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A study of the relationship between capital structure and profitability - case study of selected FMCG companies in India.

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Abstract
Purpose *– financing decisions from the core of any business. An appropriate capital structure is the aim of business in this competitive industry especially FMCG which is one of the most fatest growing sector in India. The paper explores the relation between capital structure and profitability. The main objective is to determine the capital structure pattern of the FMCG companies for the period of 2012-2017. Further to analyse the changing trend of financing with changing trend of profitability*
Design/methodology/approach *– five companies from FMCG sector have been selected for the study namely Procter and Gamble Hygiene and Health Care, Colgate Palmolive (India), United Spirits Ltd., United Breweries Ltd., Emami Ltd. The period of study is 2012 to 2017. Data has been extracted from secondary sources like the annual report of the companies, government and gazetted websites. The analysis will be based on ratio and statistical analysis.*
Findings *– This study would reveal that out of fiveFMCG companies having similar mid cap with different capital structures has an impact on profitability or not and also whichcompany is nearest to approach.*
Research limitations*– This study is based on secondary data which may be subject to accounting errors. Further the economic environment may have created an impact on the profitability of business which is outside the preview of the study.*
Practical implications& Scope *– The results may help the FMCG industries to align the capital structure to boost the profitability of the business. The study is a relevant and an apt illustration for management class teaching as it coverers various concepts. The study can be extended with other parameters & variables like economic environment, period of study, tools of analysis, inter firm comparison and much more.*
Originality/value *– The topic gives an outsider looking in approach towards the relation between capital structure and profitability.*
Key Words*- Capital Structure, Profitability, FMCG*

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I. Introduction

The Indian FMCG industry witnessed significant changes through 1990s. By the turn of 20th century, Indian FMCG industries have changed significantly with the liberalization and growth of economy. Indian consumer segment is broadly segregated into urban and rural markets, and is attracting investors &marketers from across the world. The sector comprises of a huge middle class, relatively large affluent class and a small economically disadvantaged class, with spending anticipated to more than double by 2025.

The Indian fast-moving consumer goods (FMCG) companies have performed better than their multinational peers as the combined revenue of country's seven leading FMCG companies stood at US$ 11.1 billion in FY 2015-16, as compared with US$ 9.4 billion revenue generated by select seven Multinational Companies (MNCs)[18].

The realization of the customer's growing interests and the need to meet changing lifestyle required the FMCG producing companies to formulate customer-centric strategies. These changes have positive impact, leading to the rapid growth in the FMCG industry. The Government of India has allowed 100 per cent Foreign Direct Investment (FDI) in online retail of goods and services through the automatic route, thereby providing clarity on the existing businesses of e-commerce companies operating in India. With the demand for skilled labour growing among Indian industries, the government plans to train 500 million people by 2022 and is also encouraging private players and entrepreneurs to invest in the venture[18]. Such government initiatives, access to globalised markets for investment and business had fuelled the growth of Indian FMCG industry

Capital is imperative in the modem productive system. Nature cannot furnish goods and materials to man unless he has the tools and machines, because of its strategic role in raising productivity. Further expansionand growth of a business unit depends on capital formation. A business unit can sustainedgrow on if it incurs profit. Profit is the benchmark for the sustained association of all the stakeholders. Profitability differs from profit. It is the ability of a given investment to earn profit from its use. A commercial enterprise can sustain and expand on if its profitability quotient increases with time

Capital structure reflects the mix or the pattern of sources of funds for the firm. While designing an optimal capital structure, the management has to keep in mind the objective of maximizing the value of the firm. Since a number of factors influence the capital structure decision of a company, the judgment of the person making the capital structure decisions play a crucial part. Investment, financing and dividend decision play a crucial role for the firms

II. Review of literature

Aarti Garg[9] (2015) conducted a study on *Profitability of FMCG Sector.* The study was based on comparative analysis of selected companies and concluded that companies need to improve productivity& optimal utilisation of available resources. Profitability in long run contributes to sustained growth of the company.

Ranjit Kumar Paswan[10] (2013) conducted a study on *Analysis of Solvency of Selected FMCG Companies in India* to analyze the liquidity position of selected FMCG companies and to understand the company's capacity to repay the short-term debt as well as long-term debt. The study reveals that among the companies under study, the Debtors Turnover Ratio of Nestle and Colgate show the efficiency of debt management.

Gurmeet Singh[11] (2014) conducted a study on *Interrelation Between Capital Structure And Profitability Of FMCG Companies of India.* The study reveals that the profitability of the firm and its financial leverage has an insignificant impact on the capital structure of the studied firms during the examined period. The study is unable to establish any significant relation between profitability and financial leverage effect on the capital structure of a firm.

Dr. Amit Kumar Singh, Preeti Bansal[8](2016) conducted a study on *Impact of Financial Leverage on Firm's Performance and Valuation: a Panel Data Analysis*. To assess empirically (from 2007 to 2016) the impact of financial leverage on the performance and valuation of firms in the selected 58 BSE FMCG firms that constitute the S&P BSE FMCG Index.The results showed that financial leverage has significant and negative impact on performance and valuation when firm's financial performance indicators are ROA and EVA and valuation indicator is Tobin's Q. Out of the control variables, R&D spending, size, growth in sales and WACC significantly impact the firm's performance and valuation. Remaining control variables like tangibility and profitability are found to have insignificant impact on firm's financial performance and valuation.

