

A STUDY ON FINANCIAL APPRAISAL OF PHARMACEUTICAL COMPANIES IN INDIA

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Abstract: *The pharmaceutical and chemical industry in India is an extremely fragmented market with severe price competition and government price control. The financial performance of any organization can be influenced by the operational and financial efficiency of the pharmaceutical companies, which are related to cost and the revenue aspects. Thus, the problem is influenced by several factors like capital structure, cost, revenue and the substantial profit margin. The financial performance of the pharmaceutical companies is interlinked to many aspects like cost, revenue, capital, assets and other related variables. If the analysis made on all the aspects related to the pharmaceutical companies gives a clear cut picture about the financial performance, it can be used for policy decisions for its future development. In this connection, the researcher has analyzed the performance of pharmaceutical companies in India on the parameters such as profitability, utilization of assets, growth of performance, financial strength and capital structure. The researcher has also attempted to identify the nature of relationship between the various aspects of financial performance.*

Keyword: *Return on Equity, Profitability performance, Operational and Financial efficiency of Pharmaceutical companies*

1. INTRODUCTION:

The Indian pharmaceuticals market is the third largest in terms of volume and thirteenth largest in terms of value, and it accounts for 20 per cent in the volume terms and 1.4 per cent in value terms of the Global Pharmaceutical Industry as per a report by Equity Master. India is the largest provider of generic drugs globally with the Indian generics accounting for 20 per cent of global exports in terms of volume. India enjoys an important position in the global pharmaceuticals sector. The UN-backed Medicines Patent Pool has signed six sub-licences with Aurobindo, Cipla, Desano, Emcure, Hetero Labs and Laurus Labs, allowing them to make generic anti-AIDS medicine Tenofovir Ala fenamide (TAF) for 112 developing countries. Branded generics dominate the pharmaceuticals market, constituting nearly 80 per cent of the market share (in terms of revenues). The Indian government has taken many steps to reduce costs and bring down healthcare expenses. Speedy introduction of generic drugs into the market has remained in focus and is expected to benefit the Indian pharmaceutical companies. In addition, the thrust on rural health programmes, lifesaving drugs and preventive vaccines also augurs well for the pharmaceutical companies. Financial Performance analysis is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time. Financial performance analysis can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. The financial performance analysis includes analysis and interpretation of financial statements in such a way that it undertakes full diagnosis of the profitability and financial soundness of the business.

2. STATEMENT OF THE PROBLEM:

The development of industries depends on several factors such as finance, personnel, technology, quality of the product and marketing. Financial performance analysis is the process of determining the operating and financial characteristics of a firm from accounting and financial statements. The ability of an organization to analyze its financial position is essential for improving its competitive position in the marketplace. The top management appreciates the value of a good financial and operating analysis, there will be continuing problems for the financial executives to find the profitability position of the concern. In this context an attempt has been made an analysis of financial performance of pharmaceutical companies to understand how management of finance plays a crucial role in the growth.

3. OBJECTIVES OF THE STUDY:

- To study the growth of the pharmaceutical companies in the world and in India.

- To examine the short-term and long-term financial solvency, profitability and growth performance of the pharmaceutical companies in India.

4. SCOPE OF THE STUDY:

The present study was confined and highlights the financial performance of the pharmaceutical companies in India through facts of published financial data. The financial performance of the pharmaceutical companies was evaluated on the parameters like profitability, utilization of assets, growth of performance, financial strength and financial health.

5. METHODOLOGY OF THE STUDY:

The study is based on Secondary Data. The study has been undertaken for the period of five years from 2012-13 to 2016-17. In order to study the financial health of pharmaceutical companies in India, five pharmaceutical companies have been considered. They are namely Sun Pharmaceutical, Lupin Ltd, Dr. Reddy's Laboratories Ltd, Cipla Ltd and Aurobindo Pharma.

6. STATISTICAL TOOLS:

In this study various statistical tools such as Mean, Standard Deviation, and Analysis of variance and Multiple Regression has been used for data analysis.

7. HYPOTHESES OF THE STUDY:

In order to fulfil the above objectives the following hypothesis were formulated to analyse the financial performance of pharmaceutical companies in India.

