

A STUDY ON CAPITAL STRUCTURE IN THE FOOD INDUSTRY IN INDIA

DURGA V, Saveetha School of Management, Chennai.

ABSTRACT

The quality of equity or debt employed to fund its operation and finance its assets is called as capital structure. The equity is classified as retained earnings, common stock and preferred stock, while debt comes in the form of long-term notes payable or bond issues. The objective of the study is to determine the capital structure of the company with the help of profitability and leverage ratios. The research design is based on secondary data of 4 financial years of listed food industry in the stock market. The research findings is the company weighted average cost of capital is increasing year by year so the growth of the industries is doing well but the operating expenses and debt increases year by year it will affect the industries growth in future. Hence it concluded that the industries should take steps to decreasing the operating expenses and debt.

Key Words: profitability, leverage, operating expenses and weighted average cost of capital.

INTRODUCTION

The firm capital structure is refers to the quality of equity and/or debt employed to finance its assets and fund its operations. The structure is usually expressed as a debt to capital ratio or debt to equity ratio. By using various sources of funds the firm finances its overall growth and operations are known as capital structure. The equity is classified as retained earnings, common stock and preferred stock, while debt comes in the form of long-term notes payable or bond issues.

Capital structure is the combination of short term debt, long term debt, equity shares and preferred shares. The proportion of long and short term debt is used to analysis the company growth.

Profitability ratio and leverage helps to measure the growth of capital structure.

REVIEW OF LITERATURE

EMPERICAL REVIEW

Titman, S., & Wessels, R. (1988) stated that the paper breaks down the informative intensity of a portion of the ongoing speculations of ideal capital structure. The examination broadens exact work on capital structure hypothesis in three different ways. To begin with, it looks at a considerably more extensive arrangement of capital structure

hypothesis, a significant number of which have not already been examined experimentally. Second, since the speculations have diverse experimental ramifications with respect to various kinds of obligation instruments, the creators break down measures of short-term, long-term, and convertible obligation as opposed to a total measure of aggregate obligation. Third, the examination utilizes a factor-analytic system that mitigates the estimation issues experienced when working with intermediary factors.

Barton, S. L., Hill, N. C., & Sundaram, S. (1989) have identified in developing stakeholder theory of the companies, Shapiro and Cornell predict relationships between net organizational capital and capital Structure. By using a proxy measures for the imperceptible net organizational capital and by overprotective for other possible causes of capital structures difference, companies with high levels of net organizational capital are revealed to have fundamentally less debt than those with lower levels. The results offer encouragement for further improvement and testing of stakeholder's theory as a viable means that to understanding corporate financial policy.

Harris, M., & Raviv, A. (1991) said that the studies capital structure speculations in view of organization costs, asymmetric information, item/input market cooperation, and corporate control contemplation (however barring tax-based hypotheses). For each sort of model, a concise outline of the papers studied and their connection to each other is given. The focal papers are portrayed in some detail, and their outcomes are abridged and taken after by a discourse of related expansions. Each area finishes up with an outline of the fundamental ramifications of the models over-viewed in the segment. At last, these outcomes are gathered and contrasted with the accessible confirmation. Recommendations for future research are given.

Mishra, C. S., & McConaughy, D. L. (1999) have analyzed the paper tests the hypothesis that Founding Family Controlled Firms are more averse to control risk than similar non-Founding Family Controlled Firms and therefore avoid debt. Higher levels of debt increase the likelihood of bankruptcy and the level of control risk. We show that Founding Family Controlled Firms use less debt; their choice of debt is more sensitive to conditions associated with control risk; and that leverage is not significantly related to managerial ownership in non-Founding Family Controlled Firms, indicating that founding family control, not managerial ownership, matters in determining leverage.

