

FIRM STRUCTURE AND CORPORATE EARNINGS: A STUDY OF NSE LISTED COMPANY

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ABSTRACT

The purpose of the paper is an attempt to explore the firm's structure and corporate earnings of various Indian companies for the period of 5 years (2011 to 2016). The sample covers 100 companies of Top 500 NSE listed. The research study focused on the relationship between firm structure and net profit, return on capital employed and net profit as independent variables. The study used Kolmogorov–Smirnov test to check the normality and multiple linear regression was applied to check the relationship among the variables. The study revealed that the capital structure and corporate earnings were closely associated and further support was given by the Pecking order theory of capital structure.

Keywords: Capital structure, Corporate Earnings, Net profit, ROCE

INTRODUCTION

Capital structure is composition of long term debt and equity of business. It encompasses fund raised with the help of ordinary and preference share, Bonds, Debenture, term loans from financial institutions etc.

Financing structure is most significant decision of finance manager and also effect risk and return of shareholder. Every company has to plan financial structure at the time of promotion. Every modification of raising fund generates new capital structure. The company's retention policy affects the shareholders earning. Financing decision effects debt equity mix and the value of firm. Capital Structure represent combination of various securities raised i.e. ratio of total debt and equity. It includes capital raised through determinately and preference shares, term loans from financial institutions, debentures, bonds etc. any earned revenue and capital surpluses are included.

A firm funds its operation with capital raised from varied sources. A mix of these various sources is generally referred to as capital structure (CS). The CS has been defined as "that combination of debt and equity that attains the stated managerial goals (i.e.) the maximization of the firm's market value". The optimal CS is also defined as that "combination of debt and equity that minimizes the firm's overall cost of capital" 1. The firm's balance sheet constitutes different proposition of debt instruments, preferred and

common stock, which represents the CS of the firm. The CS is an unsolved problem, which has attracted both academics and practitioners as the objective of financial management is to maximize shareholder's wealth. The key issue here is the relationship between CS and firm's value

Capital Structure Theories:

Firm's capital structure decision can be viewed from the following theories: Modigliani-Miller theory, pecking order theory, and trade-off theory. The theory of business finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance proposition. Before them, there was no generally established theory of capital structure. The debate about how and why firms choose their capital structure began in 1958 (Myers, 2001), when Modigliani and Miller (1958) published their famous arbitrage argument showing that "the market value of any firm is independent of its capital structure". Modigliani and Miller start their theory by assuming that the firm has a particular set of expected cash flows. When the firm chooses a certain proportion of debt and equity to finance its assets, what it has to do is to divide up the cash flows among investors. Investors and firms are assumed to have equal access to financial markets, which allows for homemade leverage. As a result, the leverage of the firm has no effect on the market value of the firm. Modigliani and Miller's theory influenced the early development of other capital structure theory.

According to the trade-off approach, by balancing the advantages and disadvantages of debt it could be possible to determine an optimal level of indebtedness that could reduce the cost of capital and contribute to the creation of economic value. In other words, an element of balance is introduced in capital structure choices because of the optimal combination of debt and equity. Many factors generate costs and benefits of debt and contribute to determining optimal capital structure. Firms that use debts, in fact, can take advantage not only of tax benefits derivable from the deductibility of financial obligations, but can also minimize their costs arising from information asymmetries and discipline managerial behavior with regards to firm investment policies. This type of financing, however, also brings with it the possibility that some specific problems can arise, that are attributable to the costs of eventual financial distress, agency costs and costs deriving from a loss of financial flexibility.

The pecking order theory, on the other hand, posits that based on the assumption of information asymmetry, firms avoid equity and risky securities that are sensitive to mispricing and adverse selection. Pecking order theory does not predict an optimal or target capital structure. It argues that profitable firms will use their retained earnings first to meet their capital needs. They opt for debt as their second choice and additional equity finance as a source of last resort. It contends that more profitable firms rely more on their retained earnings to finance their growth, whereas less profitable firms use more of debt financing. This is the opposite of the position of trade-off approach.

Corporate earnings are also referred to as "company earnings" and "corporate profits." Basically, the amount of money a company makes in certain period of time. The price/earnings multiple is still the most common tool used to value a company. The stock market values a company based on the amount of money—the earnings and profits—the company has after all expenses, including taxes, have been paid.

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Corporate earnings are calculated by subtracting the total amount of the company's expenses from their revenue, to determine how much the actual earnings of the company are. This information is useful to those that are invested in the company, or for those that are considering investing their own money into the company, to determine the performance and financial stability of the corporation

The number of sales dollars remaining after all operating expenses, interest, taxes and preferred stock dividends (but not common stock dividends) have been deducted from a company's total revenue.

