



IMPACT OF STOCK PRICES ON CAPITAL STRUCTURES REFERENCE TO INDIAN STOCK MARKET

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Abstract

The economy is extensively sensitive and damaged with the resultant of uncertainties currently prevailing in the stock market and erratic rehabilitation and leverage mechanism taken by firms, corporate and the government.

As a result the companies and corporate are unable to build enough liquidity in one side and incapable to face the torpid capital market. There is no exemption for Indian Companies. An attempt will be made to analyse the Indian stock price behaviour of manufacturing and service companies and the severe impact upon causation of market value as a result of violating stock prices, the debt equity balancing mechanism in consonance with institutional arrangements and portfolio adjustment in tune with country's economic dynamism and global induced market sluggishness.

1.1 Introduction

Each and every corporation is confronted with the decision of how to finance its business activity by finding a specific mix of debt and equity capital. Because this decision is of high practical relevance, capital structure theories have gained popularity among financial academia in the last five decades. Scholars have developed a wide array of research on the determinants of optimal capital structures and on the question if such optimal design exists at all. Financial managers and corporate finance departments are interested in how the overall cost of capital is affected by changes in the firm's capital structure and, accordingly, how the value of the firm will be impacted (Bierman 2003)¹. Additionally, the globalization of capital markets – involving a large heterogeneity of sources and design of financing – as well as the recent global financial and credit crises gave rise to an enhanced interest in corporate leverage decisions and further complicated the above considerations regarding corporate capital structures.

The discussion, which continues ever since the middle of the last century, is built upon the defining work by Modigliani and Miller (1958)², who succeeded under very restrictive perfect market assumptions – to show that the value of a firm is not dependent of its capital structure. Following this initial contribution, the corporate finance literature saw the emergence of a vast number of new theories and concepts – such as the trade-off theory and the pecking order theory, to name the two most renowned ones – which dropped the stringent assumptions made in the initial irrelevance proposition. Nonetheless, until today, only little agreement could be reached with regard to the fundamental drivers behind observable corporate capital structures and the related managerial decision-making process. The primary reasons for prevailing theoretical contradictions may be derived from the high complexity of the issue and low consistency of existing empirical studies.

1.2 Statement of Problem

Following a widespread perception in the corporate finance literature, companies aim at maintaining a target capital structure that weights the costs and benefits related to different levels of indebtedness. Once the actual debt level diverges from the target, rational firms would be expected to readjust their debt ratio towards the target level accordingly (Myers 1984)³. However, the dynamic rebalancing argument is questioned by empirical research (i.e. Baker and Wurgler 2002)⁴. On the other hand, Graham and Harvey (2001)⁵ find in their large scale survey that more than two thirds of U.S. financial executives implicitly have a target debt level.

With regard to Drobetz and Pensa's (2007)⁶ it can be observed that the European market is not homogeneous due to the heritage of different judicial, financial and economic systems (La Porta et al. 1996)⁷. Hence, aggregated results on a

¹ Bierman, H. (2003), *The Capital Structure Decision*, Kluwer Academic Publishers.

² Modigliani, F. and Miller, M.H. (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment", *American Economic Review* 48 (3), 261–297.

³ Myers, S.C. (1984), "The Capital Structure Puzzle", *Journal of Finance* 39 (3), 575–592.

⁴ Baker, M. and Wurgler, J. (2002), "Market Timing and Capital Structure", *Journal of Finance* 62 (1), 1–32.

⁵ Graham, J.R. and Harvey, C.R. (2001), "The Theory and Practice of Corporate Finance: Evidence from the Field", *Journal of Financial Economics* 60, 187–243.

⁶ Drobetz, W. and Pensa, P. (2007), "Capital Structure and Stock Returns: The European Evidence".



European basis will offset the specific German capital market characteristics outlined above and will not emphasize on differing behaviour in particular institutional settings. Confirmation can be found in Fan, Titman and Twite's (2011)⁸ paper: they conclude that institutional factors as, for example, a country's legal and tax system explain a significant portion of the variation in debt-to-equity balances and debt maturities. Accordingly, assimilating those factors in an overarching European context would relativize or even neglect country-specific capital market manifestations. In addition, Rajan and Zingales (1995)⁹ and Wald (1999)¹⁰ study the efficiency of the financial system of a country and argue that a country's financial system affects capital structure decisions.

Market-based capital structures can be seen to be subject to a variety of exogenous impacting factors. Specifically, this thesis emphasizes on the idea that a change in a company's stock price implies an equivalent change of the market value of equity of the firm. This change, in turn, affects the market-value based leverage ratio. If a company targets a specific leverage ratio, this stock return-induced change in the capital structure had to be rebalanced with issuing activity in order to return to the set target level.

