

# Capital Structure and Its Impact on Financial Performance in India – A Study

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## Abstract

Establishing whether or not stock returns are responsive to changes in the capital structure is crucial for analysing overall returns of corporations and estimating the financial performance of specific organisations. The ratio of debt to equity, the return on equity, and the profits per share were employed as independent variables, with stock returns serving as the dependent variable. All of the aforementioned factors were plugged into a regression model to help us get to the bottom of things. Gains in stock price may be explained by a company's low debt load, high return on equity, and rising profits per share. Both changes in capital structure and company performance were shown to have an impact on stock returns. A well-managed financial system is essential for a country like India, which is quickly becoming one of the world's most promising economies. This article uses data from the Bombay Stock Exchange to examine the impact of capital structure on the overall financial performance of one hundred Indian manufacturing businesses from 2014 to 2021. (BSE). We found out that STDR, LTDR, and ROE are all adversely connected with one another using Pearson's correlation and regression techniques.

## Keywords

BSE 100 firms in India, capital structure, Tobin's Q. JEL Classifications G3; L6; L25.

## Introduction

The finance manager is in charge of all financing choices for the firm and must ensure that the capital structure is optimised to boost both the company's wealth and the returns to shareholders. Financial managers usually look for the most conservative capital structure choice, yet each company has its own unique level of leverage. Decisions on the optimal balance of debt and equity for financing a company's investments and operating expenses may be challenging. The primary goal of the company is to reduce its tax liability, and it plans to do this primarily via the use of loan financing. As a result, these businesses might choose to keep large amounts of cash on hand and to explore non-traditional investment options on a regular basis. Thus, the typical options for various capital structure ideas are primarily crucial background in the corporate finance for the company administration.

In addition, the capital structure irrelevance hypothesis, as revised by Modigliani and Miller (1963), explains why a rising debt ratio is good for a company's value and why interest and taxes are deductible over time. The effect of personal tax on capital structure was also included into a revised study by Modigliani and Miller (1977), which had originally dealt with the irrelevance of the theory from 1963. In addition, personal taxes continue to be split into two classes: those assessed on a person's own investment income and those assessed on a person's loan capital income. The pecking order hypothesis proposes a hierarchy of possible financial actions, with external sources of financing being the theory's first option in the lack of sufficient internal ones, and with the company's investment being the second alternative (Myers & Majluf, 1984; Myers, 1984).

Managers serve as agents for their shareholders and incur agency expenses as a result of this relationship, but they are not required to prioritise their owners' interests at all times (Jensen & Meckling, 1976). Since executives look out for themselves rather than the business, shareholders and management sometimes find themselves at conflict over who should benefit most from the firm's ownership and management. As a consequence, businesses may use the study's findings as a guarantee of higher-quality financial decision-making about their capital structures. It's also a useful tool for business executives in evaluating the health of their company's capital structure and determining how to allocate resources to maximise profitability.

## Review of Literature

Moreover, changes in the equity or debt ratio would mirror the company's market value. If a company wants to improve its financial performance while keeping its cost of capital down, it may choose to borrow more debt capital rather than equity. According to previous studies (Merz & Yashiv, 2007; Cole & Mehran, 1998), a company's success is measured by its market capitalization or the sum of its stock's market value and the value of its stock options. Despite claims to the contrary, market value is understood to be larger than market capitalization, as stated by authors such as Allen et al. (2007), Ang et al. Pathak Rajesh's (2011) study demonstrates the unfavourable relationship between debt financing and a company's bottom line. In addition, Huang and Song (2006) found in their study of Chinese businesses that there is a negative correlation between capital-strategy choices and corporate profitability. Ghosh also discussed the inverse correlation between leverage and business success (2007).

## III. Objectives of the Study

Most of the studies have focused on the factors affect a company's capital structure, but very few have looked at how that affects the company's performance. In addition to the primary goal of the study, the following sub goals have been outlined.

