GRAND ACADEMIC PORTAL
RESEARCH JOURNALS

GAP GYAN
A GLOBAL JOURNAL OF SOCIAL SCIENCES
(ISSN – 2581-5830)
Impact Factor – 4.998

GRAND ACADEMIC PORTAL (GAP) 2017
ज्ञान: अध्ययन: परम्परा

THE DETERMINANTS OF CAPITAL STRUCTURE: A CASE STUDY OF LISTED FIRMS IN FAST MOVING CONSUMER GOOD (FMCG)- FOOD PROCESSING IN INDIA DURING THE YEAR 2014-2018

Ayush Jain
Master of Business Administration (MBA)
Graduate School of Business
Assumption University
Bangkok, Thailand

Abstract

This research helps in studying the determinants of capital structure on 55 listed Indian FMCG companies which include both private as well as government companies from the years 2014 to 2018. Were two dependent variables and six independent variables have been studied or analyzed by using the regression analysis. It is seen that the factors like profitability, current ratio, return on asset, net margin profit, non-debt tax shield and tangibility of the asset have a significant impact on the financial leverage structure of the selected companies.

Keywords : Capital structure, long-term debt ratio (ltdr), short-term debt ratio (stdr), profitability, current ratio, return on asset, net margin ratio, non-debt tax shield and tangibility of assets.

Method
Fixed effect panel data regression
Time
Years From 2014-2018

INTRODUCTION TO THE RESEARCH-

In India, many firms are struggling and dealing with their capital structure from years. Firms are unable to generate and create efficient and enough liquidity to face or survive the bad and hard situations. The firms which have an uncertain cash flow which follows up through excess debt in their business ongoings. Financial managers, executives or officers face these types of conditions and problems while managing their financial data. Fast moving consumer goods (FMCG) sector in India and it has a great impact on GDP (Gross Domestic Product).

The capital structure shows the combinations and the patterns of sources of funds for the firms while designing an accurate optimal capital structure the persons and management have to keep in mind the objectives of maximizing the values of the firm. Various numbers of factors influence or determine the capital structure decision of a company the judgment of the person in making the capital structure decision play a very important part.

Fast Moving Consumer Goods (FMCG)is the very vast sector which is further divided into many sub-sectors from which we have done the study and research on the Food Processing. The Food Processing sector has overall 88 companies listed on the BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India but only the 55 companies have the proper and accurate full financial data on these Stock Exchanges through which this study and analysis is able to be done with the Fixed Effect Panel Data Regression.

Statement of problem-

Capital structure is one of the most important factors or variables which influences and affects the value of the company as well as shareholders. The determinants of capital structure can help in studying and identifying factors or variables taken by the companies before the financial decision, to check these factors or variables which affect or have determinants to the shareholder. Analyze and study whether there is a relationship between profitability, current ratio, return on asset, net margin ratio, non-debt tax shield, the tangibility of assets with the long-term debt ratio of the company listed on BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India from the year 2014 to 2018. Analyze and study whether there is a relationship between profitability, current ratio, return on asset, net margin ratio, non-debt tax shield, the tangibility of assets with the short-term debt ratio of the company listed on BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India from the year 2014 to 2018. To see how the capital structure can affect and reflect the future plans of the companies or organizations. To check and return the excess cash to their shareholders of the companies, find whether they should finance their new projects or not by adding more debt or minimizing their capital from equity.

Research question

Do the taken independent variables in research determines or affects the capital structure of the companies in Fast Moving Consumer Good (FMCG) - Food Processing in India during the year 2014-2018?

Research objectives-

The research helps to test and see the determinants of capital structure in Fast Moving Consumer Goods (FMCG)-Food Processing of India which helps:

- To analyze the determinants of capital structure.
- To test whether the profitability, current ratio, net margin ratio, return on asset, non-debt tax shield, tangibility of asset have the significant effects on Long Term Debt Ratio and Short Term Debt Ratio of the firms list provided in Fast Moving Consumer Goods (FMCG)-Food Processing on BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India in the years from 2014 to 2018.

Scope of the research-

This research aims to analyze the determinants of capital structure.