How it works and with Example:

Net profit is also referred to as the bottom line, net income, or net earnings. The formula for net profit:
$$\text{Total Revenue} - \text{Total Expenses} = \text{Net Profit}$$

Return on capital employed (ROCE) is the ratio of net operating profit of a company to its capital employed. It measures the profitability of a company by expressing its operating profit as a percentage of its capital employed. Capital employed is the sum of stockholders' equity and long-term finance. Alternatively, capital employed can be calculated as the difference between total assets and current liabilities. The formula to calculate return on capital employed is:

$$\text{ROCE} = \text{Net Profit} / \text{Capital employed.}$$

REVIEW OF LITERATURE

According to **Modigliani and Miller (1958)** capital structure is irrelevant and internal and external finance can be perfect substitutes of each other. Modigliani and Miller made two conclusions under the perfect capital market conditions. Their first 'proposition' was that the value of a company is not affected by its capital structure. Their second 'proposition' stated that the cost of equity for a leveraged firm is equal to the cost of equity for an unleveraged firm, plus an added premium for financial risk.

Myers (1984) established relationship between firm profitability and capital structure which can be explained by the Pecking Order Theory (POT). It holds that firms preferred internal sources of finance to external sources. The ordered of the preference is from the one that is least sensitive (and least risky) to the one that is most sensitive (and most risky) that arise because of asymmetric information between corporate insiders and less well-informed market participants.

According to **Muradoglu and Whittington (2001)** one of the most complex decisions faced a firm is whether to finance new investments by borrowing money or issued more shares or with retained earnings.

Atkin and Glen (1992) urged that there were a number of influences on that decision essentially firm-specific factors and country-specific factors. Several firm-specific factors like tangibility, firm size, risk, growth, market to book, stock market performance and profitability played an important role in determining a firm's capital structure.

Agrawal and Knoeber (1991) considered the control mechanisms as alternatives. That can be used in substitution. This implied that the use of mechanisms is negatively related. But positive relations are possible. They had given the example of greater insider holdings assisting the market for corporate control by making insiders less obtrusive. Similarly corporate control activity could be boosted by outsider representation on boards since outside directors can facilitate takeovers. Likewise greater institutional and block holding may reduce transaction costs and eliminate the free-rider problems and thus facilitate takeovers. The most common governance mechanisms are reviewed below.

Brigham (2004) referred to capital structure as the way in which a firm finances its operations which can either, be through debt or equity capital or a combination of both.

Magara (2012) studied on capital structure and its determinants at the Nairobi Securities Exchange. The study sought to find out the major determinants of capital structure. It was established that from the period 2007 to 2011, there was a positive significant relationship between the firm size, tangibility and growth rate and the degree of leverage of the firm. The study did not take into consideration macro- economic factors like inflation and interest rates.

Kaushik Basu and Meenakshi Rajeev (2013) studied that they had made an attempt to answer two crucial questions - first, whether capital market regulations exert any influence on capital structure decisions of Indian corporate firms, and second, how to measure the capabilities of firm-specific factors to explain two theories of capital structure namely, static trade-off theory and pecking order hypothesis.

Dalvi, M. et al (2005) analyzed the various determinants of liquidity on National Stock Exchange. They found that each measure of liquidity is significantly related to measures of activity such as the number of trades, daily volume, rupee turnover, quality of price discovery, order size and order imbalance, a change in settlement regimes and ratio of trading volumes in a given stock between the National Stock Exchange and the Bombay Stock Exchange.

OBJECTIVES OF THE STUDY

The purpose of study is to measure the capital structure and performance of Indian companies. Further also establish the relationship between corporate earnings and capital structure of Indian companies

HYPOTHESIS

Ho: There is no relationship between capital structure and corporate Earning (Net Profit, ROCE).

RESEARCH METHODOLOGY

The study was causal in nature and it was used secondary data to establish the relationship between the two variables. The study contain debt ratio as dependent variable and corporate earnings (Net profit, ROCE) as independent variable. The population of study was companies listed in NSE 500 and consistently present from year 2011 to year 2016. Individual Company listed in NSE was the sampling element where 100 companies' data was collected as sample from the population. Non probability purposive sampling

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technique was applied. The data was collected through the websites of www.nseindia.com, www.yahoofinance.com. Mathematical formulae of calculation of net profit and return on capital employed were applied to measure the corporate earnings. Normality of data was checked through Kolmogorov–Smirnov test (K–S test). Multi-Regression was applied to identify the cause and effect relationship between capital structure and corporate earnings.