1. To evaluate the significance of the correlation between various forms of capitalization and the financial success of businesses.
2. To look at the factors that will lead to financial performance and the capital structures affect these factors.
3. To study the 100 publicly traded manufacturing businesses on the BSE by determining which of these structures best enables these firms to reach their full performance potential.

## Model of Capital structure and financial performance

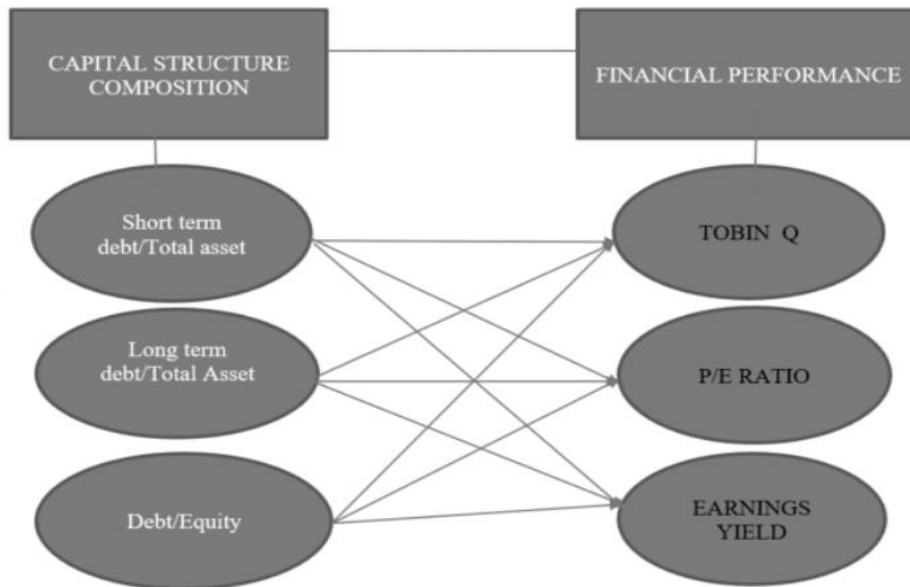


Figure-1

## Tests of Hypotheses

Using static effects models, the study investigates the goals of the research and evaluates the connections between dependent variables, independent factors, and control variables. The primary focus of the study is on the effect of capital structure on the financial performance of businesses. “Debt financing may have both positive and negative effects on a company's value, although previous empirical verification has shown conflicting outcomes. In order to examine the connection between capital structure and the financial performance of manufacturing categories of BSE 100 Companies, the following hypotheses have been formulated for this study.

Investigate the substantial link between capital structure factors and the financial performance of BSE 100 Companies (H01).

Using the BSE 100 as a sample, Hypothesis 2 looks at the correlation between capital structure and financial success as assessed by Return on Equity (ROE).

H03 examines the interconnectedness between capital structures and the financial performance of BSE100 companies as evaluated by Return on Assets (ROA).

H04: Examines the connection between capital structures and the financial performance of BSE100Companies as evaluated by Earnings per Share (EPS)”.

Investigate the correlation between capital structures and the Tobin's Q scores of the BSE 100 businesses in order to answer question H05.

## Study Design and Information Analysis

### Origins of the Sample and the Information Used

The study used an empirical research approach, collecting and analysing data from the 2009-2013 fiscal years for the BSE 100 manufacturing businesses listed. Organizations in the 23 manufacturing and service sectors that make up the BSE index. The study looked at a total of 100 organisations, however data from financial institutions was excluded since their procedures are unique. As a result, the sample size is highly dispersed throughout the 84 manufacturing enterprises, which together represent almost every significant industry.

### Measures of Financial Performance and Variables

The study analyses data from a variety of sources to learn about the firm's performance in terms of its capital setup. This study was structured around these main categories of variables: dependent, independent, and control.

#### Dependent Variables

Several writers have emphasised the need to look at how a company's financial structure affects its success. Businesses are analysed using accounting ratios and other metrics derived from the financial statements.

#### Influential Factors or Monetary Leverage

Independent variables might include things like debt-to-equity ratio, total debts, debt maturity, and the short-term debt-to-equity ratio.

