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The Impact of Debt-Equity Mixture on Profitability: Analysis of Selected Companies

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ABSTRACT

The study examines the effects of debt-equity on the profitability of Cipla Ltd. and Dr. Reddy's laboratories, two well-known pharmaceutical companies' data for the period of 2017-18 to 2021-22. The significance of comprehending how the ratio of debt to equity in a company's capital structure affects its profitability serves as the driving force behind this study. The analysis includes key ratios of profitability and debt-equity including Return on shareholders' funds, return on assets, and net profit margin, to comprehensively evaluate the relationship between the debt-equity mix and the profitability of the selected companies. The conclusions offer businesses insightful guidance for their financial decision-making processes and might lay the groundwork for additional study in the area. It also offers potential implications for optimizing their capital structure to increase profitability in a cutthroat market environment. As a result, it is found that there is a negative and not a statistically significant correlation between DER and Profitability ratio.

Keywords: Pharmaceuticals Company, DER, ROSF, ROA, NPM.

INTRODUCTION

Over half of the world's demand for different vaccines is met by the Indian pharmaceutical industry, as is 40% US demand for generic drugs and 25% of the UK demand for all medications. The domestic market is anticipated to increase three times during the following ten years, according to the Indian Economic Survey 2021. The Indian government has recently made some major investments, Innovations, and support for the pharmaceutical industry. By 2023, the medical device market is projected to be worth $59 billion with a 15 % CAGR. The medicines business in India, which ranks third globally in terms of volume, has a promising future.

With a third-place worldwide production ranking in terms of volume for pharmaceuticals, the Indian pharmaceutical sector is a key player on the international stage. Due to the existence of several companies that operate both internationally and regionally, the Indian Pharmaceutical industry is fragmented.

In every company, there must be an efficient capital structure to manage financial performance. The mixture of debt-equity affects business as debt increases the burden of interest and repayment. On the other hand, equity affects ownership and also overall performance.

LITERATURE REVIEW

Raheman et al. (2019) selected 50 observations from 10 manufacturing companies listed on the Dhaka stock exchange between 2013 to 2017 in an effort to determine the effects of capital structure on the profitability of publicly traded manufacturing enterprises in Bangladesh.

To determine the relationship between independent factors measured by debt ratio, equity ratio debt-equity ratio and independent variables such as return on equity, return on assets, and earnings per share. They discovered that the debt-equity ratio has a Considerably negative influence on return on assets, whereas the equity-debt ratio has a significantly favourable impact.

Rasario & Chavali (2019) conducted research on capital structure impact on profitability: a case of the hotel industry in India by choosing 22 hotel businesses as representatives of the Indian hotel industry. By performing descriptive statistics and correlation analysis, the link between capital structure and profitability was examined.
As per result, debt financing accounts for approximately 58% of the industry's assets. Furthermore, research revealed that somewhat negative link with other components but the favourable association between debt equity and long-term debt.

Doorasamy, M. (2021) attempted research on the relationship between capital structure, and firm value with moderating variable Managerial ownership by selecting data from 65 East African countries out of 106 firms in Kenya, Tanzania, and Uganda. After that Tobin Q, ROA, leverage, managerial ownership, age, leverage, size, and the firm's mediating variable, GDP used. They used the Generalized method of moments estimation approach. The evidence expressed that capital structure has a significantly negative relationship with firm value and also expressed that managerial ownership negatively and significantly moderates the relationship between capital structure and firm value and proved that agency cost/irrelevant theory is applicable there.

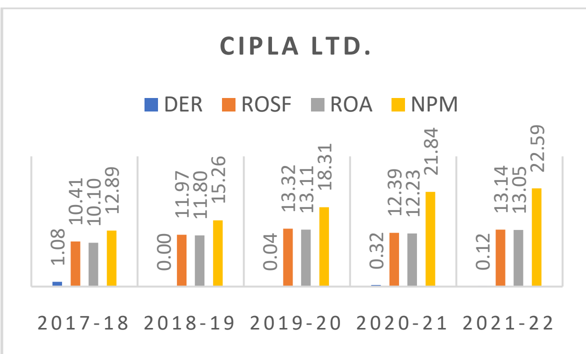
Objective of the Study

To find the impact of debt-equity mixture on profitability pharmaceutical companies is the main objective of this research.

