



## Impact of capital structure on firm performance: A study of listed firms on national stock exchange

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### Abstract

The capital structure decision plays an important role in the performance of a firm. Therefore, there have been many studies inspecting the rapport of capital structure with the performance of firms, although the findings of these studies are inconclusive. In addition, there is a relative deficiency of empirical studies examining the link between capital structure and the performance of listed companies of India. This study attempts to fill this gap. Performance is measured by return on assets, return on equity and earnings per share. Determinants of capital structure includes long term debt to assets ratio, short term debt to assets ratio and total debt to assets ratio. Findings of the study validated a positive relationship between determinants of capital structure and firm performance.

**Keywords:** capital, long term debt, short term debt, return on assets, return on equity and earnings per share

### Introduction

The main objective of the firms is to maximize its profits and in the same time minimize its costs, when companies search about resources to finance its investments they take this objective in consideration. The main sources that firms could use to provide the necessary finance are the internal finance which is equity, and the external finance which is debt. Most of companies use a mix between equity and debt which form the capital structure. Choice of internal or external financing is one of the serious concerns of a firm. Capital structure and its impact on firm value and performance is still a puzzle in corporate finance theory and finance literature. Well known theory of capital structure irrelevance of Modigliani and Miller (MM) (1958) which is based on unrealistic assumptions provided the foundation for the development of various theories, empirical studies on capital structure, as these restrictive assumptions do not hold in the real world. Capital structure of the group is very hard to determine. Financial managers are fronting difficulties in just determining the optimal capital structure. Optimum capital structure means with a minimum weighted average cost of capital and thus maximize the value of organization. A business utilizes several kinds of financing to operate a company efficiently.

Enormous amount of researchers have been examined the capital structure choice on performance in developed market and for large firms. In developed markets capital markets are more efficient and suffer less from information asymmetry compared to other emerging economies (Eldomiaty, 2007). Therefore the main focus of this study is to investigate the impact of capital structure on financial performance of manufacturing sector SMEs in UK which has not adequately research in financial literature.

### Capital structure theories

The following capital structure theories have evolved from capital structure literature:

### Modigliani and miller (mm) theory (1958, 1963)

In Modigliani and Miller provided the seminal in capital structure under certain assumptions include no taxes, homogenous expectations, perfect capital markets, and no transaction costs. This theory which called "capital structure irrelevance" states that the relationship between capital structure and cost of capital is irrelevant, that mean the increases in debt does not effect on cost of capital. In a result, the investor's expectations of future benefits are totally effect on firm value and cost of capital. Latterly, Modigliani and Miller introduced new evidence that cost of capital effect on capital structure, and thus effect on firm value with taking taxes as assumption into consideration, which refer that borrowing give tax advantage, because the interest will deduct from the tax which result what is known as tax shields, which in turn reduce the cost of debt and then maximize the firm performance.

### Trade-off theory

Trade off theory is an extension of the MM theory developed by Miller. The theory proposes that the firm's optimal capital structure include the tradeoff among the influences of firms and personal taxes, agency costs and bankruptcy costs, etc. Tradeoff theory expect that corporations choose levels of debt in order to achieve a balance among the benefits from the interest tax shield with the costs related to a future financial distress or with current financial inflexibility.

### The agency theory

Agency cost theory which provided by Jensen and Meckling is discussing the conflict of interest between principals (shareholders) and decision makers (agents) of firms (managers, board members, etc), this conflict stems from the differences in behavior or decisions by point out that the parties (agents and shareholders) often have different goals, and different tolerances toward risk. In this case, the managers

whom are responsible of guiding the firm toward to achieve them personal goals rather than maximizing benefits to the shareholders. Hence, the main conflict that shareholders face is to ensure that managers (agents) do not invest the free cash flow in unprofitable projects. In another hand, increasing the debt to equity ratio would assist firms to make sure that managers are running the firm more efficiently.