Sudesh Kumar,Dr.Bimal Anjum,Dr. Suman Nayyar[12](2012) conducted a study on *Financing Decisions: A Study Of Pharmaceutical Companies Of Ind*ia, the study reveals the various patterns of capital structure of the selected pharmaceutical companies. The study also throws light on the relationship of change in capital structure with the company's investment policy

III. Research Methodology and approach

Five companies from FMCG sector have been selected for the study namely Procter and Gamble Hygiene and Health Care, Colgate Palmolive (India), United Spirits Ltd., United Breweries Ltd., Emami Ltd. The period of study is 2012 to 2017. Data has been extracted from secondary sources like the annual report of the companies[13,14,15,16,17], government and gazetted websites.

The following ratios have been calculated for the purpose of the study

1. **Debt Equity Ratio-**The ratio is used to measure a company's financial leverage and is calculated by dividing a company's total liabilities by its shareholders funds. The ratio is an indicator of how much debt a company is using to finance its assets relative to the amount of value represented by shareholders funds.A high debt/equity ratio generally means that a company has been aggressive in financing its growth with debt. This may result in volatile earnings as a result of the additional interest expense.
2. **Interest Coverage**- The interest coverage ratio is a debt ratio as well as profitability ratio. It indicates the debt service capacity of a company. The interest coverage ratio may be calculated by dividing a company's earnings before interest and taxes (EBIT) during a given period by the amount a company must pay in interest on its debts during the same period. The ratio is an important measure to study the solvency and return for shareholders.
3. **Debt to Asset-** This is a leverage ratio that defines the total amount of debt relative to assets. This enables comparisons of leverage to be made across different companies. The higher the ratio, the higher the degree of leverage, and consequently, financial risk. A company with a high degree of leverage may find it more difficult during a recession than one with low leverage. It should be noted that total debt measure does not

include short-term liabilities like accounts payable and long-term liabilities such as capital lease and pension plan obligations.

4. **Gross Profit Ratio** - Gross profit margin is a financial ascertains the financial health of a business by revealing the proportion of money left over from revenues after accounting for the cost of goods sold (COGS). It is beneficial if the margin is higher and increases over time
5. Operating Profit Ratio - Operating profit ratio is a measurement of what proportion of a company's revenue is left over after paying for variable costs of production such as wages, raw materials, etc. It can be calculated by dividing a company's operating income during a given period by its net sales during the same period. The Operating margin is a margin ratio used to measure a company's pricing strategy and operating efficiency
6. **Net profit Ratio** - The ratio is a bench mark ratio as it signifies the profit of any business. It is ascertained by dividing net profit by sales of the period under study. They vary from company to company and business cycles.
7. **Return on Capital Employed**- Return on capital employed (ROCE) is a financial ratio that measures a company's profitability and the efficiency with which its capital is employed. A higher ROCE indicates more efficient use of capital. ROCE should be higher than the company's capital cost; otherwise it indicates that the company is not employing its capital effectively and is not generating shareholder value.
8. **Return on Long Term Funds** – the ratio establishes a relation between net profit and long term funds. A higher ratio indicates efficiency of use of funds in business and may also signal efficient allocation of funds also

Rank correlation method is applied to calculate the impact of profitability with different capital structures and also which company is nearest to approach (fulfilling the above set purpose). The study also draws conclusion based on the Return on capital employed ratio, return on long term funds ratio and interest cover

IV- Analysis

Table 1 gives the details of the 8 ratios calculated for the study. Further averaging of the data points has been done and then ranking is done for each ratio.

Table 1

EMAMI		**2016**	**2015**	**2014**	**2013**	**2012**	**AVERAGE**	**R1**
1	Debt Equity Ratio	0.49	0.01	0.02	0.06	0.15	0.146	2
2	Interest Coverage	8.1	117.37	101.86	46.03	13.48	57.368	8
3	Debt To Asset	0.324992	0.019106	0.022874	0.09937	0.13295	0.119858	1
4	Gross Profit Ratio(~~%~~)	16.84	23.57	19.55	13.73	11.08	16.954	3
5	Operating Profit Ratio (%)	27.38	25.12	25.05	21.31	19.77	23.726	5
6	Netprofit Ratio (%)	13.7	23.22	23.35	13.62	11.13	17.004	4
7	Return On Capital Employed (%)	21.65	47.07	41.89	34.2	26.04	34.17	6
8	Return On Long Term Funds (%)	26.37	47.39	41.94	34.89	27.94	35.706	7
UNITED SPIRTIS								R2
1	Debt Equity Ratio	1.32	2.64	1.22	0.53	0.59	1.26	3
2	Interest Coverage	1.98	0.9	-0.15	1.77	1.93	1.286	4
3	Debt To Asset	0.676154	0.878569	0.726054	0.59727	0.617872	0.699184	2
4	Gross Profit Ratio(~~%~~)	8.55	4.67	-2.84	12.07	11.77	6.844	5
5	Operating Profit Ratio (%)	9.67	6.04	-1.84	12.91	12.58	7.872	6
6	Netprofit Ratio (%)	10.79	-24.3	-59.91	3.73	4.54	-13.03	1
7	Return On Capital Employed (%)	13.58	7.58	-1.1	11.91	11.43	8.68	7
8	Return On Long Term Funds (%)	25.16	15.54	-1.8	15.72	14.64	13.852	8
PROTOR AND GAMBLE								R3
1	Debt Equity Ratio	--	--	--	--	--	0	1
2	Interest Coverage	159.34	88.55	86.4	28,621.00	6,776.36	7146.33	8