RESEARCH METHODOLOGY

This research employed a quantitative data analysis and a descriptive research design to thoroughly investigate the pharmaceutical industry. The study specifically honed in on two prominent companies, Cipla Ltd. and Dr. Reddy's Laboratories, which were purposely selected from the industry as a whole. The data was meticulously scrutinized using accounting techniques such as ratio analysis and descriptive statistics, as well as correlation.

DATA ANALYSIS



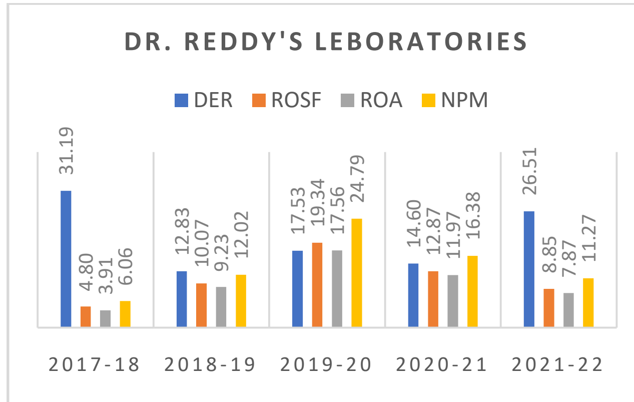
Sources: author’s computation

Graph -1: Debt-Equity Ratio & Profitability ratios of Cipla Ltd.

The above Graph shows Statistics of Debt equity ratio, Return on shareholders fund ratio, return on assets ratio and net profit margin of Cipla Ltd. It shows constant improvement in the financial performance measured access the five year from 2017-18 to 2021-22.

The companies ROSF went from 10.41 to 13.14, demonstrating improvement in profitability. The return on assets which measures how well company use its assets to generate revenue, increase from 10.10 to 13.05. The net profit margin which shows Company's ability to keep large share if it’s revenue as net profit rise by 12.89to 22.59.the debt-equity ratio reasonably low during the course of the period, demonstrating a responsible approach to capital structure.

This combined result points to efficient operation and financial management practices.



Sources: author’s computation

Chart -2: Debt-Equity Ratio & Profitability ratios of Dr. Reddy’s Laboratories

The above Graph shows the debt-equity ratio and profitability ratios of Dr. Reddy's laboratories over the five year period spanning from 2017-18 to 2021-22. It exhibit mixture of fluctuations and trends. The debt Equity ratio varied notably, reaching highest level at 31.19 in 2017-18 and 26.51 in 2021-22. This suggest that the company had significant debt relative to equity in those year. In term of profitability the ROSF, ROA and NPM showed fluctuating but generally displayed an upward trend, reaching their highest in 2019-20. This implies that the company managed to enhance its ability to generate profit. However in subsequent years there was a decline in these profitability metrics, albeit still maintaining a level above the starting point in 2017-18. The fluctuations in debt-equity ratio and the varying trends in profitability metrics indicate dynamic financial landscape over analysed period, highlighting the importance of managing the capital structure while maintaining consistent profitability.

Table – 1 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
DER	10	31.2	.0	31.2	10.422	11.9054	141.740
ROSF	10	14.5	4.8	19.3	11.715	3.7264	13.886
ROA	10	13.6	3.9	17.6	11.082	3.6301	13.177
NPM	10	18.7	6.1	24.8	16.141	5.8442	34.155
Valid N (listwise)	10						