Bhaduri, S. N. (2002) has stated that the existing exact research on capital structure has been to a great extent limited to the United States and a couple of other propelled nations. This paper endeavors to contemplate the capital structure decision of Less Developed Countries (LDCs) through a contextual analysis of the Indian Corporate part. The goal is to build up a model that records for the likelihood of rebuilding costs in achieving an ideal capital structure and addresses the estimation issue that emerges because of the imperceptible idea of the properties

affecting the ideal capital structure. The confirmation introduced here recommends that the ideal capital structure decision can be affected by growth, cash flow, size, and product and industry characteristics. The results also confirm the existence of restructuring costs in attaining an optimal capital structure.

Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005) have stated that we analyse the determinants of the capital structure for a panel of 104 Swiss firms listed in the Swiss securities market. Dynamic tests are performed for the period of 1991–2000. It's found that the volume of firms and the importance of tangible assets are absolutely related to leverage, while profitability and growth are negatively related with leverage. Our analysis also shows that Swiss companies adjust toward a target debt ratio, but the alteration process is much slower than in most alternative countries. It is argued that reasons for this could be found within the institutional context.

De Jong, A., Kabir, R., & Nguyen, T. T. (2008) have analyzed the importance of country-specific and firm-specific factors in the leverage preference of companies from 42 countries around the world. Our analysis yields 2 new results. First, we discover that firm-specific determinants of leverage differ across countries, while prior studies implicitly assume equal impact of these determinants. Second, although we agree with the conventional *direct* impact of country-specific factors on the capital structure of companies, we tend to show that there is an *indirect* impact because country-specific factors also influence the roles of firm-specific determinants of leverage.

Handoo, A., & Sharma, K. (2014) stated that the paper recognizes the most vital determinants of capital structure of 870 listed Indian firms including both private segment organizations and government organizations for the period 2001–2010. Ten financial factors and three non-financial factors have been tried utilizing relapse investigation. It has been reasoned that variables, profitability growth development, asset tangibility, measure, cost of debt, tax rate, and obligation serving limit have huge effect on the use structure picked by firms in the Indian companies.

Hossain, M. I., & Hossain, M. A. (2015) said that the destinations of this examination are to recognize the huge determinants of capital structure of the recorded assembling organizations in Bangladesh and to test the important capital structure speculations. This examination utilized a board dataset including 74 producing organizations recorded under 8 ventures in Dhaka Stock Exchange (DSE) for the period of 2002-2011. The Unit Root tests recommended that all arrangements were stationary. Utilizing Panel Corrected Standard Error Regression Model and Random Effects Tobit Regression Model, every chosen variable was discovered critical. Administrative proprietorship emphatically and Growth rate, Profitability, Debt benefit scope proportion, Non-obligation impose shield, Financial costs, Free income to firm, Agency expenses and Dividend installment contrarily influence the capital structure. Substance and Liquidity proportion have positive association with Long term obligation and

negative association with Short term obligation and Total obligation. It was likewise discovered that Pecking-arrange hypothesis and Static Trade-off hypothesis are the most overwhelming capital structure speculations in Bangladesh. The strategy suggestion is that the monetary chiefs ought to consider these determinants as measuring sticks before taking the use choices keeping in mind the end goal to pick the most ideal capital structure for the organization with the goal that it amplifies the investors' esteem.

CONCEPTUAL REVIEW

PROFITABILITY RATIO:

Gross profit ratio:

The relationship between gross profit and total net sales revenue is shown in the gross profit ratio. It is a popular tool to evaluate the profitability position of the business.

$$\text{Gross Profit Ratio} = \frac{\text{Gross profit}}{\text{Net Sales}} * 100$$

Net Profit Ratio:

The relationship between after-tax profits to net sales is shown in the net profit ratio. It reveals the remaining profit after all costs of administration, production and financing have been deducted from income taxes and sales recognized.

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} * 100$$

Operating Profit Ratio:

The company variable cost of production such as raw material, wages, etc indicates how much revenue a company makes after paying is known as operating profit ratio.