- Research study uses annual financial data of the companies which are collected from the money control and companies' financial statements published on BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India.
- The data is tested and analyzed by using the Fixed Effect Panel Data Regression Model in the EViews software.
- Collected financial data of 55 firms list provided in Fast Moving Consumer Goods (FMCG)-Food Processing on BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India from the year 2014 to 2018, totally 275 observations are available.

This study's result might give the benefit to the investors on the impact about the 6 variables and factors as whether they related to firm's investment in the sector of Fast-Moving Consumer Good (FMCG) - Food Processing in India.

The research or study can give help to the managers of the firm in managing and understanding the capital structure in a good and better way when they have to make the financial decision of the firm. It will help in creating the wealth and firms' value in the market. This study can provide support and benefit to any individual or researcher who is interested in doing their research work on or similar topic.

Limitation of the research-

The Study is done on the limited data which is taken from the year 2014 to 2018. Since each country and regions have there own and different economic and political conditions and situations and the micro and macro factors. This research and study result can be applied to India. However, the provided organizations which are chosen and taken as their data are limited to the financial sector. Not all the companies have the proper financial data in the taken sector of India on the BSE (Bombay Stock Exchange) and NSE (National Stock Exchange),Only the data is Limited to 88 companies of Fast Moving Consumer Goods (FMCG)-Food Processing in BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India from the year 2014 to 2018. From which 55 companies have the proper full financial data which are taken in this research and study. The analysis is limited to six financial factors and variables. The given provided data is studied and analyzed by the Fixed Effect Panel Data Regression with the dummy variable.

Contribution of the research-

The research study mainly deals and analyzes the effects of the chosen and taken variables on the capital structure of the firms. The effect of the variables can change in stock prices and valuation of companies in the market. The investors or interested persons will understand the valuation and capital structure of their interested firm. The research result helps investors in BSE (Bombay Stock Exchange) and NSE (National Stock Exchange) of India to avoid capital loss. Listed companies will and can understand the reaction and effects of the variables on the capital structure to sustain the company's value and shareholder's value.

REVIEW OF RELATED LITERATURE

Related Theory-

Ranjit Kumar Paswan (2013) has done his studies on the solvency of selected FMCG in India to analyze the liquidity of the selected companies in FMCG sector and to understand the capacity to repay the short-term debt as well as Long-term debt.

Ashok Kumar (2013) studied 5 leading companies and see the liquidity position for the 10 years from 2000-2010. It has been found that the liquidity of small companies is better than big companies.

Dr. Taani Khalaf (2012) research aim is to see the impact of financial leverage on the financial performance of Jordanian corporations measured in terms of return on asset.

Previous Studies-

Anshu Handoo (2014) the paper identifies the most important determinants of capital structure of 870 listed Indian firms which compares both private sector and government companies for the period 2001-2010. Ten independent variables and three dependent variables have been tested using regression analysis.

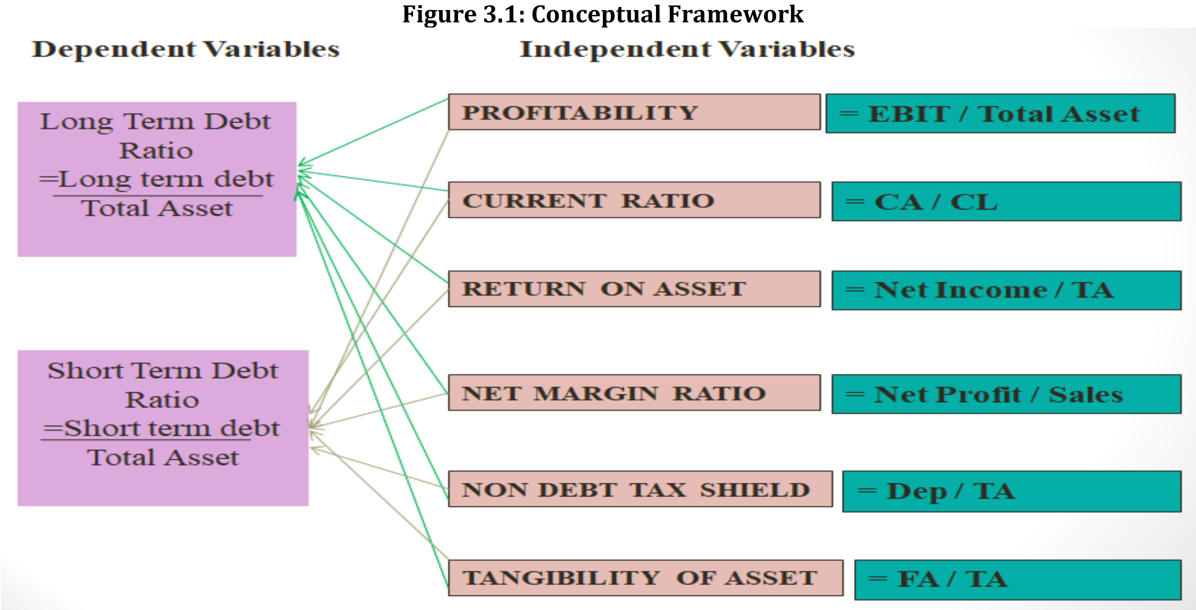
Sri Ayan Chakraborty (2017) studies are done on the performance of a company is an evaluation of leading FMCG firms. In this paper, an attempt has been made to analyse the performance of 5 leading Indian FMCG in terms with various Financial Ratios. The data has been taken from the year 2011-2016.

