

Profitability, leverage and ratio analysis of top seven pharmaceutical companies

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Abstract-The study provides an in-depth analysis of all the companies' financial position thereby reflecting the concerned industry's financial position which enables the existing and potential investors and creditors to take investment and lending decisions. The study focuses on the management's ability to manage profitability, growth of company and financial leverage. It can provide a decision making frame work for the government to determine any policy for the benefit of specific industry or industries which has/have been examined. Financial performance was measured as Return on Equity. The study investigated several variables viz. DER, Debt to total assets ratio, ICR, ROA ratio and ROE ratio. This study uses regression technique for the analysis of the data. The study has analysed a sample of 7 pharmaceutical companies for a period of 10 years from 2012-2013 to 2021-2022. The data analysis reveals that considerable differences are found in Return on Equity between the selected Indian pharmaceutical industries.

Keywords-Leverage, pharmaceutical companies, accounting, shareholder, debt, ROE

INTRODUCTION

Leverage is a significant aspect that has a significant impact on a company's capital structure or financing decision. A company has a variety of resources at its disposal to raise funds or meet its finance needs. ⁽¹⁾ These alternative financing options all have expenses. The use of leverage is crucial in this situation. As an example, if debentures are used, interest on the debentures must be paid, and if preference shares are used, dividends must be paid, leverage can be defined as the use of a source of funding that forces the company to pay fixed fees or returns. ⁽²⁾

Types of Leverage

- a). Operating leverage
- b). Financial leverage

a). Operating leverage

If a business is having fixed expenses or costs it is known to have an operating leverage. Fixed costs can be used by the company in order to upsurge the

impact of variations in sales on earnings before interest and taxes (EBIT). The company's main worry is that it must be able to cover the fixed costs no matter the volume. ⁽³⁾

Operating leverage helps in measuring the impact of percentage change in earnings before interest and taxes due to percentage change in Sales. ⁽⁴⁾

$$OL = \frac{EBIT}{SALES}$$

b). Financial leverage

There are two categories of sources that a business can use to raise resources;

- i). Those sources which carry a fixed financial charge
- ii). those sources which do not have involve fixed charges. ⁽⁵⁾

Financial leverage is a by-product of using fixed-fee bearing securities or funding sources. The company's main priority in this situation is to fulfil its contractual responsibilities, although increases to earnings before interest and taxes (EBIT) should lead to higher earnings per share (EPS). ⁽⁶⁾

If a business is having the cost of funds in terms of interest, it is known to have a financial leverage. Financial leverage is a measure of percentage change in earning per share due to percentage change in the earnings before interest and taxes. ⁽⁷⁾

$$FL = \frac{DEBT}{EQUITY}$$

Evolution of Indian pharmaceutical industry

There are five stages in the development of India's pharmaceutical industry:

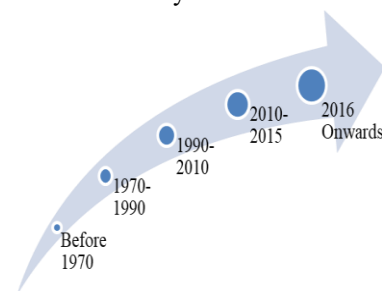


Figure 1: Evolution Stages of Pharmaceutical Sector in India

- The first stage is the time before 1970, when there was little domestic competition and multinational businesses dominated the Indian market. However, there was a modest start to the formation of Indian Companies.⁽⁸⁾
- The second stage durations the years 1970 to 1990. Several public sector businesses began operations during this time. During this time, the Indian Patent Act of 1970 was passed, export activities were implemented, production and infrastructure development progressed, and drug prices were capped.⁽⁹⁾
- The third stage spanned the years 1990 to 2010. The deregulation during this time period prompted Indian components to begin operations abroad. India became a key location for the production of generic medications. Product patents were adopted in India as a result of the Patents (Amendment) Act of 2005.⁽¹⁰⁾
- 2010-2015 constituted the fourth stage. Increased filing of patents by drug companies. Use of more modern sales techniques like channel management, KAM (Key Account Management), and CSO is likely (Contract Sales Organisation).⁽¹¹⁾

Objectives

- To study the relationship between leverage and profitability of pharmaceutical companies.
- To analyse the variables that determine leverage of pharmaceutical companies.
- To analyse the variables that determine the profitability of the pharmaceutical companies.

Hypothesis

- H_0 There is no significant relationship between leverage and profitability of pharmaceutical companies.
- H_0 There is no significant relationship between growth and leverage of pharmaceutical companies.
- H_1 There is significant relationship between leverage and profitability of pharmaceutical companies.
- H_1 There is significant relationship between growth and leverage of pharmaceutical companies.

Utility of the study

- The study provides an in-depth analysis of all the companies' financial position thereby reflecting the concerned industry's financial

position which enables the existing and potential investors and creditors to take investment and lending decisions.