Thus far, empirical knowledge on managerial rebalancing behaviour of stock return-induced capital structure changes was examined with U.S. market (Welch 2004)¹¹ and German market (Lauenstein&Reimann, 2013)¹². In this context, this thesis aims at extending the available research by studying the Indian stock market, which is chosen as a proxy other stock markets.

1.3 Objective of the Study

This section describes the objective of this thesis and the main objective is to study the impact of stock prices on capital structures towards selected manufacturing and service companies in Indian stock market. The following are secondary objectives constructed for evaluation.

- To elicit the financial portfolio and stock price behaviour of manufacturing and service companies in Indian stock market.
- To find the degree of relationship between market value and stock prices.
- To evaluate the pattern of balancing debt to equity reference to the size of the company.
- To offer valid suggestions

The objectives have been divided into models as under:

- Model 1: Indian companies and short term debt: To understand the impact of each independent variable while raising short term debt for Indian companies
- Model 2: Indian companies and long term debt: To understand the impact of each independent variable while raising long term debt for Indian companies
- Model 3: Indian companies and total debt: To understand the impact of each independent variable while raising total debt for Indian companies.

1.4 Scope of the Study

The purpose of the research is to further contribute to the existing literature on the topic. The thesis fulfils this purpose by making a thorough analysis based on the most relevant theoretical background as a fundamental basis. Moreover, the existing literature on the topic is being brought up to date in different perspectives. The scope of this study is limited to selected companies from Indian stock market.

⁷ La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. (1996), "Law and Finance", *Journal of Political Economy* 106 (6), 1113–1155.

⁸ Fan, J.P., Titman, S., and Twite, G. (2011), "An International Comparison of Capital Structure and Debt Maturity Choices", *Journal of Financial and Quantitative Analysis* 47 (1), 23–56.

⁹ Rajan, R.G. and Zingales, L. (1995), "What Do We Know About Capital Structure? Some Evidence from International Data", *Journal of Finance* 50 (5), 1421–1460.

¹⁰ Wald, J. (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison", *Journal of Financial Research* 22 (2), 161–187.

¹¹ Welch, I. (2004), "Capital Structure and Stock Returns", *Journal of Political Economy* 112 (1), 106–132.

¹² Reimann, P., &Lauenstein, P. (2013), "The Impact of Stock Prices on Capital Structures: A Study on the German Stock Market".



1.5 Research Methodology

This section converse the research methodology used in carrying out the research. It outlines the nature of the research paradigm employed and the methods used in the research. An analysis of the thesis shows that the research employed quantitative methods to examine the influence of stock prices on capital structures in Indian stock market. Although a few studies have been published on Indian capital markets, these studies are not sufficiently able to answer either of the present research questions. Therefore, it induces the researcher to conduct a new research on this domain with respect to the specific research objectives.

1.5.1 Research Design

The purpose of a research design is to ensure that the data obtained facilitates us to answer the initial question as clearly as possible. The research approach is majorly classified into two types known as inductive and deductive research. The inductive research assist to generate theory or definition based on the empirical observations; whereas in the deductive approach hypothesis and predictions derived from existing theories are tested for their correctness. This research applies deductive approach, since the predictions derived from Welch (2004) theory and examined with Indian stock market. Hence, this research majorly follows the exploratory research design.

Summary of objectives of the model	
1(a)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of profitability on time (short term and long term) and age of the debt
1(b)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of growth on time (short term and long term) and age of the debt
1(c)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of asset tangibility on time (short term and long term) and age of the debt
1(d)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of size on time (short term and long term) and age of the debt
1(e)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of cost of debt on time (short term and long term) and age of the debt
1(f)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of liquidity on time (short term and long term) and age of the debt
1(g)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of financial distress on time (short term and long term) and age of the debt
1(h)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of tax rate on time (short term and long term) and age of the debt
1(i)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of debt serving capacity debton time (short term and long term) and age of the debt
1(j)	To study and analyse the determinants of capital structure of Indian companies by investigating the impact of age on time (short term and long term) and age of the debt
The Hypothesis will be set based on the objects	

1.5.2 Sample Design

Non-probability sampling technique is applied in this research, since the researcher has own choice of selecting the study period, number of companies and there is no specific intention during the selection of financial years. As per the general design principle, this research has taken six years data for the available companies in Indian stock market.