Dr. Dilpreet Sahni and Dr. Upasana Sharma (2017) study show the relationship between capital structure and profitability of the selected FMCG companies in India. This research aims business competitive industry especially FMCG, it explores the relationship between the capital structure and profitability. The data was taken from the period 2012-2017.

RESEARCH METHODOLOGY

CONCEPTUAL FRAMEWORK OF THE STUDY-

Figure 3.1: Conceptual Framework



RESEARCH MODEL-

This research study shows and analyzes the determinants of capital structure. To support the study the two research models are:

$$stdr_{it} = \beta_0 + \beta_1 Prof_{it} + \beta_2 CR_{it} + \beta_3 NMR_{it} + \beta_4 NDTS_{it} + \beta_5 ROA_{it} + \beta_6 TAN_{it} + \sum\beta DUMMY_i + \sum\beta DUMMY_t + \mu_{it}$$

$$ltdr_{it} = \beta_0 + \beta_1 Prof_{it} + \beta_2 CR_{it} + \beta_3 NMR_{it} + \beta_4 NDTS_{it} + \beta_5 ROA_{it} + \beta_6 TAN_{it} + \sum\beta DUMMY_i + \sum\beta DUMMY_t + \mu_{it}$$

Explanation of Research Variables:

- stdr - Short-Term Debt Ratio
- ltdr – Long-Term Debt Ratio
- β- Regression coefficient
- Prof- Profitability
- CR- Current Ratio
- NMR- Net Margin Ratio
- NDTS- Non-Debt Tax Shield
- ROA- Return on Assets
- TAN- Tangibility of Assets
- DUMMY- Cross-Section Fixed Effect Dummy Variable
- DUMMY- Period Fixed Effect Dummy Variables
- μ- Error
- i- Firms
- t- Time

RESEARCH HYPOTHESES-

H1o: There is no significant relationship between Profitability and Long-Term Ratio for determinants of capital structure of FMCG.
H1a: There is a significant relationship between Profitability and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H2o: There is no significant relationship between Current Ratio and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H2a: There is a significant relationship between Current Ratio andLong-Term Debt Ratio for determinants of capital structure of FMCG.
H3o: There is no significant relationship between Return on Asset and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H3a: There is a significant relationship between Return on Asset and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H4o: There is no significant relationship between Net Margin Ratio and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H4a: There is a significant relationship between Net Margin Ratio and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H5o: There is no significant relationship between Non-debt tax shield and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H5a: There is a significant relationship between Non-debt tax shield and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H6o: There is no significant relationship between Tangibility of Asset and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H6a: There is a significant relationship between Tangibility of Asset and Long-Term Debt Ratio for determinants of capital structure of FMCG.
H7o: There is no significant relationship between Profitability and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H7a: There is a significant relationship between Profitability and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H8o: There is no significant relationship between Current Ratio and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H8a: There is a significant relationship between Current Ratio and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H9o: There is no significant relationship between Return on Asset and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H9a: There is a significant relationship between Return on Asset and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H10o: There is no significant relationship between Net Margin Ratio and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H10a: There is a significant relationship between Net Margin Ratio and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H11o: There is no significant relationship between Non-debt tax shield and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H11a: There is a significant relationship between Non-debt tax shield and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H12o: There is no significant relationship between Tangibility of Asset and Short-Term Debt Ratio for determinants of capital structure of FMCG.
H12a: There is a significant relationship between Tangibility of Asset and Short-Term Debt Ratio for determinants of capital structure of FMCG.