#### Factors That Can Be Regulated

The Size variable is included to the research model to account for differences in firm operational conditions. Research model controls for age, tangibility, and liquidity of firms, in addition to perimeter specification bias.

#### Quantifying Factors: Monetary Outcome

There are a number of metrics that may be used to evaluate a company's financial health, as discovered via a literature study. The views of Majumbar recommended measures of financial performance by Nguyen Thuy Anh & Thi Ph Companies' financial performance was measured and analysed using explicit variables that were grounded on the explanatory factors listed below.

S.NO	Name of the Variable	Description
1	Return on Equity (ROE)	Return on Equity is estimated based on Net profit items divided by total equity items obtained from the balance sheet
2	Return on Assets (ROA)	Return on Assets is estimated based on Net profit divided by the total assets obtained from the balance sheet
3	Earnings per Share (EPS)	Earnings per share is estimated based on total net profit divided by aggregate quantity of outstanding shares
4	Tobin' s Q	Tobin Q is estimated based on total debts and quoted market value of equity shares divided by book value of total assets
5	Short term debts Ratio (STDR)	Short-term debts are calculated by Short-term debts divided by Total assets
6	Long-term debts Ratio (LTDR)	Long-term debts are calculated by Long term debts to Total assets
7	Total Debts Ratio (TDR) or Leverage (LEV)	Total debts are calculated by Total debts divided by total assets
8	Debt to Equity Ratio	Debt to Equity Ratio is calculated by Total liabilities divided by Total shareholders' Equity
9	Sales Growth (SGRTH)	Sales growth of the companies is estimated based on present year sales minus previous year sales divided by previous year sales

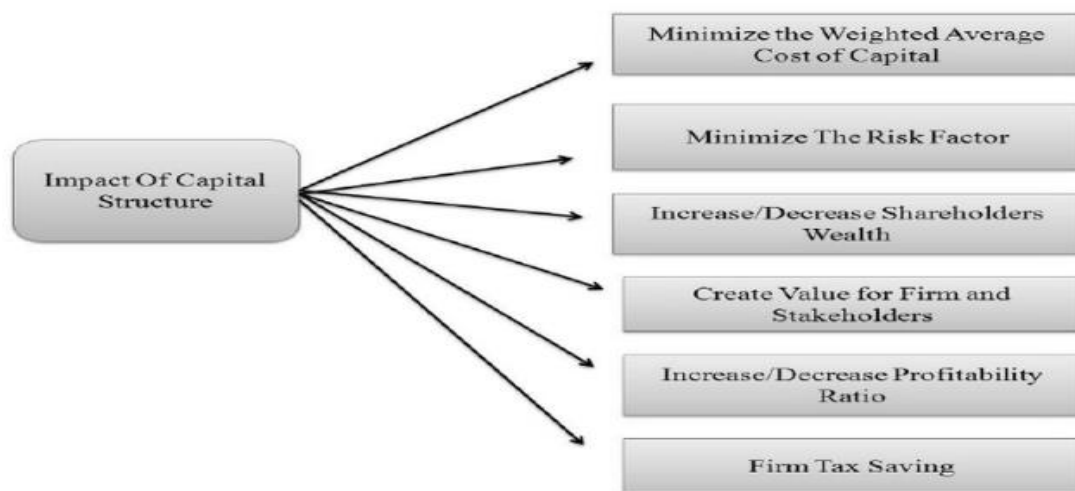
Table 1.

Research Methodology

In order to evaluate phenomena, the research constructs a spherical panel of data derived from secondary sources and having a quantifiable character. While the FEM model does take into account the uniqueness of each firm in the sample or the cross-sectional components at play, providing an explanation for the variances across firms. Unlike FEM, REM assumes that random effects should be used in the event of regression execution whenever the variables are uncorrelated.

However, a Hausman test is performed, with the relevant distribution as chi-squared, and the choice to utilise FEM or REM for the planned data is drawn from the concept of exercise. In case the null hypothesis is supported using the Hausman test, REM should be used. While it is necessary to use FEM since the null hypothesis has been rejected. As a result, the research hypothesised more factors that may affect data authenticity.