1.5.3 Sampling Procedure

There are many studies carried out the data spanning from five years to twenty years. In this case six years data was planned, which is to be very close to the recent years. Therefore, this study has considered the period from 2009-2010 to 2013-2014 for evaluation.



1.5.4 Data and Sources of Data

Secondary data is used in this study and the important variables possess in the data are collected from money control website¹³, and Capital line corporate databases¹⁴. There are about many industries and companies available in Capital line database and present study considered the manufacturing and service companies which are listed in the stock market. From money control website various information were collected such as historical stock price and ratios. Similarly, balance sheet and P & L statements were obtained from Capital line database.

1.5.5 Tools for Analysis

The following statistical tools were used to analyze the data includes: Summary Statistics (mean, standard deviation, and coefficient of variation), Trend Analysis, Growth Analysis, Correlation Analysis and Regression Analysis.

Mean: The mean of a group of data is a representative which expresses the average value. The value of mean is obtained for each variable for different years.

Standard Deviation: The standard deviation is one of the measures of dispersion which explains the amount of deviation between the mean value and the group it represents. The standard deviation is obtained for each variable for each year considered in the study.

Co-efficient of Variation: The co-efficient of variation is one of the measures of dispersion which is expressed in percentage. Lesser the co-efficient of variation indicates more consistency or uniformity. This technique is used in this study to identify which variable is more consistent or uniform when compared with other variables.

Trend Analysis: Trend Analysis is the practice of collecting information and attempting to spot a pattern, or trend, in the information. Although trend analysis is often used to predict future events, it could be used to estimate uncertain events in the past, such as how many ancient kings probably ruled between two dates, based on data such as the average years which other known kings reigned.

Correlation: It measures the interrelationship between the variables. If there are only two variables in the study of correlation it is simple correlation. Otherwise the study is either partial or multiple correlations. In this study the simple correlation is used to determine the interrelationship between the selected variables.

1.6 Limitation of the Study

The limitation of the research derives partially from the selected research strategy in terms of case study. Although the case study research strategy is the most appropriate for the purpose of the research in the thesis and is characterized by providing in-depth understanding and flexibility of the investigation it has some disadvantages too and they include generalization and narration. The second limitation of the research is that the data collection methods are based only on secondary data due to the difficulty of obtaining relevant primary data of the ten companies selected for this thesis.

Data Analysis

Descriptive statistics containing mean, standard deviation and inferential statistics containing Pearson Correlation, ANOVA test using Statistical Package for Social Sciences (SPSS) were used in data processing. The dependent and independent variables were calculated with the aid of Microsoft Excel software. The variables were then exported into SPSS software where Pearson correlation coefficient was used to measure the relationship between explained and explanatory variables.

Correlation matrix is used to test the hypotheses between capital structure and financial performance. Also significance level will be used to depict significance of the correlation between the variables instead of student's T test. Ho (null hypothesis) is rejected when the significance level is less than 5%.

Results and Discussion

Descriptive and inferential statistics have been employed in discussing the results of this research. The analyses and findings are based on the methodology discussed above. Results of the study are presented and discussed below.

¹³ <http://moneycontrol.com>

¹⁴ <http://www.capitaline.com/new/index.asp>



Descriptive Statistics

The descriptive statistics gives a summary of the information in the data set by revealing the average indicators of the variables used in this study and presents the information in a convenient way .As mentioned earlier, Fifteen (15) companies would be selected for the study. The list of the companies is presented is given below

Descriptive statistics of the variables

Variable	Minimum	Maximum	Mean	Std. Deviation
ROE	.58	.53	.1274	20920
ROI	-.17	.27	0625	08633
EBTS	-.20	.29	.0587	08461
OPRS	-.21	.21	0424	08085
STA	.37	13.20	2.0477	2.47338
NPM	-.20	.24	.0421	07207
MV	.04	.89	.4009	19981
BV	.06	.91	.5110	18517
STD	.06	.83	.4714	17313
LTD	.00	.57	0696	11236

Where:

- ROE (Return on Equity) = Profit after tax/Net worth
- ROI (Return on Investment) = Profit after tax/ Total asset
- EBTS (Earnings before Tax to Sales Ratio) = Profit before tax / Sales
- OPRS (Operational Profit to Sales Ratio) = Operational Profit/Sales
- STA (Sales to Total Assets) = Sales/Total Asset
- NPM (Net Profit Margin) = Net Profit/Sale
- MV (Market Value of Capital Structure) = Total Debt/Total Market Capital
- BV (Book Value of Capital Structure) = Total Debt/Total Capital
- STD (Short Term Debt to Total Capital) = Short Term Debt/Total Capital
- LTD (Long Term Debt to Total Capital) = Long Term Debt/Total Capital