- There is no significant difference between current ratios of the selected Pharmaceutical companies
- There is no significant difference between quick ratios of the selected Pharmaceutical companies
- There is no significant difference between Inventory turnover ratios of the selected Pharmaceutical companies

8. CURRENT RATIO:

The current ratio is a liquidity ratio that measures whether or not a firm has enough resources to meet its short-term obligations. It compares a firm's current assets to its current liabilities, and is expressed as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The current ratio of the selected pharmaceutical companies in India has been presented in the Table No.1

Table No.1
CURRENT RATIO OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA

Companies	2012-13	2013-14	2014-15	2015-16	2016-17	Mean	SD
Sun Pharmaceutical	3.37	1.4	0.49	0.6	0.58	5.97	1.22
Lupin Ltd	2.01	3.45	3.89	3.15	3.61	13.22	0.73
Dr. Reddy's Laboratories	1.63	2.17	2.22	2.1	2.02	8.52	0.23
Cipla	3.02	2.11	1.83	2.1	2.48	9.55	0.46
Aurobindo Pharma	1.31	1.53	1.61	1.54	1.55	6.3	0.12

Source: Computed

The current ratio of Lupin Ltd Pharmaceutical companies was better than all other companies throughout the period of study. The Current ratio of Lupin Ltd Pharmaceutical company has increased from 3.45 times in the year 2014-15 to 3.89 times in the year 2014-15 and then fell down to 3.61 times in the year 2016-17. The average current ratio of Cipla Pharmaceutical Company was 9.55 times which was considered second higher ratio among the selected Pharmaceutical companies after Dr. Reddy's Laboratories company. Aurobindo Pharma company maintained current ratio less than the standard rate (2:1) during the years 2012-13 to 2016-17. Lupin Ltd company is maintaining the current ratio normally above standard current ratio in all the years under study. It indicated that the overall situation regarding the current ratio was better in Dr. Reddy's Laboratories, Cipla and Aurobindo Pharma companies because the average current ratio of these companies were above the standard rate. This showed that the Dr. Reddy's Laboratories, Cipla and Aurobindo Pharma companies were good at current assets management and other companies need improvement in current assets management as these companies have not adopted effective current assets management programme during the period of the study.

An attempt has been made to know whether any difference between the companies current ratio. For that ANOVA test has been used and results have been given in the Table No.2

H₀: There is no significant difference between current ratios of the selected Pharmaceutical companies

H₁: There is a significant difference between current ratios of the selected Pharmaceutical companies

Table No.2
Current ratio
ANOVA

Companies	Mean	SD	F -value	F-crit
Sun Pharmaceutical	5.97	1.22	37.90081	5.317655
Lupin Ltd	13.22	0.73		
Dr. Reddy's Laboratories	8.52	0.23		
Cipla	9.55	0.46		
Aurobindo Pharma	6.3	0.12		

Source: Computed

Since calculated F- value (37.90) is more than the F-critical value (5.32), so the null hypothesis is rejected and it is significant at 1 percent level. Hence, it is concluded that there is a significant difference between the mean current ratios of the selected Pharmaceutical companies.

9. QUICK RATIO:

The acid-test or quick ratio or liquidity ratio measures the ability of a company to use its near cash or quick assets to extinguish or retire its current liabilities immediately. Quick assets include those current assets that presumably can be quickly converted to cash at close to their book values. It is the ratio between quick or liquid assets and current liabilities.

$$\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

Table No.3
QUICK RATIO OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA

Companies	2012-13	2013-14	2014-15	2015-16	16-17	Mean	SD
Sun Pharmaceutical	2.61	1.15	0.3	0.36	0.37	4.49	0.99
Lupin Ltd	1.3	2.51	2.84	2.32	2.78	9.53	0.62
Dr. Reddy's Laboratories	1.25	1.78	1.86	1.75	1.59	6.96	0.24
Cipla	1.98	1.07	0.91	1.15	1.44	5.40	0.42
Aurobindo Pharma	0.79	1.02	1.07	1	1	4.08	0.11