Figure-2 impact of capital structure



Capital structure does not correlate with the independent variables (Ho).

Capital structure and the explanatory factors have a correlation, hence H1 is true.

Research Model

Validating a research model that relies on such a broad range of variables requires doing the necessary studies to verify the hypothesis. “In addition, a panel data model was used to examine the non-linear relationship between capital structure and business financial performance, building on the work of Salim and Yadav (2012), Margaritis and Psillaki (2010), and Berger and Bonaccorsi di Patti (2007). (2006). The following are the regression equations and theoretical frameworks used to analyse the firm's results:

$$ROE_{i,t} \text{ (financial performance)} = \beta_0 + \beta_1 STDR_{i,t} + \beta_2 LTDR_{i,t} + \beta_3 TDR_{i,t} + \beta_4 DTE_{i,t} + \beta_5 Z_{i,t} + u_{i,t} \dots \dots \dots (1)$$

$$ROA_{i,t} \text{ (financial performance)} = \beta_0 + \beta_1 STDR_{i,t} + \beta_2 LTDR_{i,t} + \beta_3 TDR_{i,t} + \beta_4 DTE_{i,t} + \beta_5 Z_{i,t} + u_{i,t} \dots \dots \dots (2)$$

$$EPS_{i,t} \text{ (financial performance)} = \beta_0 + \beta_1 STDR_{i,t} + \beta_2 LTDR_{i,t} + \beta_3 TDR_{i,t} + \beta_4 DTE_{i,t} + \beta_5 Z_{i,t} + u_{i,t} \dots \dots \dots (3)$$

$$\text{Tobin } Q_{i,t} \text{ (financial performance)} = \beta_0 + \beta_1 STDR_{i,t} + \beta_2 TDR_{i,t} + \beta_3 LTDR_{i,t} + \beta_4 DTE_{i,t} + \beta_5 Z_{i,t} + u_{i,t} \dots \dots \dots (4)$$

Where:

$STDR_{1,t}$  = Short term debts to Total assets for company 1 during period t

$LTDR_{1,t}$  = Long term debts to Total assets for company 1 during period t

$TDR_{1,t}$  = Total debts to Total assets for company 1 during period t

$DTE_{1,t}$  = Total debts to Equity for company 1 during period t

$Z_{it}$  = Vector of control Variables

$\beta_0$  = Constant

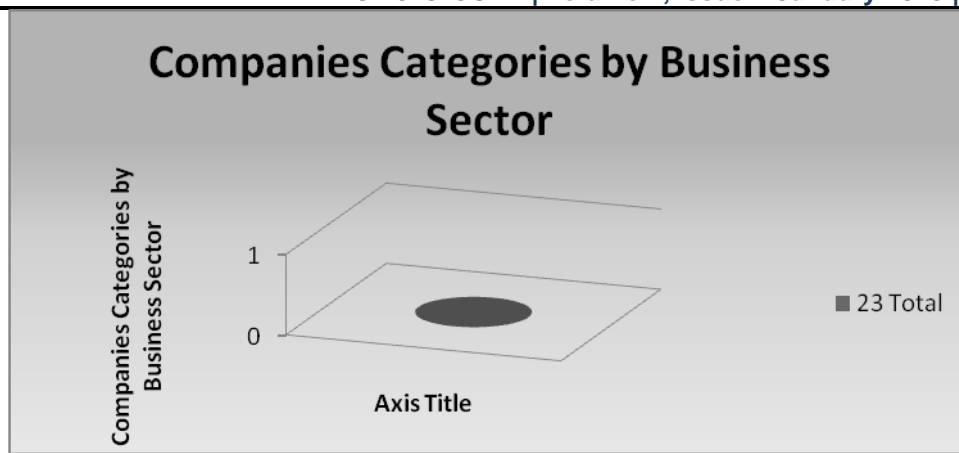
$u_{1,t}$  = the error term".