DATA SOURCES AND TREATMENTS

Data Sources-
To get the analysis result on the determinants of the capital structure, the data of 88 listed companies but chosen and taken 55 companies which have the full proper data in the Fast Moving Consumer Good (FMCG)-Food Processing Sector, in the BSE(Bombay Stock Exchange) and NSE (National Stock Exchange) of India. The data is gathered from the year 2014 to 2018. The chosen and taken companies are as follows:
1. Britannia Industries
2. Vadilal Enterprise
3. Hindustan Foods
4. Kohinoor Foods

5. Himalaya Foods
6. Tasty dairy Specialties Limited
7. Future Consumer
8. Foods and Inns
9. Glaxo Smith Kline Consumer Healthcare
10. Kwality
11. Vadilal Industries
12. Modern Dairies
13. Coffee Day enterprise
14. Tasty Bite Eatables
15. Manorama Industries
16. Apis India
17. BambinoAgro
18. Sunil Agro Food
19. Virat Crane Industries
20. Kothari Fermentation and Biochem
21. NHC Foods
22. Ovobel
23. FoodsUsher Foods
24. Khemani Distributors & Marketing
25. Tanvi Foods
26. Sampre Nutritions
27. Ravalagaon Sugar Farm
28. Silver Oak Commercial
29. Shah Foods
30. ANS Industries
31. KMG Milk Food
32. Kore Foods
33. Prataap Snacks
34. Naturite Agro Products
35. Milk Food
36. Prabhat Dairy
37. RT Export
38. Flex Foods
39. Freshtrop Fruits
40. Kovilpatti Lakshmi
41. Roller Flour Mills
42. Lotus chocolate company
43. Hatsun Agro Products
44. DFM Foods
45. Sita Shree Food Products
46. ADF Foods Products
47. Umang Dairies
48. Parag Milk Foods
49. LT Foods
50. KRBL
51. IFB Agro Industries
52. Heritage Foods
53. Esteem Bio Organic Food Processing
54. GRM Overseas
55. Apex Frozen Foods

➢ All the data of the chosen and taken companies for the research study are from:
  - Money Control
  - BSE(Bombay Stock Exchange)
  - NSE(National Stock Exchange)

Statistical Treatments of Data-
The research data was gathered and collected from various sites as money control, BSE and NSE stock exchanges into Microsoft Excel in a simplified manner. From the collected data we were able to find and calculate our dependent and independent variables, which helped us in running our Fixed Effect Panel Data Regression through which we were able to see the significance of our various selected and chosen variables for our study and research.

RESEARCH RESULT

The study and analysis use dependent and independent variables to check the significance level on the capital structure of the firms in the selected sector through Fixed Effect Panel Data Regression.

Dependent Variable: ltdr				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB	-0.2839	0.118997	-2.38574	0.0179
NMR	-0.00137	0.002993	-0.45825	0.6472
NDTS	-0.0006	0.220471	-0.00273	0.9978
CR	0.005673	0.005286	1.073072	0.2845
ROA	0.253423	0.120786	2.098118	0.0371
TAN	0.181632	0.074004	2.454356	0.0149

Dependent Variable: stdr				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB	0.141628	0.28434	0.498096	0.6189
NMR	-0.08632	0.007152	-12.0689	0
NDTS	-1.92291	0.526809	-3.6501	0.0003
CR	-0.01021	0.012632	-0.80801	0.42
ROA	-1.02624	0.288614	-3.55573	0.0005
TAN	0.212449	0.17683	1.201428	0.2309