Source: Computed

The quick ratio of Lupin Ltd Company was better than all other companies throughout the period of study. The quick ratio of Lupin Ltd Company has increased from 1.3 times in the year 2012-13 to 2.84 times in the year 2014-15 and then fell down to 2.78 times in the year 2016-17. The average quick ratio of Dr. Reddy's Laboratories company was 6.96 times which was considered second higher ratio among the selected Pharmaceutical companies after Cipla company. Aurobindo Pharma company is maintaining the quick ratio normally above the standard ratio in all the years under study. It indicated that the overall situation regarding the quick ratio was better in Dr. Reddy's Laboratories and Cipla Pharmaceutical companies because the average quick ratio of these companies was above the standard rate (1:1). This showed that Dr. Reddy's Laboratories and Cipla Pharmaceutical companies were good at liquid assets management and other companies were in need of improvement during the period of the study.

An attempt has been made to know whether there was any difference between the companies quick ratios. For that ANOVA test has been used and results have been given in the Table No.4

H₀: There is no significant difference between quick ratios of the selected Pharmaceutical companies

H₁: There is a significant difference between quick ratios of the selected Pharmaceutical companies

Table No.4
Quick ratio
ANOVA

Companies	Mean	SD	F -value	F-crit
Sun Pharmaceutical	4.494	0.987709	31.36525	5.317655
Lupin Ltd	9.526	0.623298		
Dr. Reddy's Laboratories	6.958	0.242136		
Cipla	5.398	0.421011		
Aurobindo Pharma	4.08	0.107842		

Source: Computed

Since calculated F- value (31.36) is more than the F-critical value (5.32), so the null hypothesis is rejected and it is significant at 1 percent level. Hence, it is concluded that there is a significant difference between the mean quick ratios of the selected Pharmaceutical companies.

10. ANALYSIS OF ACTIVITY RATIOS:

Profitability of the firm is based on how efficiently the assets are being used by the firm. This activity ratio is also referred as turnover ratio or asset management ratios. Inventory turnover ratio, debtors turnover ratio, working capital turnover ratio, total assets turnover ratio and fixed assets turnover ratios are the important turnover ratio for measure the asset management efficiency of the business firm.

Table No.5

INVENTORY TURNOVER RATIO OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA

Companies	2012-13	2013-14	2014-15	2015-16	2016-17	Mean	SD
Sun Pharmaceutical	2.8	3.08	3.66	3.57	3.37	13.78	0.36
Lupin Ltd	5.35	6.51	5.61	5.89	6	24.56	0.44
Dr. Reddy's Laboratories	5.53	6.11	5.81	6.01	5.37	24.53	0.31
Cipla	3.5	3.74	3.08	4.12	4.14	15.27	0.44
Aurobindo Pharma	3.79	4.15	3.77	3.77	3.95	16.27	0.16

Source: Computed

The table no.5 reveals that the inventory turnover ratio of the selected Pharmaceutical companies has fluctuated significantly over the years. The average inventory turnover ratio of the selected Pharmaceutical companies during the study period was in the range between 13.78times to 24.56 times. Among the selected Pharmaceutical companies Lupin Ltd had registered higher average inventory ratio with 24.56 times during the study period. This showed that the company was very efficient in converting the finished goods to sales very habitually as compared to other companies. The average Inventory turnover ratio of Dr. Reddy's Laboratories was 24.53 times which was considered second higher ratio among the selected Pharmaceutical companies after Aurobindo Pharma company.

An attempt has been made to know whether there was any difference between the companies Inventory turnover ratio. For that ANOVA test has been used and results have been given in the Table No.6

H₀: There is no significant difference between Inventory turnover ratios of the selected Pharmaceutical companies

H₁: There is a significant difference between Inventory turnover ratios of the selected Pharmaceutical companies

Table No.6

INVENTORY TURNOVER RATIO ANOVA

Companies	Mean	SD	F -value	F-crit
Sun Pharmaceutical	13.78	0.36	62.43224	5.317655
Lupin Ltd	24.56	0.44		
Dr. Reddy's Laboratories	24.53	0.31		
Cipla	15.27	0.44		
Aurobindo Pharma	16.27	0.16		

Source: Computed

Since calculated F- value (62.43) is more than the F-critical value (5.32), so the null hypothesis is rejected and it is significant at 1 percent level. Hence, it is concluded that there is a significant difference between the mean inventory turnover ratios of the selected Pharmaceutical companies.