## Analysis of Empirical Data using Descriptive Statistics

The sample and methodology for this research were drawn from the list of BSE 100 businesses compiled using the free glide capitalization approach (see Table 3 for details). The all-encompassing businesses are divided into 23 different industries. There are 11.90 percent pharmaceutical businesses, 9.52% automakers, and 9.48% software developers. Because of the 5.95 percent increase in spending on consumable goods. Furthermore, businesses involved in the production of petroleum products and cement account for 4.76 percent, while those involved in the production of chemicals, fast-moving consumer goods.

**Table 3 Companies Categories by Business Sector**

S.NO	Industry Sector	Percentage
1	Automobile	9.52 %
2	Software	9.52 %
3	Petroleum Products	4.76 %
4	Non - Ferrous Metals	5.95 %
5	Media & Entertainment	2.38 %
6	Minerals/Mining	2.38 %
7	Oil & Gas	2.38 %
8	Telecom-Services	2.38 %
9	Chemicals	3.57 %
10	Consumer Non-Durables	5.95 %
11	FMCG	3.57 %
12	Pesticides	3.57 %
13	Pharmaceuticals	11.90 %
14	Ferrous Metals	3.57 %
15	Power	3.57 %
16	Cement	4.76 %
17	Transportation & Logistics	3.57 %
18	Telecom - Equipment & Accessories	2.38 %
19	Construction Project	2.38 %
20	Consumer Goods	3.57 %
21	Engineering & Electronics Conglomerate	3.57 %
22	Biotechnology	2.38 %
23	Alcoholic beverage	2.38 %
	Total	100 %



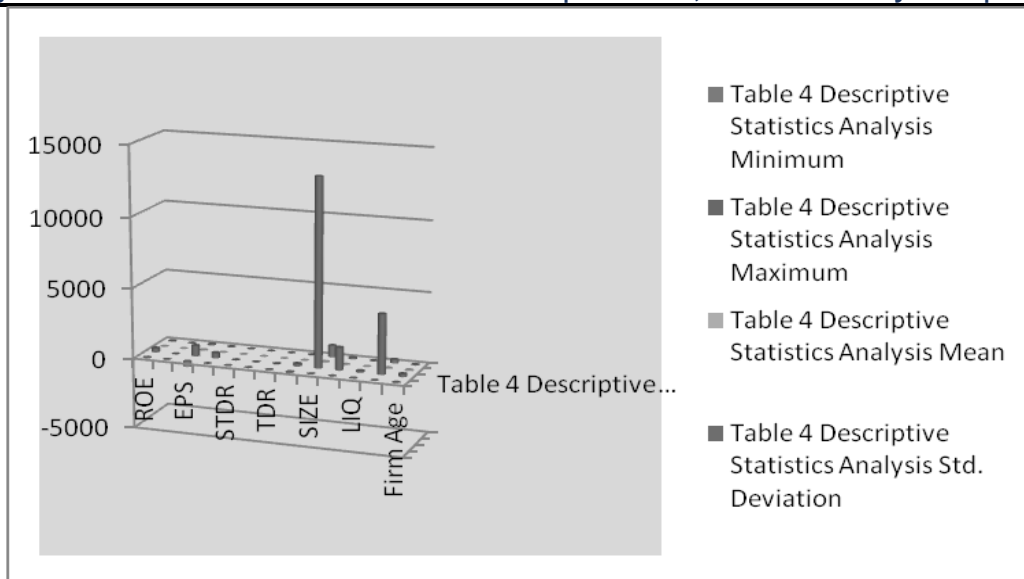
Source: Author's research 2012

Skewness analysis further shows that 8.729 percent of Total debt finance is being used by the BSE 100 businesses. This scenario suggests that businesses should be strongly encouraged to grow by being given access to new borrowing in order to increase their market capitalization, since doing so entails a much lower level of risk. The date of incorporation and the kind of business being conducted by each company is, nevertheless, distinct.

(Table 4).