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} * 100$$

Operating Ratio:

The operating ratio is a company's operating expenses as a percentage of revenue to net sales.

$$\text{Operating Ratio} = \frac{\text{Cost of Goods Sold} + \text{Operating Expenses}}{\text{Net Sales}} * 100$$

Return on Investment:

Return on Investment (ROI) is used to calculate the efficiency of an investment. Return on investment measures the amount of return on an investment, relative to the investment's cost.

$$\text{Return on Investment} = \frac{\text{Net Profit before Interest \& Tax}}{\text{Capital Employed}} * 100$$

Return on Share Holders Fund:

It is to calculate the overall profitability of the firm and is computed by dividing the net income after interest and tax by average stockholders' equity.

$$\text{Return On Share Holders Fund} = \frac{\text{Net Profit After Interest And Tax}}{\text{Shareholders Fund}} * 100$$

Return on Equity Shareholders Fund

It measures the ability of a firm to generate earnings from its shareholders investments in the company.

$$\text{Return on Equity Shareholders Fund} = \frac{\text{Net Profit After Interest, Tax \& Pd}}{\text{Equity Shareholders Fund}} * 100$$

LEVERAGE ANALYSIS

Operating leverage:

Operating leverage is calculated by using contribution divided by earnings before interest and tax

$$\text{Operating leverage} = \frac{\text{Contribution}}{\text{EBIT}}$$

Financial leverage:

Trading on equity is also known as financial leverage. Financial leverage means the use of equity share capital, preference share capital along with debentures or fixed interest bearing securities.

$$\text{Financial leverage} = \frac{\text{EBIT}}{\text{EBT}}$$

Weighted Average Cost of Capital

Weighted average cost of capital (WACC) is a calculation of a firm's cost of capital in which each category of capital is proportionately weighted.

$$\text{Weighted Average Cost of Capital} = \text{Proportion} * \text{Cost of equity} + \text{Proportion} * \text{Cost of debt}$$

NEED OF THE STUDY

- To understand the concept of Capital structure, leverage ratios and profitability Ratios.
- To learn about the Debt-Equity of Food Industry.
- To know total contribution of each products makes the company's overall profit.
- To gain knowledge about the financial departments in Food Industry.

OBJECTIVES OF THE STUDY

- To Study the Capital Structure of Food Industry.
- To determine the various form of Cost of capital in Food Industry.
- To determine the weighted average cost of capital for the years 2014-2017.
- To find out leverage ratios of Food Industry.
- To calculate the profitability ratios of the company.

SCOPE OF THE STUDY:

- The various forms of Cost of Capital are restricted to Cost of Equity and Cost of Debt.
- The period of study is for the past 4 financial year.

LIMITATIONS

- The study is limited to two months period.
- The study is based only on the past records of the organization which were taken from the published annual reports of the organization.

RESEARCH METHODOLOGY

RESEARCH DESIGN

This is a descriptive type of research where it took 2 months to analyze and observe the functions and responsibility of the employee in Food Industry, Finance department. This type of research method involves describing in details specific situation using research tools like interviews and observation. It mainly focuses on verbal data rather than measurement.

SAMPLE

The period of study is of 4 financial years 2013-2014, 2014-2015, 2015-2016 and 2016-2017.

DATA COLLECTION

The data used in this study is majorly consists of secondary data and few proportion of primary data has been collected from the employees working in the organization. As it is conceptual research of cost of capital, the secondary data are collected from the organization such as Annual Report, Accounts manual of Food Industry. The principle of marginal costing and other economic books to learn in depth about the weighted average cost of capital.