3	Debt To Asset	0	0	0	0.00	0.00	0	2
4	Gross Profit Ratio~~(%)~~	22.25	18.5	18.79	12.99	13.26	17.158	4
5	Operating Profit Ratio (%)	24.33	20.75	20.51	14.85	15.43	19.174	5
6	Netprofit Ratio (%)	17.03	14.83	14.72	12.04	13.97	14.518	3
7	Return On Capital Employed (%)	42.38	41.22	46.43	35.53	31.99	39.51	6
8	Return On Long Term Funds (%)	42.38	41.22	46.43	35.53	31.99	39.51	7
UNITED BREWRIES								R4
1	Debt Equity Ratio	0.2	0.38	0.67	0.96	0.71	0.584	2
2	Interest Coverage	6.91	6.18	5.19	4.32	3.39	5.198	4
3	Debt To Asset	0.16394	0.274822	0.373715	0.462782	0.411302	0.337312	1
4	Gross Profit Ratio~~(%)~~	9.43	8.8	9.19	7.84	7.26	8.504	5
5	Operating Profit Ratio (%)	14.22	13.22	13.86	12.2	11.35	12.97	6
6	Netprofit Ratio (%)	5.79	5.53	5.32	4.41	3.48	4.906	3
7	Return On Capital Employed (%)	20.81	17.69	15.2	12.28	15.26	16.248	7
8	Return On Long Term Funds (%)	22.73	19.09	18.53	15.32	19.02	18.938	8
COLGATE PAMOLIVE								R5
1	Debt Equity Ratio	--	--	--	--	--	0	1
2	Interest Coverage	0	0	0	0	389.32	77.864	7
3	Debt To Asset	0	0	0	0	0	0	2
4	Gross Profit Ratio~~(%)~~	0	0	0	0	20.06	4.012	3
5	Operating Profit Ratio (%)	0	0	0	0	21.52	4.304	4
6	Netprofit Ratio (%)	13.85	14.03	15.08	15.7	16.6	15.052	5
7	Return On Capital Employed (%)	0	0	0	0	135.27	27.054	6
8	Return On Long Term Funds (%)	84.3	101.3	110.61	135.42	135.27	113.38	8

Table 2 – Rank correlation method

R1(E)	$D_1^2=(R_1-R_2)^2$	R2(US)	$D_2^2=(R_2-R_3)^2$	R3(PG)	$D_3^2=(R_3-R_4)^2$	R4(UB)	$D_4^2=(R_4-R_5)^2$	R5(CP)	$D_5^2=(R_5-R_1)^2$
2	1	3	4	1	1	2	1	1	1
8	16	4	16	8	16	4	9	7	1
1	1	2	0	2	1	1	1	2	1
3	4	5	1	4	1	5	4	3	0
5	1	6	1	5	1	6	4	4	1
4	9	1	4	3	0	3	4	5	1
6	1	7	1	6	1	7	1	6	0
7	1	8	1	7	1	8	0	8	1
$\sum d_1^2$	34	$\sum d_2^2$	28	$\sum d_3^2$	22	$\sum d_4^2$	24	$\sum d_5^2$	6

Table 3

Company wise ranking	Formula applied	Value
$R_{1.2}$	$1-\frac{6\sum d_1^2}{N(N^2-1)}$	0.5952
$R_{2.3}$	$1-\frac{6\sum d_2^2}{N(N^2-1)}$	0.6667
$R_{3.4}$	$1-\frac{6\sum d_3^2}{N(N^2-1)}$	0.7381
$R_{4.5}$	$1-\frac{6\sum d_4^2}{N(N^2-1)}$	0.7143
$R_{5.1}$	$1-\frac{6\sum d_5^2}{N(N^2-1)}$	0.9286

V. Result and conclusion

The above calculation tells us that the Emami Ltd and Colgate Pamolive are nearest to approach. The conclusions we can draw are-

- Capital structure creates an impact on profitability.
- Return on long term funds is higher in case of Colgate Pamolive as compared to Emami Ltd. which tells us that the funds have been efficiently utilised, although return on capital employed a slightly higher in case Emami Ltd.
- Emami Ltd. Has a favourable interest cover, the same is nil in case of Colgate Pamolive
- Colgate Pamolive's capital structure has the most positive impact on profitability as compared to the rest four companies. This may be due to the fact that the company does not have debt capital as a source of long term funds

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