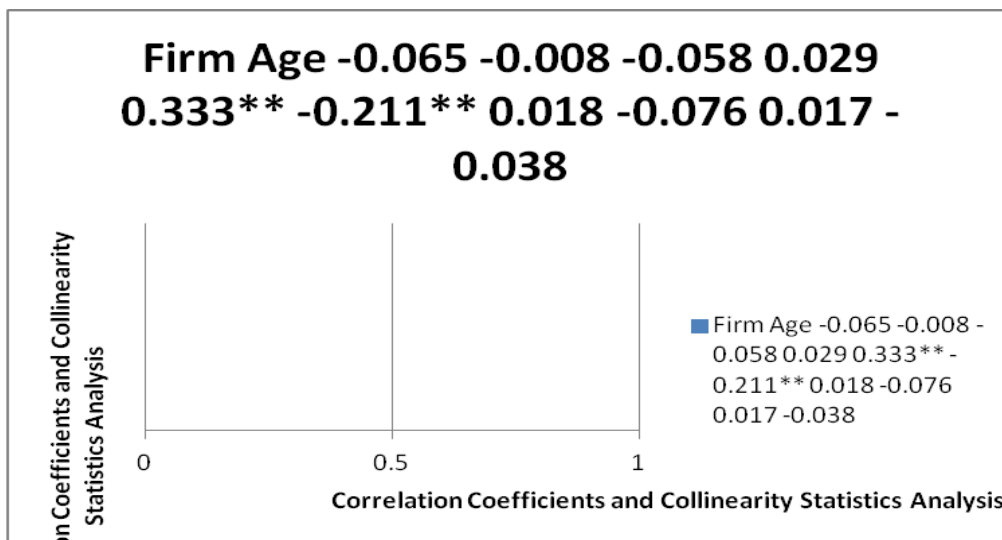
Table 4 Descriptive Statistics Analysis				
Explanatory Variables	Minimum	Maximum	Mean	Std. Deviation
ROE	-40.155	285	19.524	39.544
ROA	-0.216	1.146	0.142	0.131
EPS	-356.6	753.37	47.165	85.48
Tobin's Q	0.133	374.748	3.883	27.653
STDR	0.0007	1.124	0.291	0.163
LTDR	0.0006	0.687	0.139	0.156
TDR	-8.683	23.078	0.568	1.767
SGRTH	-57.2	183.77	10.462	19.928
SIZE	0.193	13292	64.975	828.101
TANG	0	1612	5.734	93.048
LIQ	0	110.407	3.889	13.003
Debt to Equity	0.757	4232	67.131	250.686
Firm Age	10	195	59.316	34.0329





**Error Analysis of Correlation and Ramsey Regression Equations (Reset) Confirmation of Hypothesis 1**

The Collinearity Statistics and Pearson's correlation matrix for the expressive and dependent variables are shown in Table 5. If the Variance Inflation Factor (VIF) is less than five, then there is no multicollinearity problem with the explanatory variables. Additionally, Pearson's correlation analysis findings revealed there was no multicollinearity issue owing to the highest coefficient of correlation being 0.742.



However, Firm Age has little effect on a company's bottom line since the link between the two is maximally inverse. In addition, the linearity of the regression equations was confirmed by using the Ramsey RESET test (Table 6), which was done to check for research model misspecification (because the probability value was less than 5).

**Findings and Conclusion**

To gain insight into Indian firms' financing practises, this research analysed capital structure choices made by the 100 largest companies on the BSE between 2009 and 2013 and their effects on financial performance. While it is true that firms' ability to manage their capital structure and reap tax advantages may be aided by the financial flexibility and discipline established by business transactions, in most corporate sectors, these benefits become negligible if debt levels are kept to a bare minimum. The research focused on the Indian economy and looked forward five years to assess the downturn's effect on financial results.



There was therefore no discernible effect of the businesses' SIZE control variable on the Tobin's Q. The study indicated that the majority of BSE 100 businesses' finance managers relied on loan financed rather than equity finance to fund their operations. As a result, this trend has a detrimental effect on the company's bottom line.

## Prospects for Future Study

More Indian companies listed on the BSE or NSE stock exchanges may be included if researchers wanted to widen the scope of the study.

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