RESULTS AND DISCUSSION

The normality of the data was checked through Kolmogorov-Smirnov test and found that the test distribution was normal and hence linear regression can be applied.

The multiple regressions were applied between independent and dependent variable in six different years separately. Return on Capital and Net Profit were taken as independent variable and Dept Equity ratio taken as a dependent variable. The adjust r^2 value was found to be increasing in chronological order. The two independent variable of corporate earnings were taken together explained on average less than 40% of the total variance in the dependent variable i.e. debt and equity. The goodness of fit for the model is tested by using ANOVA and the F-value were found to be significant in all the cases, indicating that the model has high fit. Hence the null hypothesis that the “capital structure is not associated with corporate earnings is rejected. The contribution of individual independent variables is evaluated through computation of β and was tested for significance using t-test.

2011

	Net Profit	Return on Capital
B value	.353	-.128
Value of F	7.871	7.781
Significance	.001	.001
Value of T	3.747	-1.361
Significance	.000	.177
R square	.140	.140

ANOVA summary reported that the f value (7.871) is significant at .001% level of significance hence the model is fit. The r^2 value is .140 indicating that the independent variable explained only 14% of variance in dependent variable. The β value of 2008 for independent variable net profit and return on capital employed are .353 and -.128 with t-test value of 3.747 and -1.361 the net profit is significant at .000% level of significance, indicating that net profit do contribute significantly to the dept equity ratio but ROCE was insignificant at .177% level of significance, indicating that return on capital employed does not contribute significantly to the dept equity ratio.

2012

	Net Profit	Return on Capital
B value	.347	-.011
Value of F	6.630	6.630
Significance	.002	.002
Value of T	3.639	-.111
Significance	.000	.912
R square	.120	.120

ANOVA summary reported that the f value (6.630) is significant at .002% level of significance hence the model is fit. The r² value is .120 indicating that the independent variable explained only 12% of variance in dependent variable. The β value of 2009 for independent variable net profit and return on capital employed are .347 and -.011 with t-test value of 3.639 and -.111 the net profit is significant at .000% level of significance, indicating that net profit do contribute significantly to the dept equity ratio but ROCE was insignificant at .595% level of significance, indicating that return on capital employed does not contribute significantly to the dept equity ratio.

2013

	Net Profit	Return on Capital
B value	.516	-.128
Value of F	17.749	17.749
Significance	.000	.000
Value of T	5.943	-.534
Significance	.000	.595
R square	.268	.268

ANOVA summary reported that the f value (17.749) is significant at .000% level of significance hence the model is fit. The r² value is .268 indicating that the independent variable explained only 26% of variance in dependent variable. The β value of 2010 for independent variable net profit and return on capital employed are .516 and -.046 with t-test value of 5.943 with -.534 the net profit is significant at .000% level of significance, indicating that net profit do contribute significantly to the dept equity ratio but ROCE was insignificant at .595% level of significance, indicating that return on capital employed does not contribute significantly to the dept equity ratio.

2014

	Net Profit	Return on Capital
B value	-.140	.592
Value of F	24.242	24.242
Significance	.000	.000
Value of T	-1.642	6.962

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Significance	.104	.000
R square	.333	.333

ANOVA summary reported that the f value (24.242) is significant at .000% level of significance hence the model is fit. The r² value is .333 indicating that the independent variable explained only 33% of variance in dependent variable. The β value of 2011 for independent variable net profit and return on capital employed are -.140 and .592 with t-test value of -1.642 and 6.962 the net profit is insignificant at .104% level of significance, indicating that net profit does not contribute significantly to the dept equity ratio but ROCE was significant at 000% level of significance, indicating that return on capital employed do contribute significantly to the dept equity ratio.

2015

	Net Profit	Return on Capital
B value	.061	.558
Value of F	24.225	24.225
Significance	.000	.000
Value of T	.707	6.499
Significance	.482	.000
R square	.333	.333

ANOVA summary reported that the f value (24.225) is significant at .000% level of significance hence the model is fit. The r² value is .333 indicating that the independent variable explained only 33% of variance in dependent variable. The β value of 2012 for independent variable net profit and return on capital employed are .061 and .558 with t-test value of .707 and 6.499 the net profit is insignificant at .482% level of significance, indicating that net profit does not contribute significantly to the dept equity ratio but ROCE was significant at 000% level of significance, indicating that return on capital employed do contribute significantly to the dept equity ratio

2016

	Net Profit	Return on Capital
B value	-.097	.615
Value of F	28.648	28.648
Significance	.000	.000
Value of T	-1.197	7.568
Significance	.234	.000
R square	.371	.371

ANOVA summary reported that the f value (28.648) is significant at .000% level of significance hence the model is fit. The r² value is .371 indicating that the independent variable explained only 37% of variance in dependent variable. The β value of 2013 for independent variable net profit and return on capital employed are -.097 and .615 with t-test value of -1.197 and 7.568 the net profit is insignificant at .234% level of significance, indicating that net profit does not contribute significantly to the debt equity ratio but ROCE was significant at 000% level of significance, indicating that return on capital employed do contribute significantly to the debt equity ratio.