- Yes, there is a significant relationship between Profitability and Long-Term Ratio for determinants of capital structure of FMCG.
- No, there is no significant relationship between Current Ratio and Long-Term Ratio for determinants of capital structure of FMCG.
- Yes, there is a significant relationship between Return on Asset and Long-Term Ratio for determinants of capital structure of FMCG.
- No, there is no significant relationship between Net Margin Ratio and Long-Term Ratio for determinants of capital structure of FMCG.
- No, there is no significant relationship between Non-debt tax shield and Long-Term Ratio for determinants of capital structure of FMCG.
- Yes, there is a significant relationship between Tangibility of Asset and Long-Term Ratio for determinants of capital structure of FMCG.
- No, there is no significant relationship between Profitability and Short-Term Ratio for determinants of capital structure of FMCG.
- No, there is no significant relationship between Current Ratio and Short Term Ratio for determinants of capital structure of FMCG.
- Yes, there is a significant relationship between Return on Asset and Short-Term Ratio for determinants of capital structure of FMCG.

- Yes, there is a significant relationship between Net Margin Ratio and Short-Term Ratio for determinants of capital structure of FMCG.
- Yes, there is a significant relationship between Non-Debt Tax Shield and Short-Term Ratio for determinants of capital structure of FMCG.
- No, there is no significant relationship between Tangibility of Asset and Short-Term Ratio for determinants of capital structure of FMCG.

As research, the result shows that:
On the dependent variable Long-Term Debt Ratio (ltdr) has the significant relationship with the Profitability (PB), Return on Asset (ROA), and Tangibility of Asset (TAN) as the independent variables.
On the dependent variable Short-Term Debt Ratio (stdr) has the significant relationship with the Net Margin Ratio (NMR), Non-Debt Tax Shield (NDTS), and Return on Asset (ROA) as the independent variables.
As they are significant because the variables show the Probability is less (<) than 0.05 after the regression analysis.

DISCUSSIONS, CONCLUSION AND RECOMMENDATION

Discussion and Conclusion-

- **The factors or variables which has significant relation on the capital structure are:**
  - **Profitability:**
    - There is a negative significant relationship between Profitability and Long-Term Debt Ratio for determinants of capital structure of Fast Moving Consumer Goods (FMCG) sector of BSE and NSE. This result is supported by Bauer 2004; Booth et al. 2001; Chen 2004, etc., studies.
  - **Tangibility of Asset:**
    - There is a positive significant relationship between Tangibility of Asset and Long-Term Debt Ratio for determinants of capital structure of Fast Moving Consumer Goods (FMCG) sector of BSE and NSE. This result is supported by Jensen & Meckling (1976), Myers (1997), Chen 2004, Zou & Xiao (2006) studies.
  - **Return on Asset:**
    - There is a positive significant relationship between Return on Asset and Long-Term Debt Ratio for determinants of capital structure of Fast-Moving Consumer Goods (FMCG) sector of BSE and NSE. And it also,
    - There is a negative significant relationship between Return on Asset and Short-Term Debt Ratio for determinants of capital structure of Fast-Moving Consumer Goods (FMCG) sector of BSE and NSE. This result is supported by Ahmad, Abdullah and Roslan (2012) Studies.
  - **Net Margin Ratio:**
    - There is a negative significant relationship between Net Margin Ratio and Short-Term Debt Ratio for determinants of capital structure of Fast-Moving Consumer Goods (FMCG). This result is supported by Sri Ayan Chakraborty (2017), D.H. Kantilal, Brigham and Houston's studies.
  - **Non- Debt Tax Shield:**
    - There is a negative significant relationship between Non-debt tax shield and Short-Term Debt Ratio for determinants of capital structure of Fast-Moving Consumer Goods (FMCG). Help in reduce business risk in the long-term. This result is supported by De Angelo and Masulis (1980), chaplinsky and Niehaus (1993), Wald (1999), Gajdka (2002) studies.

- On the dependent variable Long-Term Debt Ratio (ltdr) has the significant relationship with the Profitability (PB), Return on Asset (ROA), and Tangibility of Asset (TAN) as the independent variables.
- On the dependent variable Short-Term Debt Ratio (stdr) has the significant relationship with the Net Margin Ratio (NMR), Non-Debt Tax Shield (NDTS), and Return on Asset (ROA) as the independent variables.
- As they are significant because the variables show the Probability is less (<) than 0.05 after the regression analysis.