TOOLS USED:

- Profitability ratio.
- Leverage Analysis
- Weighted average cost of capitals

DATA ANALYSIS AND INTERPRETATION

TABLE 4.1 ANALYSIS ON GROSS PROFIT RATIO

Year	Gross Profit (In Crores)	Net Sales (In Crores)	Ratio
2013-2014	542.62	6,232.09	8.70%
2014-2015	882.61	7,100.46	12.43%
2015-2016	1,149.13	7,880.56	14.58%
2016-2017	1,251.16	8581.55	14.58%

INTERPRETATION

The above table shows that gross profit ratio on 2013-2014 is 8.70%, 2014-2015 is 12.43%, 2015-2016 is 14.58% and 2016-2017 is 14.58%. The relationship between gross profit and net sales is increasing year by year. The result of the firm is satisfactory.

TABLE 4.2 ANALYSIS ON NET PROFIT RATIO

Year	Net Profit (In Crores)	Net Sales (In Crores)	Ratio
2013-2014	369.83	6,232.09	5.93%
2014-2015	622.41	7,100.46	8.76%
2015-2016	763.31	7,880.56	9.68%
2016-2017	843.69	8,581.55	9.83%

INTERPRETATION

The above table shows that net profit ratio on 2013-2014 is 5.93%, 2014-2015 is 8.76%, 2015-2016 is 9.68% and 2016-2017 is 9.83%. The net profit ratio is increasing simultaneously. So the result of the firm is satisfactory.

TABLE 4.3 ANALYSIS ON OPERATING PROFIT RATIO

Year	Operating Profit (In Crores)	Net Sales (In Crores)	Ratio
2013-2014	596.62	6,232.09	9.57%
2014-2015	771.50	7,100.46	10.86%
2015-2016	1,131.82	7,880.56	14.36%
2016-2017	1,204.15	8,581.55	14.03%

INTERPRETATION

The above table shows that operating profit ratio on 2013-2014 is 9.57%, 2014-2015 is 10.86%, 2015-2016 is 14.36% and 2016-2017 is 14.03%. The operating profit ratio is increasing year by year and the last financial year it decreases slightly. The firm needs some concentration in operating profit.

TABLE 4.4 ANALYSIS ON OPERATING RATIO

Year	Cost of Goods Sold + Operating Expenses (In Crores)	Net Sales (In Crores)	Ratio
2013-2014	6,307.39 + 0	6,232.09	101.2%
2014-2015	7,344.79 + 0	7,100.46	103.44%
2015-2016	8,176.82 + 384.25	7,880.56	108.63%
2016-2017	8,684.39 + 322.07	8,581.55	104.95%

INTERPRETATION

The above table shows that operating ratio on 2013-2014 is 101.2%, 2014-2015 is 103.44%, 2015-2016 is 108.63% and 2016-2017 is 104.95%. The operating ratio is increasing year by year and the last financial year it decreases to 4%. So the firm needs some concentration in operating ratio.

TABLE 4.5 ANALYSIS ON RETURN ON INVESTMENT

Year	Net Profit Before Interest And Tax (In Crores)	Capital Employed (In Crores)	Ratio
2013-2014	674.82	858.08	78.64%
2014-2015	1,118.36	1,239.92	90.19%
2015-2016	1,306.59	1,703.51	55.97%
2016-2017	1,445.36	2,582.42	51.97%

INTERPRETATION

The above table shows that return on investment on 2013-2014 is 78.64%, 2014-2015 is 90.19%, 2015-2016 is 55.97% and 2016-2017 is 51.97%. The return on investment is decreasing year by year. The result of the firm is non-satisfactory.

TABLE 4.6 ANALYSIS ON RETURN ON SHAREHOLDERS FUNDS

Year	Net Profit After Interest And Tax (In Crores)	Shareholders Fund (In Crores)	Ratio
2013-2014	369.83	853.46	43.33%
2014-2015	622.41	1,235.62	50.37%
2015-2016	749.09	1,700.16	44.06%

2016-2017	843.69	2,581.98	29.30%
-----------	--------	----------	--------

INTERPRETATION

The above table shows that return on shareholder fund on 2013-2014 is 43.33%, 2014-2015 is 50.37%, 2015-2016 is 44.06% and 2016-2017 is 29.30%. The return on shareholder fund is decreased in past 2 years. The result of the firm is non-satisfactory.