The descriptive statistics from table above shows that performance ratios measured by Return on Equity (ROE), Return on Investment (ROI), Earnings before Tax to Sales Ratio (EBTS), Operational Profit to Sales Ratio (OPRS), Sales to Total Assets(STA) and Net Profit Margin (NPM) averaged 12.74%, 6.25%, 5.87%, 4.24%, 2.0477 times and 4.21% respectively. With the exception of ROE, the variations within and among the companies is quite moderate as can be seen from the minimum and maximum values shown above. Averagely, OPRS of 4.24%, EBTS of 5.87% and NPM of 4.21% are on the low side looking at the average sales to total assets of 2.0477 times. This suggests that companies in Ghana are able to utilize their assets effectively by turning them into sales. However, the sales they make are not translated into high profits due to operational lapses resulting in high operational cost.

Short-Term debts to total capital

COMPANIES	2009	2010	2011	2012	2013	2014
ABL	47.50	54.83	38.04	44.67	50.51	54.44
ALUL	35.41	51.39	35.95	53.33	43.53	58.19
BOPP	36.33	14.09	10.55	7.32	9.22	6.13
CGL	54.43	65.48	71.61	38.01	33.13	41.51
CFAO	78.24	67.00	75.01	69.44	62.87	72.49



CPC	49.43	65.98	46.78	40.68	52.66	28.69
FML	58.56	48.54	50.49	42.24	34.97	31.76
GGBL	41.27	57.02	51.28	46.25	53.87	35.59
MLCL	55.62	53.36	38.22	42.62	38.53	36.88
PKL	42.67	36.86	18.51	36.44	57.26	69.42
PBCL	29.41	46.90	73.06	82.22	77.49	79.12
PZ	33.14	34.84	33.66	29.20	33.50	33.93
SPPCL	20.16	52.13	52.60	29.72	37.88	46.15
TPGL	64.79	69.91	81.88	80.08	56.13	59.40
UGL	38.91	50.64	49.50	46.19	45.50	31.62

Long-Term debts to total capital

COMPANIES	2009	2010	2011	2012	2013	2014
ABL	5.98	9.77	3.86	4.19	2.41	2.11
ALUL	13.18	8.37	7.32	2.76	8.79	25.18
BOPP	0.00	0.00	0.00	0.00	0.00	0.00
CGL	0.00	0.00	0.00	38.38	57.48	49.51
CFAO	0.00	0.00	0.00	0.89	0.88	0.00
CPC	0.00	0.93	22.14	34.86	26.33	42.00
FML	0.00	0.00	0.00	3.17	4.97	2.88
GGBL	6.36	4.60	19.41	10.03	2.95	21.19
MLCL	0.00	14.59	8.39	5.76	8.69	5.67
PKL	8.46	8.16	1.13	1.08	0.95	1.17
PBCL	0.00	3.43	0.00	0.00	0.00	7.68
PZ	4.44	4.10	4.43	4.81	5.72	4.99
SPPCL	25.82	0.00	19.05	6.70	7.48	0.00
TPGL	0.13	1.64	0.41	0.16	0.05	0.00
UGL	2.29	1.91	2.79	3.24	2.92	5.53

Short-term debt and advances are usually cheaper than long-term debt so financing long-term activities and growth strategies via short-term advances and debt have appeared as seemingly smart approach in numerous financing activities.

Conclusion

The economy is absolutely flex in the changed and challenged business environment, especially, in the aftermath of Global economic recession and followed by the offshoot of restoration mechanism. There is an imperative need to assess the magnitude of market volatility and its impact on financial performance of the firms.

The trade-off mechanism makes between financial flexibility and fiscal discipline is the most important determinant.

This study will distinguish the key variables such as profitability, liquidity, asset tangibility, cost of debt, financial distress, debt serving capacity, and age, etc related specifically to Indian firms

The thrust of this paper is to establish the relationship between capital structure measures and financial performance of the India based companies so to determine which of the capital structure measures has a stronger association with financial performance. The researchers will also investigate various determinants of capital structure and to analysis the positive and negatively correlated financial leverages, shareholder value.

It will also attempt to identify the establishment of causation of relationship between capital structure and financial performance, the crucial factors determining a firm's financial decisions, the type of policy measures to be adopted, need for financial discipline and risk on further amplification and expansion of business, avoiding both over and under leveraging, methods to determine the optional capital structure in the risky and weak capital market situations. Attempt will also made to advocate new measures of flexibility to be adopted during the period of increased credit constraints.