### Literature review

Impact of capital structure on firm performance has been studied since 1952. Durand, D, (1952) shed light on introducing theories on capital structure and their impact on value of the firm. Since then it is received enormous attention in the financial literature among scholars. Due to this inspiration a debate started among researchers and still it is continuing like a puzzle without consensus. MM (1958) stated that the capital structure is irrelevant and there is no optimal capital structure based on unrealistic assumptions. According to Chaganti *et al.* (1995) due to the assumption on rational economic behavior and perfect market conditions of MM irrelevant theory, it has limited applicability to the small firms. SMEs differ from the large firms in several aspects and different financing decisions are applied (Heyman *et al.*, 2008). SMEs have limited access to external finance unlike larger firms and this is the fact that SMEs are motivated to depend more on the self-generated funds or short term debt.

Studies on capital structure and firm performance are mainly based on the theory of information asymmetry, signaling and agency cost. Following Jensen and Meckling (1976) several other researchers (Fama and French, 1998; Gleason *et al.*, 2000; Hadlock and James, 2002) study the direct effect of leverage on firm performance based on the agency theory and information asymmetry.

Ross (1977) came up with a model that describes the debt to equity ratio choice signals the quality of the firm. This study explain that low quality firms face high cost to abuse the market and signal about its high quality through incorporating more debt capital. Firms with low debt capital are inclined to spend their free cash flow freely and finally generating lower return. In contrast, firm with higher debt capital work very effectively as they are committed to meet the interest payment of the debt holders and manage the rest of the cash flow more effectively. Harris and Raviv (1988) explain higher leverage of the firm as an antitakeover instrument. Higher the leverage of the firm means they bear a higher risk and the firms with higher risk will be less likely to be acquired. For their own interest managers of the firm manage higher amount of debt which is not consistent with the agency theory.

Lots of empirical studies focus on impact of debt to equity mix on firm performance as performance is significantly affected the capital structure of the firm. Titman and Wessels (1988) from the US firms reported that a negative relationship between capital structure and firm performance. Titman and Wessels (1988) argue that due to the cost and risk associated with leverage small firms maintain less relationship with financial institutions which make small firms less preferable clients and they are charged at high interest rates while large firms are offered competitive interest rates. This is supported by Rajan and Zingales (1995) and showed that profitability was negatively correlated with leverage

Ebaid (2009) <sup>[9]</sup> examined the capital structure and performance of firms, basically the aim was to check the relationship between debt level and financial performance of companies (listed at Egyptian stock exchange during the period of 1997 to 2005). By using the three accounting based measure of performance (ROA) return on assets (ROE) return on equity and gross profit margin. He found that there is negative significant influence of short term debt (STD) and the Total debt (TD) on the financial performance measured by the return on asset (ROA) but no significant relationship found between long term debt (LTD) and this measure of financial performance. He also proposed that there is not significant influence of the debt (TD, STD and LTD) on financial performance measured by both of gross profit margin and Return on equity. The results also indicated that control variable firm size has no significant effect on the firm's performance. In this research paper least squares regression model was used to check the performance of the firms.

San and Heng (2011) they examined that the relationship of capital structure and corporate performance of firms before and during 2007 crisis, all 49 construction companies are taken from Malaysia which were listed in Main board of Bursa Malaysia from 2005 to 2008 these forty nine companies are divided in three units like small, medium and large or big size. Always financial crisis are occurred by the poor corporate performance, in the Malaysia construction industries and construction activates are the major source of growth and development in Malaysia, in this research (capital structure) independent variables are used Long term debt to capital (LDC), debt to capital (DC), debt to asset (DA), debt to equity market value (DEMV), debt to common equity (DCE), long term debt to.

### Research methodology

A methodology is not a formula but a series of choices from which, we choose specific methods to solve specific problems. To investigate the impact of capital structure characteristics on firm performance in INDIA, this study is conducted by using the methodologies adopted in earlier research work on this issue. As other studies have discussed these relationships, conceptual frame work of our study is based on deduction method and for analysis of data collected from secondary sources quantitative techniques were employed. Descriptive statistics, correlation matrix and regression models are generally used for analysis of data. Methodology had been adopted to get the objectives, which is analyzing the changes in debt level towards affecting the firm performance. The data for the study is collected from financial statement of listed companies, website of National stock exchange (NSE)

### Data Collection

Data on dividend policy and firm performances were collected from secondary sources as Annual reports of the 20 manufacturing companies, national stock exchange publications and URL of the national stock exchange for the period of 2012 to 2017.