TABLE 4.7 ANALYSIS ON RETURN ON EQUITY SHAREHOLDERS FUNDS

Year	Net Profit After Interest And Tax (In Crores)	Equity Shareholders Fund (In Crores)	Ratio
2013-2014	369.83	853.46	43.33%
2014-2015	622.41	1,235.62	50.37%
2015-2016	749.09	1,700.16	44.06%
2016-2017	843.69	2,581.98	29.30%

INTERPRETATION

The above table shows that return on equity shareholders fund on 2013-2014 is 43.33%, 2014-2015 is 50.37%, 2015-2016 is 44.06% and 2016-2017 is 29.30%. The return on equity shareholders fund is decreased in past 2 years. The result of the firm is non-satisfactory.

TABLE 4.8 LEVERAGE ANALYSIS

YEAR	2013-2014	2014-2015	2015-2016	2016-2017
SALES	6,307.39	7,175.99	7,947.90	8,414.37
(-) VARIABLE COST	5,723.35	6,429.97	6,823.20	7,259.47
CONTRIBUTION	584.04	746.02	1,124.70	1,154.90
(-) FIXED COST	35.98	137.8	8.11	97.60

EBIT	548.06	883.83	1,132.81	1,251.16
(-) INTEREST	5.44	1.21	1.25	1.34
EBT	542.62	882.61	1,131.56	1,251.16
(-) TAX	172.79	260.20	382.47	407.47
EAT	369.83	622.41	749.09	843.69

TABLE 4.9 ANALYSIS ON OPERATING LEVERAGE

YEAR	CONTRIBUTION	EBIT	VALUE
2013-2014	584.04	548.06	1.06
2014-2015	746.02	883.82	0.84
2015-2016	1,124.70	1,132.81	0.99
2016-2017	1,154.90	1,252.5	0.92

INTERPRETATION

The above table and figure shows that operating leverage on 2013-2014 is 1.06 it decreases to 0.84 in 2014-2015, 2015-2016 is 0.99 increases and 2016-2017 is 0.92 again it decreases. The operating leverage is fluctuating year by year.

Year	EBIT	EBT	Value
2013-2014	548.06	542.62	1.01

2014-2015	883.82	882.61	1.001
2015-2016	1,132.81	1,131.56	1.001
2016-2017	1,252.5	1,251.16	1.001