Sources: Author’s computation

The above table shows descriptive statistics of financial performance measures for sample of 10 observation, the four key variables: DER, ROSF, ROA and NPM are considered. The Debt-equity ratio has ranged of 31.2 meaning the values vary significantly across the sample, with minimum and both being 0.00 and 31.2 respectively of selected pharmaceutical companies. The average DER is 10.422, but with a high standard deviation of 11.9054, indicating notable dispersion from the mean. Similarly, the ROSF has a range of 14.5, with minimum of 4.8 and a maximum of 19.3. The average ROSF is 11.715, and the standard deviation is 3.7264, showing relatively less variability compared to DER. The ROA and NPM variables also offer insightful information. ROA has a range of 13.6, with a minimum of 3.9 and a maximum of 17.6, and an average of 11.082. The standard deviation for ROA is 3.6301. NPM has the largest range of 18.7, with a minimum of 6.1 and maximum of 24.8. The average NPM is 16.141, but it has a substantial standard deviation of 5.8442, indicating notable variability in profit margins within the sample. Additionally, the variance, a measure of spread of the data is highest for NPM at 34.155, suggesting wider dispersion of valuable insight into profitability and debt-equity of sample, revealing difference and potential areas of focus or investigation, particularly in term of the variability in Net Profit Margin.

Table -2: Correlations

		DER	ROSF	ROA	NPM
DER	Pearson Correlation	1	-.408	-.531	-.547
	Sig. (2-tailed)		.241	.114	.102
	N	10	10	10	10
ROSF	Pearson Correlation	-.408	1	.989**	.904**
	Sig. (2-tailed)	.241		.000	.000
	N	10	10	10	10
ROA	Pearson Correlation	-.531	.989**	1	.932**
	Sig. (2-tailed)	.114	.000		.000
	N	10	10	10	10
NPM	Pearson Correlation	-.547	.904**	.932**	1
	Sig. (2-tailed)	.102	.000	.000	
	N	10	10	10	10

**. Correlation is significant at the 0.01 level (2-tailed).

Sources: Author's computation

The above table shows results depict the relationship between four financial performance metrics: DER, ROSF, ROA and NPM. Correlation measures the strength and direction of the linear relationship between two variables, with value ranging from -1 to 1.

The correlation between DER and ROSF is -0. 408. This suggest a moderate negative relationship, but the p-value is greater than 0.05 which show there is no significant relationship between DER and ROSF. The correlation between DER and ROA is -0. 531, indicating moderate negative linear relationship, but again it is not statistically significant at the 0.05 significant level.

The correlation between DER and NPM id -0. 547, revealing a moderate negative linear relationship however it is not statistically significant. It's shows that there is no significant effect of Debt-equity on profitability ratio as per Pearson correlation. The result may change if the span of time increased.

As per result there is very positive and significant relationship among the ROSF with ROA and NPM.

In summary, the correlation reveal that there is notable relationship between some of the financial performance variables.

Specifically there is a strong positive relationship between ROSF and both ROA and NPM, and a strong relationship between ROA and NPM. However, no statistically significant correlation between DER and any of the profitability matrices. It is essential to keep in mind that whole these correlation provide valuable insights, they do not imply causation.

CONCLUSION

Based on the above analysis of profitability and Debt-equity ratios and correlation found out for Cipla Ltd. and Dr. Reddy's Laboratories, it is concluded that the special composition of Debt-equity mixture does not show a statistically significant direct impact on profitability, as indicating by the non-significant correlation between the Debt-equity ratio and various profitability measures (ROSF, ROA, NPM). However, it is essential to note that the strong positive correlation observed between ROSF and ROA and NPM, as well as ROA and NPM.

While the direct impact of Debt-equity mixture may not be pronounced in this study, it is crucial to considered the broader context of financial decisions. The interrelation observed between key profitability metrics emphasis the need for comprehensive approach to capital structure optimization and financial management. A balanced and well managed debt equity mix remains crucial for overall health of finance. Strategic decision regarding financial factors and market and long term sustainability of companies in the pharmaceutical industry.

Further research and deeper analysis may provide a more proper understanding of intricate relationship between Debt-equity ratio and profitability.

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List of abbreviation:

- DER**:** Debt-Equity Ratio
- ROSF : Return of Shareholders Funds
- ROA: Return on Assets
- NPM: Net Profit Margin