### Variables

The independent variables consist of long-term debt to total assets, short-term debt to total assets, total debt to total assets

and control variables consist of firm size, asset Growth and dependent variables are Return on Equity (ROE), Return on Asset (ROA) and earnings per share (EPS).

**Hypothesis**

In order to draw some of the results from my research project first i have developed some hypothesis related to my research and in other step using my selected methodology i accept or reject these hypotheses. Followings are these Hypotheses.

**H1:** There is a positive relationship between firms Capital structure and bank performance.

**H0:** There is a negative relationship between firms Capital structure and bank performance.

**Analysis and interpretations**

Tables 1, 2, 3 and 4 explain the results that are found by applying descriptive statistics, and regression technique.

**Table 1**

Descriptive Statistics					
	Mean	Minimum	Maximum	Std. Deviation	N
ROA	19.7480	6.5745	24.7779	2.59344	20
ROE	14.8965	4.8878	16.899	3.8763	20
EPS	9.8743	2.7690	11.97878	2.9865	20
TDTA	4.0660	2.6843	6.98777	1.54346	20
LDTA	7.2700	3.7543	9.36678	2.03317	20
SDTA	6.8660	4.7864	10.7656	1.62589	20

Descriptive statics of study are given in table 1. The values of Mean, Median and Standard Deviation of independent (LDTA, SDTA and TDTA) dependent (ROA, ROE and EPS) of sample of 20 COMPANIES are calculated from 2012 to 2017.

**Table 2**

Coefficients <sup>a</sup>						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	8.300	1.270		6.533	.097
	TDTA	.359	.194	.214	11.855	.031
	LDTA	-.892	.366	-.699	-8.438	.024
	SDTA	2.399	.470	1.504	15.100	.123

a. Dependent Variable: ROA

In these table researcher measured performance between return on equity ROA and debt ratios and the Positive significant value of less than 0.05 shows the positive relationship between capital structure and Firm performance.

H1:  $p < 5\%$  then accept  
Debt ratios and ROA: At level of confidence the significant value less than 5% so can be accepted.

**Table 3**

Coefficients <sup>a</sup>						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	5.910	.599		9.874	.064
	TDTA	.195	.093	.254	10.087	.045
	LDTA	-.719	.081	-.672	-9.889	.041
	SDTA	-.456	.067	-.791	-10.844	.032

a. Dependent Variable: ROE

In these table researcher measured performance between return on equity ROE and debt ratios and the Positive significant value of less than 0.05 shows the positive relationship between capital structure and Firm performance.

H1:  $p < 5\%$  then accept  
Debt ratios and ROE: At level of confidence the significant value less than 5% so can be accepted.

**Table 4**

Coefficients <sup>a</sup>					
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	24.035	29.679		7.810	.067
TDTA	-1.199	2.392	-.480	-11.501	.044
LDTA	-.019	3.163	-.005	-12.006	.046
SDTA	.550	3.330	.163	7.165	.026

a. Dependent Variable: EPS

In this table researcher measured performance between return on equity EPS and debt ratios and the Positive significant

value of less than 0.05 shows the positive relationship between capital structure and firm performance.

H1:  $p < 5\%$  then accept

Debt ratios and EPS: At level of confidence the significant value less than 5% so can be accepted.

### Conclusion

By considering the data of 20 listed companies for the period from 2012–2017, this study empirically examined the impacts of capital structure choice on the performance of listed companies operating in a developing country, i.e., INDIA. The results indicate that all capital structure variables, viz. TDTA, LDTA, and SDTA, have significant inverse impacts on ROA. It was also found that TDTA, LDTA and SDTA have significant positive impacts on ROE and EPS. The results showed that capital structure has positive impact on firm performance. The significant levels are positive between dependent variable and independent variable which i used in my paper such as ROE, EOA, EPS and debt ratios.