Recommendation for Future Studies-

- The researchers can take a more lengthy period of data collection if want.
- The researcher can get more related factors and variables and use different data in this analysis.
- Study and research suggested that the researcher can extend the scope of research with other variables in order to see impact or determinant on capital structure.
- This research is only based on India but further, we can take this research as a related study for other sectors, sub-sectors and the countries.
- The better capital structure indicates that the timing of equity issues is an important consideration that firms will issue more equity when stock markets are overvalued. As the denominator of the market value

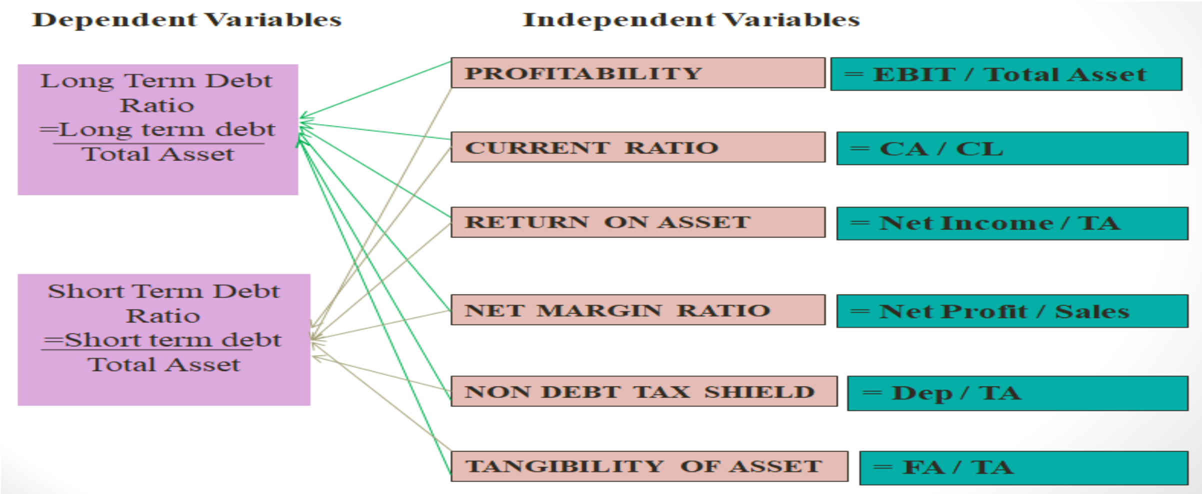
measure of the capital structure includes the market value of the equity component, higher-valued equity leads to a lower market value of the debt ratio.

- The investor will only invest in the firm when he sees the good market value of the firm.
- An investor can get a good return from companies which have a good capital structure.