SUGGESTIONS AND CONCLUSION:

The study will be useful for businessman, Academician and policy makers take the decisions accordingly and understand the relationship between capital structure and corporate earnings. Also find the depth and scope of further research. Although some scope of improvement is identified as considered that the present study covers only 100 companies that are listed in the NSE for the last 6 years. Since huge volume of data and indices can be analyzed.

This study has tested empirically the relationship between capital structure and corporate earnings. The multiple regressions were applied between capital structure and corporate earnings (return on capital employed and net profit). The results of regression disclosed that the company' capital structure and corporate earnings are associated closely. It has been observed in the study that out of these two independent variables net profit and ROCE the strong correlation was found in net profit and debt equity ratio rather than the ROCE. The r² value in the initial years was found to be low as there was some effect of recession in the market. However the value went on increasing in the last year. Finally the study supported the Pecking order theory of capital structure.

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Model Summary 2011

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.374 ^a	.140	.122	3.59172

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	203.079	2	101.540	7.871	.001 ^a
	Residual	1251.341	97	12.900		
	Total	1454.420	99			

a. Predictors: (Constant), returnoncap11, netprofit11

b. Dependent Variable: debtequity11

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.794	.639		1.242	.217
	Netprofit11	.099	.026	.353	3.747	.000
	Returnoncap11	-.024	.018	-.128	-1.361	.177

a. Dependent Variable: debtequity11

Model Summary 2012

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.347 ^a	.120	.102	4.44733

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	262.256	2	131.128	6.630	.002 ^a
	Residual	1918.536	97	19.779		
	Total	2180.792	99			

a. Predictors: (Constant), returnoncap12, netprofit12

b. Dependent Variable: debtequity12

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
		1	(Constant)	.770		
	Netprofit12	.111	.030	.347	3.639	.000
	Returnoncap12	-.003	.023	-.011	-.111	.912

a. Dependent Variable: debtequity09

Model Summary 2013

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.518 ^a	.268	.253	4.74455

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	799.067	2	399.534	17.749	.000 ^a
	Residual	2183.539	97	22.511		
	Total	2982.607	99			

a. Predictors: (Constant), returnoncap13, netprofit13

b. Dependent Variable: debtequity13

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
		1	(Constant)	-.082		
	netprofit13	.185	.031	.516	5.943	.000
	returnoncap13	-.013	.024	-.046	-.534	.595

a. Dependent Variable: debtequity13

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Model Summary 2014

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.577 ^a	.333	.320	4.76899

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1102.705	2	551.352	24.242	.000 ^a
	Residual	2206.092	97	22.743		
	Total	3308.797	99			

a. Predictors: (Constant), returnoncap14, netprofit14

b. Dependent Variable: debtequity14

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
		1	(Constant)	-1.204		
	netprofit14	-.047	.028	-.140	-1.642	.104
	returnoncap14	.186	.027	.592	6.962	.000

a. Dependent Variable: debtequity14

Model Summary 2015

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.577 ^a	.333	.319	5.59933

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1519.057	2	759.528	24.225	.000 ^a
	Residual	3041.188	97	31.352		
	Total	4560.245	99			

a. Predictors: (Constant), returnoncap15, netprofit15

b. Dependent Variable: debtequity15

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
		1	(Constant)	-1.307		
	netprofit15	.034	.048	.061	.707	.482
	returnoncap15	.213	.033	.558	6.499	.000

a. Dependent Variable: debtequity15

Model Summary 2016

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
dimension0 1	.609 ^a	.371	.358	5.28351

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1599.456	2	799.728	28.648	.000 ^a
	Residual	2707.799	97	27.915		
	Total	4307.255	99			

a. Predictors: (Constant), returnoncap16, netprofit16

b. Dependent Variable: debtequity16

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.036	.763		-1.359	.177
	netprofit16	-.025	.021	-.097	-1.197	.234
	Returnoncap16	.233	.031	.615	7.568	.000

a. Dependent Variable: debtequity16