### References

1. Abor J. The effect of capital structure on profitability: An empirical analysis of listed firms in Ghana. *The Journal of Risk Finance*. 2005; 6(5):438-445.
2. Abor J. Corporate governance and financing decisions of Ghanaian listed firms. *Corporate Governance*. 2007; 7:83-92.
3. Abor J. Debt policy and performance of SMEs: Evidence form Ghanaian and South African firms. *The Journal of Risk Finance*. 2007; 8(4):364-379.
4. Abeysekera I, Guthrie J. An empirical investigation of annual reporting trends of intellectual capital in Sirilanka. *Critical Perspectives on Accounting*. 2005; 16(3):151-63.
5. Ahmad Z, Hasan NMA, Roslan S. *International Review of Business Research*. 2012; 8(5):137-155.
6. Amidu M. Determinants of capital structure of banks in Ghana: an empirical approach. *Baltic Journal of Management*. 2007; 2(1):67-79.
7. Barton SL, Hill NC, Srinivasan S. An empirical test of stakeholder theory Predictions of capital. *Financial Management*. 1989; 18(1):36-44.
8. Cummins JD, Harrington SE. The relationship between risk and return: evidencefor property-liability insurance stocks. *Journal of Risk and Insurance*. 1988; 55(1):15-32.
9. Ebaid EI. The impact of capital-structure choice on firm performance: empirical evidence from Egypt. *The Journal of Risk Finance*. 2009; 10(5):477-487.
10. Grossman S, Hart O. the costs and benefit of ownership: A theory of vertical and lateral integration. *Journal of Political Economy*. 1986; 94:691-719.
11. Jou DG. Interest rate risk, surplus, leverage and market reward an empirical study of Taiwan life insurance industry. *Journal of Management & Systems*. 1999; 6(3):281-300.
12. Komnencic B, Pokrajcic D. Intellectual capital and corporate performance of MNCs in Serbia. *Journal of Intellectual Capital*. 2012; 13(1):106-119.
13. Mesquita JMC, Lara JE. Capital structure and profitability: the Brazilian case working paper. *Academy of Business and Administration Sciences Conference, Vancouver, 2003*, 11-13.
14. Min-Tsung C. Relative effects of debt and equity on corporate operating performance Aquantile regression study. *International Journal of Management*, 2009, 26(1),
15. Modigliani F, Miller M. ‘The cost of capital, corporation finance and the theory of investment. *The American Economic Review*. 1958; 48(3):261-97.
16. Modigliani F, Miller M. Corporate income taxes and the cost of capital: A correction. *American Economic Review*. 1963; 53:443-53.
17. Pal K, Soriya S. IC performance of Indian pharmaceutical and textile industry. *Journal of Intellectual Capital*. 2012; 13(1):120-137.
18. Phillips, Sipahioglu. Performance implications of capital structure evidence from quoted UK organizations with hotel interests. *The Service Industries Journal*. 2004; 24(5):31-51.
19. Pratheepkanth P. Capital Structure and Financial Performance: Evidencefrom Selected Business Companies in Colombo Stock Exchange Sri Lanka. *Journal of Arts, Science& Commerce*, 2011, 23.
20. Saad NM. Corporate Governance Cpmpliance and the Effects to capital Structure. *International Journal of Economics and Financial*. 2010; 2(1):105-114.
21. Saedi A, Mahmoodi I. Capital Structure and Firm Performance: Evidence from Iranian Companies. *International Research Journal of Finance and Economics*, 2011, 70,
22. Staking KB, Babbel DF. The relation between capital structure, interest rate sensitivity and market value in the property-liability insurance industry. *Journal of Risk and Insurance*. 1995; 62(4):690-718.
23. Soumadi, Mustafa M, Osama Suhail Hayajneh. Capital structure and corporate performance empirical study on the public Jordanian shareholdings firms listed in the Amman stock market. *European Scientific Journal*. 2012; 8:173-89.
24. Sufian, Fadzlan, Muzafar Shah Habibullah. Determinants of bank profitability in a developing economy: Empirical evidence from Bangladesh. *Journal of Business Economics and Management*. 2009; 10:207-17.
25. Trujillo-Ponce, Antonio. What determines the profitability of banks? Evidence from Spain. *Accounting and Finance*. 2013; 53:561-86.
26. Umar, Muhammad, Zaighum Tanveer, Saeed Aslam, Muhammad Sajid. Impact of capital structure on firm’s financial Performance: Evidence from Pakistan. *Research Journal of Finance and Accounting*. 2012; 3:9.
27. Van Horne, James C, John M Wachowicz. *Fundamentals of Financial Management*. Harlow: Pearson Education. Wooldridge, Jeffrey M. *Introductory Econometrics: A Modern Approach*. Ontario: Nelson Education, 2008-2015.