

**CAPITAL STRUCTURE DETERMINANTS OF INDIAN
MANUFACTURING COMPANIES LISTED
ON BOMBAY STOCK EXCHANGE**

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ABSTRACT

The crucial decision for business success is to tap the scarce finance resources and its uses in optimum fashion. The scarce finance resources must be raised with least cost as high cost of financing erodes the profitability of the business and long run survival in competition environment. The funds to be raised must be optimum that it is neither surplus nor deficit. The surplus capital in the business does not provide additional income but adversely affect the bottom line of the business. Capital structure planning is a key strategy that ultimately affects the owners' interest in the business. The funds raised for operations are generally classified into debt and equity categories and both the sources of finances have peculiar characteristics. The finance manager is well acquainted with its peculiarity and decides to tap the resources to enhance the shareholders wealth. In this study the factors affecting the capital structure decision is studied in the detail in Bombay Stock Exchange listed Indian manufacturing companies. The study used multiple regression model to extract the set of factors affecting the capital structure decision in Indian manufacturing companies.

Keywords : Capital structure planning, debt and equity, BSE, factors affecting capital structure

INTRODUCTION

The key area of financial management includes financial planning, investment decision and profit planning, in this study the focus is to find out set of factors affecting the capital structure planning in BSE listed Indian manufacturing companies. The literature of capital structure provides exclusive information about the various factors affecting the capital structure choices. After M & M (1958) capital irrelevance approach, the focus of researcher attracted by the assumption proposed by M & M (1958). The relaxation of M & M (1958) assumption resulted in the outcome of pecking order theory, trade off theory, market timing theory with innovative models and these models are well accepted by the researchers universally. Such models proposed by researchers are tested over the period considering underlying business dynamics like recession, boom, stock market development, openness of economy,

taxation, interest rate conditions. The outcome of the models varies from country to country considering the economic development and changing business conditions of the individual country, under such dynamic business environment researchers are interested in understanding how finance manager take capital structure planning decisions.

The key goal of finance manager is to enhance the shareholders' wealth and capital structure planning decision significantly affects the shareholder's wealth. In financial planning finance manager assesses the impact of finance mix on current and future prosperity of the business. The debt in finance mix is double edged weapon, at its one end it offers tax shield benefit and at other end probability of bankruptcy. The equity portion of capital is permanent capital and investors receive return in the form of dividend which is flexible in nature. Finance manager to select the optimum finance mix with

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the knowledge of underlying characteristics of various sources of finance. Companies with high debt proportion in total capital may lose positive net present value projects due to their inability to finance such projects. Finance manager must stick to the norms neither the firm faces inadequate tax shield nor problem of financial distress.

The first section of the paper introduces to the topic of the study, second part of the paper presents literature review, and third part offers methodology adopted for the research, fourth section of the paper provides data analysis and then conclusion.

LITERATURE REVIEW

This section of the paper presents the literature on the earlier capital structure studies. The exclusive literature on the topic is detailed studied from various aspects by western countries researchers and hence the limited research motivates to conduct detailed research in Indian context to identify key factors affecting capital structure decisions.

Modigliani F., Miller M.H (1958)¹ commonly known as M & M irrelevance approach pioneered research in capital structure studies paved the way for future studies due to its limited practical assumptions adopted in the theory. M & M proposed that the capital structure decision does not affect the market value of the firm and capital structure decision are irrelevant. M & M theory based on the assumptions that taxes does not exist, corporate and retail borrowers borrow at the same rate, no bankruptcy, no information asymmetry. The assumptions when relaxed and tested in real environment resulted in failure of the theory and opened the way for debate on the subject.

Merton H. Miller (1977)² proposed neutral mutation model, as per the model investors does not interested to link capital structure changes with valuation of the firm and finance manager fell into a particular financing pattern and does not change unless it risky.

Stewart C. Myers (1977)³ discussed underinvestment problem in the article “Determinants of corporate borrowing” suggested that due to high risky outstanding debt restricts the ability to finance projects which are offering high net present value and such projects are

foregone by the company due to heavy debt.

Michael C. Jensen et.al (1986)⁴ discussed the problem of free cash flow and tendency of managers to invest existing free cash flow in negative net present value projects and excessive consumption of perquisites. The companies generating excessive free cash can use debt as discipline device and streamline future free cash flows with debt obligations.