REFERENCES

Bradley, M., Jarrel, G., Kim, E.H. (1984), "On the Existence of an optimal capital structure: Theory and Evidence", Journal of Finance.
Bennett, M., Donnelly, R. (1993), "The Determinants of Capital Structure: Some UK Evidence", British Accounting Review.
Bevan, A.A., Danbolt, J. (2002), "Capital Structure and its Determinants in the United Kingdom-A decompositional Analysis", Applied Financial Economics.
Bowen, R. M., Lane, A. D., Huber, C. Jr. (1982), "Evidence on the Existence and Determinants of Inter-Industry Differences in Leverage", Financial Management.
Burgman, T. A. (1996), "An Empirical Examination of Multinational Corporate Capital Structure", Journal of International Business Studies.
Campbell, K., and Jerzemowska, M. (2001), "Capital Structure Decisions Made by Companies in a Transitional Economy", In D. Zarecki (Ed.). Financial Management, Objectives-Organization-Tools.
Ross. SA. (1977), "The Determinants of Financial Structure: The Incentive Signaling Approach", Bell Journal of Economics.
Jensen, M. C. (1986), "Agency Costs of Free Cash Flow, Corporate Finance and Takeovers", American Economic Review.
DeAngelo, H., Masulis, R. (1980), "Optimal Capital Structure under Corporate and Personal Taxation", Journal of Financial Economics.
Pal, Shrabanti (2014), "A Study on Capital Structure Determinations of Indian Steel Companies", International Journal of Business Management and Research.
Titman, S., Wessels, R. (1988),"The Determinants of Capital Structure Choice", Journal of Finance.
Wald, J. k. (1999), "How Firm Characteristics Affect Capital Structure: An International Comparison", Journal of Financial Research.
Williamson, O. E. (1988), "Corporate Finance and Corporate Governance", Journal of Finance.
Muzzammil, Hussain., Hassan, Shahid., and Muhammad, Akmal. (2016), "Effect of Profitability and Financial Leverage on Capital Structure in Pakistan Textile Firms", Journal of International Institute for Science, Technology and Education (IISTE).
Modigliani, F. & Miller, M. (1958). The Cost of Capital, Corporate Finance, and the Theory of Investment, American Economics Review.
Dr. Khalif Taani (2012). International Journal of Management Sciences and Business Research.
Kapil, Sharma., Anshu, Handoo., "A Study on Determinants of Capital Structure in India, IIMB Management Review (2014).
Ayan, Chakraborty.,"Performance Evaluation of Leading FMCG Firms", ICTACT Journal on Management Studies (2017).
Upasana, Sharma., Dilpreet, Sahni., "A Study of the Relationship between Capital Structure and Profitability: Case Study Of Selected FMCG Companies in India" IOSR Journal of Business and Management (2017).
Ranjit Kumar Paswan, "Analysis of Solvency of selected FMCG Companies in India" Global Journal of Management and Business Studies (2013).

Appendix
Framework



Significant Variables

1. The relationship between Long-term debt ratio and other variables

Dependent Variable: ltdr				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB	-0.2839	0.118997	-2.38574	0.0179
NMR	-0.00137	0.002993	-0.45825	0.6472
NDTS	-0.0006	0.220471	-0.00273	0.9978
CR	0.005673	0.005286	1.073072	0.2845
ROA	0.253423	0.120786	2.098118	0.0371
TAN	0.181632	0.074004	2.454356	0.0149

2. The relationship between Short-term debt ratio and other variables

Dependent Variable: stdr				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
PB	0.141628	0.28434	0.498096	0.6189
NMR	-0.08632	0.007152	-12.0689	0
NDTS	-1.92291	0.526809	-3.6501	0.0003
CR	-0.01021	0.012632	-0.80801	0.42
ROA	-1.02624	0.288614	-3.55573	0.0005
TAN	0.212449	0.17683	1.201428	0.2309

- **Correlation of the Variables**

1. Relation Between Long-term debt ratio

	LTDR	PB	CR	ROA	NMR	NDTS	TAN
LTDR	1	-0.12375	-0.08965	-0.0856	-0.04837	-0.0314	0.156986
PB	-0.12375	1	0.100568	0.969735	0.392751	-0.29386	-0.28624
CR	-0.08965	0.100568	1	0.110989	0.084476	-0.08226	-0.17935
ROA	-0.0856	0.969735	0.110989	1	0.403837	-0.2908	-0.28471
NMR	-0.04837	0.392751	0.084476	0.403837	1	-0.0975	-0.18186
NDTS	-0.0314	-0.29386	-0.08226	-0.2908	-0.0975	1	0.450735
TAN	0.156986	-0.28624	-0.17935	-0.28471	-0.18186	0.450735	1

2. Relation Between Short-term debt ratio

	STDR	PB	CR	ROA	NMR	NDTS	TAN
STDR	1	-0.698	-0.27975	-0.70788	-0.64308	0.213737	0.255928
PB	-0.698	1	0.100568	0.969735	0.392751	-0.29386	-0.28624
CR	-0.27975	0.100568	1	0.110989	0.084476	-0.08226	-0.17935
ROA	-0.70788	0.969735	0.110989	1	0.403837	-0.2908	-0.28471
NMR	-0.64308	0.392751	0.084476	0.403837	1	-0.0975	-0.18186
NDTS	0.213737	-0.29386	-0.08226	-0.2908	-0.0975	1	0.450735
TAN	0.255928	-0.28624	-0.17935	-0.28471	-0.18186	0.450735	1