TABLE 4.10 ANALYSIS ON FINANCIAL LEVERAGE

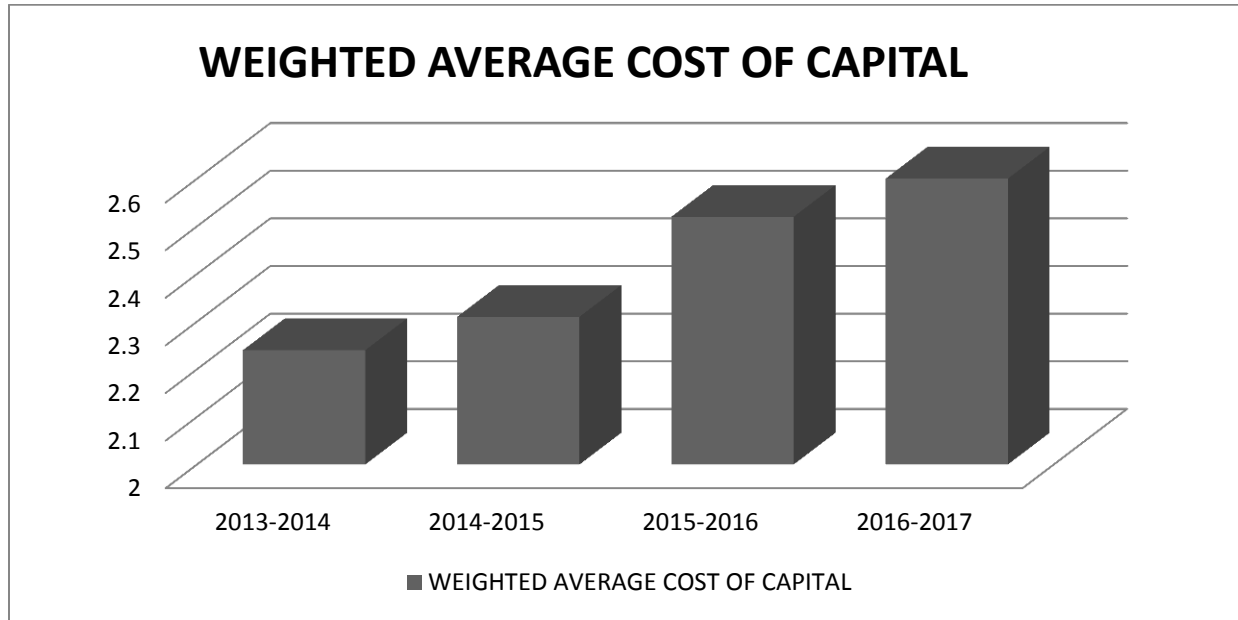
INTERPRETATION

The above table and figure shows that financial leverage on 2013-2014 is 1.01 it decreases to 0.001 in 2014-2015 and the value is maintained in next two financial years. The financial leverage maintain the standard value in past 3 years.

CAPITAL STRUCTURE

TABLE 4.12 ANALYSIS ON WEIGHTED AVERAGE COST OF CAPITAL

Year	Proportion * Cost of Equity (Ke)	Proportion * Cost of Debentures (Kd)	Value
2013-2014	0.8 * 2.2	0.2 * 2.5	2.24
2014-2015	0.8 * 2.3	0.2 * 2.4	2.31
2015-2016	0.8 * 2.3	0.2 * 3.4	2.52
2016-2017	0.8 * 2.4	0.2 * 3.4	2.6



INTERPRETATION

The above table and figure shows that weighted average cost of capital on 2013-2014 is 2.24%, 2014-2015 is 2.31%, 2015-2016 is 2.52% and 2016-2017 is 2.6%. The weighted average cost of capital is increased year by year. The result of the firm is satisfactory

FINDINGS

- Gross profit ratio on 2013-2014 is 8.70%, 2014-2015 is 12.43%, 2015-2016 is 14.58% and 2016-2017 is 14.58%. The relationship between gross profit and net sales is increasing year by year. The result of the firm is satisfactory.
- Net profit ratio on 2013-2014 is 5.93%, 2014-2015 is 8.76%, 2015-2016 is 9.68% and 2016-2017 is 9.83%. The net profit ratio is increasing simultaneously. So the result of the firm is satisfactory.
- Operating profit ratio on 2013-2014 is 9.57%, 2014-2015 is 10.86%, 2015-2016 is 14.36% and 2016-2017 is 14.03%. The operating profit ratio is increasing year by year and the last financial year it decreases slightly. The firm needs some concentration in operating profit.
- Operating ratio on 2013-2014 is 101.2%, 2014-2015 is 103.44%, 2015-2016 is 108.63% and 2016-2017 is 104.95%. The operating ratio is increasing year by year and the last financial year it decreases to 4%. So the firm needs some concentration in operating ratio.