- This study can clearly serve as a torch bearer to the retail investors and help them decide and zero in on a particular industry or a company for parking their funds.
- The study focuses on the management's ability to manage profitability, growth of company and financial leverage.
- It can provide a decision making frame work for the government to determine any policy for the benefit of specific industry or industries which has/have been examined.

Limitations

Critical points related to the research work from different viewpoints have been mentioned as under:

- The accuracy of the study depends upon the accuracy of the financial data of the respective company. Thus, this study carries such limitation.
 - The study covers only financial information and ignores completely qualitative aspects. Hence performance valuation of the company from qualitative aspects have been ignored.
 - The ratio analysis is the study of past financial records of the company. Such past records may or may not prove to be useful for future decision making.
 - Different companies adopt different accounting methods in respect of depreciation, valuation of closing stock, provision of debt etc. This can adversely affect their uniformity and comparability. The Price level fluctuation can't be ignored in the above study.
 - Only 7 companies are selected for analysis purpose i.e., performance measurement.
 - Financial analysis is based on selected accounting ratios.
 - The use of statistical techniques was restricted to correlations and regression analysis.
- Field of study is limited to only Indian companies belonging to them. There are so many other companies in foreign countries which may be considered for analysis. But since the study is limited to Indian industries, only

Indian listed companies have been selected for the study.

- There are numerous stock exchanges in India at national and regional level like, National Stock Exchange (NSE), Bombay Stock Exchange (BSE), Ahmadabad stock exchange, Delhi stock exchange, Vadodara stock exchange etc. but out of them, NSE, BSE have been selected for selection of listed companies, because they are leading stock exchanges in India and most of the national as well as regional companies are listed under them.
- For the research work primary and secondary data can be used but considering the nature of this research work only secondary data are used.
- The risk of the shareholders increases when there is a high proportion of borrowed funds

which in turn increases their expected return on investments

RESEARCH METHODOLOGY

Sources of data: Secondary data

Secondary data: Collected from annual reports, money control

Period of study: 10 years (2012-2013 to 2021-2022)

RESULTS AND DISCUSSION

Profit is the prime motive of every business. It plays a pivotal role behind the success and growth of an enterprise. Profitability is the main base for liquidity as well as solvency. Analysing a company's profitability is an important part of financial statement analysis. Profitability of a company measures the ability to generate earnings.

Table 1: Leverage analysis

		Mean	SD	COV	CAGR (%)
Degree of Operating Leverage	Sun Pharma	-0.044	6.42	-146.96	0.195
	Dr. Reddy's Laboratories	1.365	6.885	5.045	-0.085
	Cipla	1.35	3.543	2.626	-0.203
	Zydus Lifesciences	-0.729	6.367	-8.733	1.167
	Torrent Pharmaceuticals	3.187	4.974	1.561	-1.985
	Aurobindo Pharma	6.448	10.235	1.587	-0.114
	Biocon	1.156	3.827	3.311	-1.899
Degree of Financial Leverage	Sun Pharma	-1.217	5.04	-4.139	0.053
	Dr. Reddy's Laboratories	1.542	1.237	0.802	-0.004
	Cipla	1.087	0.716	0.659	-0.09
	Zydus Lifesciences	1.622	2.323	1.432	-0.255
	Torrent Pharmaceuticals	1.666	1.972	1.184	-0.155
	Aurobindo Pharma	0.688	1.431	2.079	-0.064
	Biocon	5.75	20.236	3.519	-2.034
Degree of Combined Leverage	Sun Pharma	2.164	8.688	4.015	-0.457
	Dr. Reddy's Laboratories	11.989	38.642	3.223	-0.489
	Cipla	2.032	4.362	2.146	-1.576
	Zydus Lifesciences	2.819	6.913	2.453	-1.644
	Torrent Pharmaceuticals	-2.014	10.703	-5.315	-0.531
	Aurobindo Pharma	1.209	4.417	3.654	-1.532
	Biocon	-0.54	2.983	-5.521	-0.397

Table 2: Analysis of Profitability Variables

		Mean	SD	COV	CAGR (%)
Debt to Equity Ratio	Sun Pharma	0.177	0.092	0.519	-0.173
	Dr. Reddy's Laboratories	0.313	0.149	0.475	-0.119
	Cipla	0.205	0.13	0.634	-0.106
	Zydus Lifesciences	0.575	0.2	0.348	-0.134
	Torrent Pharmaceuticals	0.727	0.291	0.401	0.075
	Aurobindo Pharma	0.548	0.368	0.672	-0.248
	Biocon	0.375	0.157	0.42	0.23
Debt to total	Sun Pharma	1.75	0.39	0.22	0.06
	Dr. Reddy's Laboratories	1.56	0.29	0.19	0.04
	Cipla	0.87	0.31	0.36	0.05

