ²	F	Std. error of estimate	P value				
0.252 ^a	0.064	0.059	13.202	12769150	0.00				
* Level of significance at 5%									

Table 7 represents the model summary of multiple regression models. Model summary indicates that Control variable Short Firm Size explain 25.2 per variation in dependent variable Tobin's Q with adjusted R² at 6.4 per cent. Hence both R and R² shows that a significant variation in dependent variable

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is explained by selected control variable and other Independent Variables do not have a significant relationship with dependent variable. Table 7 also indicates that the model is found statistically highly significant (F=13.202, p<0.05).

Conclusion

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Statistical investigation of the ongoing research verifies a positive significant relation between capital structure and financial performance of service companies. Capital is very critical resource. The main aim to form a optimum capital structure is to reduce overall cost of capital and to increase the worth of the company. The analysis reveals that companies taken as sample was using an optimum mix of Debt and Equity as per ideal standard.

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