- Return on investment on 2013-2014 is 78.64%, 2014-2015 is 90.19%, 2015-2016 is 55.97% and 2016-2017 is 51.97%. The return on investment is decreasing year by year. The result of the firm is non-satisfactory.
- Return on shareholder fund on 2013-2014 is 43.33%, 2014-2015 is 50.37%, 2015-2016 is 44.06% and 2016-2017 is 29.30%. The return on shareholder fund is decreased in past 2 years. The result of the firm is non-satisfactory.
- Return on equity shareholders fund on 2013-2014 is 43.33%, 2014-2015 is 50.37%, 2015-2016 is 44.06% and 2016-2017 is 29.30%. The return on equity shareholders fund is decreased in past 2 years. The result of the firm is non-satisfactory.
- Operating leverage on 2013-2014 is 1.06 it decreases to 0.84 in 2014-2015, 2015-2016 is 0.99 increases and 2016-2017 is 0.92 again it decreases. The operating leverage is fluctuating year by year.
- Financial leverage on 2013-2014 is 1.01 it decreases to 0.001 in 2014-2015 and the value is maintained in next two financial years. The financial leverage maintains the standard value in past 3 years.
- Weighted average cost of capital on 2013-2014 is 2.24%, 2014-2015 is 2.31%, 2015-2016 is 2.52% and 2016-2017 is 2.6%. The weighted average cost of capital is increased year by year. The result of the firm is satisfactory.

SUGGESTIONS

- The firm can take measures to improve its return on investment.
- The company has to take steps to decrease the operating expenses it will help to increase the company's return on investment.
- The leverage analysis is fluctuating in the financial years. So the firm needs to concentrate and increase their contribution.

CONCLUSION

The firm's profitability increases because of the firm gross profit and net profit increases. Operating expenses of the firm increases, so the firm's operating profit and operating ratio decreases. If the interest rate increases, there is a decrease in the return on investment. Return on shareholder fund and equity shareholder fund decreases because of the firm's debt interest increase. Contribution per unit and operating profit is fluctuating so the operating leverage is also fluctuating. Weighted average cost of capital increases year by year so the firm's value in the share market is also increasing year by year.

BIBLIOGRAPHY

- Bhaduri, S. N. (2002). Determinants of capital structure choice: a study of the Indian corporate sector. *Applied Financial Economics*, 12(9), 655-665
- Barton, S. L., Hill, N. C., & Sundaram, S. (1989). An empirical test of stakeholder theory predictions of capital structure. *Financial Management*, 36-44.
- De Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital structure around the world: The roles of firm-and country-specific determinants. *Journal of Banking & Finance*, 32(9), 1954-1969.
- Gaud, P., Jani, E., Hoesli, M., & Bender, A. (2005). The capital structure of Swiss companies: an empirical analysis using dynamic panel data. *European Financial Management*, 11(1), 51-69.
- Handoo, A., & Sharma, K. (2014). A study on determinants of capital structure in India. *IIMB Management review*, 26(3), 170-182.
- Hossain, M. I., & Hossain, M. A. (2015). Determinants of capital structure and testing of theories: A study on the listed manufacturing companies in Bangladesh. *International Journal of Economics and Finance*, 7(4), 176.
- Harris, M., & Raviv, A. (1991). The theory of capital structure. *the Journal of Finance*, 46(1), 297-355.
- Mishra, C. S., & McConaughy, D. L. (1999). Founding family control and capital structure: The risk of loss of control and the aversion to debt. *Entrepreneurship theory and practice*, 23(4), 53-64.
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of finance*, 43(1), 1-19.

WEBSITES

- <https://www.investopedia.com/terms/c/costofequity.asp>
- <http://www.businessdictionary.com/definition/equity-capital.html>
- <https://debitoor.com/dictionary/debenture>
- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2465422
- <https://www.investopedia.com/terms/c/capitalstructure.asp>
- <https://cleartax.in/s/profitability-ratio>
- https://www.google.com/search?ei=2HaJW8P4CMX7rQHllpKoAg&q=leverage+ratio+formula&oq=lever&gs_l=psy-ab.3.0.0i67k118j0l2.2095.4887.0.7062.31.10.0.1.1.0.312.889.0j4j0j1.5.0....0...1c.1.64.psy-ab..26.5.767...0i22i30k1j0i131k1.0.4UziqZKpJ2U