assets ratio	Zydus Lifesciences	1.42	0.11	0.08	0
	Torrent Pharmaceuticals	2.18	0.64	0.29	-0.03
	Aurobindo Pharma	1.75	0.38	0.22	-0.03
	Biocon	0.75	0.17	0.23	-0.01
Interest Coverage Ratio	Sun Pharma	50.54	53.459	1.058	-0.028
	Dr. Reddy's Laboratories	28.575	9.32	0.326	0.075
	Cipla	21.297	17.794	0.836	-0.033
	Zydus Lifesciences	21.396	12.139	0.567	0.192
	Torrent Pharmaceuticals	9.013	5.696	0.632	-0.068
	Aurobindo Pharma	32.403	32.49	1.003	0.508
Biocon	19.516	8.098	0.415	-0.05	
Return on asset (ROA) ratio	Sun Pharma	7.57	3.729	0.493	-0.117
	Dr. Reddy's Laboratories	8.873	2.767	0.312	-0.047
	Cipla	8.023	2.547	0.317	-0.039
	Zydus Lifesciences	10.744	3.961	0.369	0.069
	Torrent Pharmaceuticals	9.274	4.601	0.496	-0.07
	Aurobindo Pharma	10.92	3.392	0.311	0.076
	Biocon	6.3	2.465	0.391	-0.134
Return on equity (ROE) ratio	Sun Pharma	12.083	5.933	0.491	-0.112
	Dr. Reddy's Laboratories	15.694	6.363	0.405	-0.08
	Cipla	11.681	2.571	0.22	-0.038
	Zydus Lifesciences	22.015	6.28	0.285	0.019
	Torrent Pharmaceuticals	24.616	11.996	0.487	-0.09
	Aurobindo Pharma	21.512	7.427	0.345	-0.005
	Biocon	11.762	2.979	0.253	-0.095

Table 3: Regression Analysis of Leverage Determinants on Profitability Variables

Model Summary

	R	R Square	Adjusted R Square	Std. Error of the Estimate
Sun Pharma	.474 ^a	.224	.003	5.924836
Dr. Reddy's Laboratories	.411 ^a	.169	.068	6.577253
Cipla	.587 ^a	.345	.158	2.358873
Zydus Lifesciences	.587 ^a	.345	.158	5.764607
Torrent Pharmaceuticals	.339 ^a	.115	.138	12.794592
Aurobindo Pharma	.544 ^a	.296	.095	7.064930
Biocon	.825 ^a	.681	.589	2.307646

ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
Sun Pharma	Regression	71.057	2	35.529	1.012	.411 ^b
	Residual	245.726	7	35.104		
	Total	316.783	9			
Dr. Reddy's Laboratories	Regression	61.609	2	30.805	.712	.523 ^b
	Residual	302.822	7	43.260		
	Total	364.431	9			
Cipla	Regression	20.520	2	10.260	1.844	.227 ^b
	Residual	38.950	7	5.564		
	Total	59.470	9			
Zydus Lifesciences	Regression	122.381	2	61.191	1.841	.228 ^b
	Residual	232.615	7	33.231		
	Total	354.996	9			
Torrent Pharmaceuticals	Regression	149.141	2	74.570	.456	.652 ^b
	Residual	1145.911	7	163.702		
	Total	1295.052	9			

Aurobindo Pharma	Regression	146.985	2	73.493	1.472	.293 ^b
	Residual	349.393	7	49.913		
	Total	496.378	9			
Biocon	Regression	79.450	2	39.725	7.460	.018 ^b
	Residual	37.277	7	5.325		
	Total	116.726	9			

CONCLUSION

The research study pertaining to leverage analysis of pharmaceutical companies have been done. The huge amount of historical data that was needed was taken from a reputable data base. The statistical package for the social sciences (SPSS) software was used to examine the data on a number of parameters in order to ensure statistical accuracy.

Financial performance was measured as Return on Equity. The study investigated several variables viz. DER, Debt to total assets ratio, ICR, ROA ratio and ROE ratio. We used regression technique for the analysis of the data. The study has analysed a sample of 7 pharmaceutical companies for a period of 10 years from 2012-2013 to 2021-2022.

The data analysis reveals that considerable differences are found in Return on Equity between the selected Indian pharmaceutical industries. Furthermore, it is concluded that the profitability (return on equity or ROE) of Torrent Pharmaceuticals is comparatively better than the other six examined companies, namely Sun Pharma, Dr. Reddy's Laboratories, Cipla, Zydus Lifesciences, Aurobindo Pharma, and Biocon. The outcome shows that a company's profitability would be reduced by debt and fixed costs. It implies that in order to increase profitability, the capital structure and fixed cost operations of the company must use less debt.

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