Steward C. Myers (1984)⁵ proposed two contesting theories with two extreme views and commonly known as trade off theory and pecking order theory, trade off theory predicts optimum debt ratio at which firm fetches its maximum value and pecking order hypothesis states hierarchy of financing.

Malcolm Barker et.al (2002)⁶ explained market timing hypothesis, theory claims that manager prefer market timing is primary determinant of capital structure and select the financing mix which increases the value of business. The idea of market timing hypothesis the manger gives attention to time the market than to consider any other parameter in selecting financing mix.

RESEARCH METHODOLOGY

This section of the paper presents the research methodology for the study and detailed discussion is provided for sampling of the study, research techniques, period of the study, and limitations of the study, regression model and operational definitions used in the model.

Objective of the study

To study the determinants of the capital structure in the selected BSE listed manufacturing companies

Hypothesis of the study

There is no relationship between tangibility, interest coverage ratio, operating profit, GDP growth, lending interest rate and financial leverage

Sample of the study

The study includes sample from steel, chemicals, cement companies particularly listed on Bombay Stock Exchange for the period of 2008 to 2017 and sample includes 506 companies.

Multiple regression model of the study

$$DE_{it} = \beta_1 \text{Tangibility}_{it} + \beta_2 \text{Interest Coverage Ratio}_{it} + \beta_3 \text{Operating Profit}_{it} + \beta_4 \text{GDP Growth}_{it} + \beta_4$$

Lending Interest Rate $i_{i,t} + \varepsilon_{i,t}$

Operational definitions used in the multiple regression model

Sr. No.	Name of variable	Definition
1	Financial leverage	Long term debt to total asset
2	Tangibility	Fixed asset to total asset
3	ICR	EBIT to interest expenses
4	Operating profit	Operating profit to sales
5	GDP growth	% Growth in GDP
6	Lending interest rate	% Interest rate

Table no.01 – Operational definitions of model

Source of data collection

- 1) Data required for analysis need to be collected from financial statements of listed companies and the same is collected from Capita Line data base.
- 2) Economic indicators GDP growth and lending interest rate and data required for the same is collected from World Bank database.

DATA ANALYSIS AND INTERPRETATION

Table no.02 of the study indicates that the overall multiple regression model is statistically significant and overall model can establish linear linkage with capital structure changes. Overall model has predicted 65% variation in capital structure changes due to tangibility, interest coverage ratio, operating profit, GDP growth, lending interest rates and rest 35% variation is due to the other variables.

Tangibility of the study is negatively and significantly associated with capital structure changes and can be interpreted as with declining fixed asset company employ more debt. Interest coverage ratio is positively and significantly linked with capital structure

and can be interpreted as companies having high interest coverage ratio use high debt due to sufficient cushion available to repay debt obligations. Operating profit is negatively and significantly associated with the capital structure and can be interpreted as companies having good amount of profit use less debt and finance their operations with retained earnings. GDP growth variable failed to establish any statistically significant linkages with capital structure changes and have positive association with capital structure and can be interpreted as with growing GDP Indian listed companies use more debt. Lending interest rate is positively and significantly associated with capital structure changes and can be interpreted as with growing interest rate Indian companies prefer to increase their financing with debt, this relationship need to be counter checked with inflation.

Variable	Coefficients	T-stat	P-value
Tangibility	-0.018	-4.23	0.00
ICR	2.53	48.32	0.00
Operating Profit	-0.029	-19.57	0.00
GDP Growth	0.003	1.49	0.13
Lending Interest Rate	0.01	4.55	0.00
Constant	0.13	4.09	.000
Prob > F = 0.00			R² = 0.65

Table no .02 – Results of the study

CONCLUSION

In this study capital structure behaviour of Indian companies is assessed, the study is focused to identify the key variables affecting capital structure changes. Such studies are well researched in western countries and similar studies are required in Indian context particularly listed companies in India. This study is particularly focused to the factors affecting capital structure changes

in Indian manufacturing companies and sample of 506 companies includes steel, cement, chemical companies. The study used the financial data of sample companies for the period of 10 years commencing from 2008 to 2017. The multiple regression model used mixed approach by using company specific and macro-economic variables that includes tangibility, operating profit, interest coverage ratio, GDP growth and lending interest rate.

The findings of the study suggest that the variables used the model are strongly establish linear linkage with capital structure and overall model has predicted 65 % variation in capital structure. The variables tangibility, interest coverage ratio, operating profit, lending interest rates have linear relationship with capital structure behaviour and only GDP growth failed to establish linear linkage with capital structure changes.

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