11. IMPACT OF FINANCIAL RATIOS ON PROFITABILITY:

The influence of selected financial ratios of return on equity (ROE) was separately analyzed with the help of log linear regression model. The result of regression coefficients with its statistical significance are presented in the following tables. The results of Sun Pharmaceutical company regression coefficient of with its statistical significance are presented in the Table No.7

Table No.7

IMPACT OF FINANCIAL RATIOS ON PROFITABILITY OF SUN PHARMACEUTICAL

Independent Variables	Return on Equity	
	Regression Coefficient	t
Current Ratio	0.054	0.701
Quick Ratio	0.046	0.606
Inventory Turnover Ratio	0.102	0.309
Debtors Turnover Ratio	-0.149	-1.079
Fixed Asset Turnover Ratio	0.996	21.292

Constant	12.933	0.607
R ²	0.991**	
F value	453.37	
DW	2.215	

Source: Computed data

** Significant @1% level

The current ratio, quick ratio, inventory turnover ratio and fixed assets turnover ratio positively influenced the Return on Equity (ROE) but debtors' turnover ratio has negatively influenced the ROE. The coefficient of determination of performance variable of ROE was 0.991 at 1 per cent significant level. It means a change in return on equity (ROE) was explained by independent variables to the extent of 99 per cent. The F statistics and Durbin Watson coefficient were 5 per cent level of significant in ROE.

Table No.8
IMPACT OF FINANCIAL RATIOS ON PROFITABILITY OF LUPIN LTD

Independent Variables	Return on Equity	
	Regression Coefficient	t
Current Ratio	0.155	1.277
Quick Ratio	0.130	1.170
Inventory Turnover Ratio	0.131	0.491
Debtors Turnover Ratio	6.560	0247
Fixed Asset Turnover Ratio	0.49	0.237
Constant	0.997	26.524
R ²	0.994**	
F value	703.528	
DW	1.699	

Source: Computed data

** Significant @1% level

The current ratio, quick ratio, inventory turnover ratio, debtors' turnover ratio and fixed asset turnover ratio positively influenced the Return on Equity (ROE). The coefficient of determination of performance of variables namely returns on equity was 0.994 respectively. This conveyed that the change in performance variables, ROE was explained by independent variables to the magnitude of 99 per cent respectively. The F statistics and Durbin Watson coefficient were significant at 5 per cent in ROE.

Table No.9
IMPACT OF FINANCIAL RATIOS ON PROFITABILITY OF Dr. REDDY'S LABORATORIES

Independent Variables	Return on Equity	
	Regression Coefficient	t
Current Ratio	0.146	2.502
Quick Ratio	0.152	3.321
Inventory Turnover Ratio	0.140	1.809
Debtors Turnover Ratio	-0.185	-3.141
Fixed Asset Turnover Ratio	0.987	10.570
Constant	-12.111	-3.980
R ²	0.974**	
F value	111.726	
DW	1.355	

Source: Computed data

** Significant @1% level

The current ratio, quick ratio, inventory turnover ratio and fixed assets turnover ratios positively influenced the Return on Equity (ROE) but debtors' turnover ratio has negatively influenced the ROE. The coefficient of determination of performance variable of ROE was 0.974 at 1 per cent significant level. It means a change in return on equity (ROE) was explained by independent variables to the extent of 97 per cent. The F statistics and Durbin Watson coefficient were 5 per cent level of significant in ROE.

Table No.10
IMPACT OF FINANCIAL RATIOS ON PROFITABILITY OF CIPLA

Independent Variables	Return on Equity	
	Regression Coefficient	t
Current Ratio	0.979	9.584
Quick Ratio	-0.443	-0.407

Inventory Turnover Ratio	-0.049	-0.079
Debtors Turnover Ratio	0.168	0.294
Fixed Asset Turnover Ratio	-0.248	-0.449
Constant	5.344	0.558
R ²	0.958*	
F value	91.848	
DW	1.083	

Source: Computed data

* Significant @5% level

The current ratio and debtors' turnover ratio positively influenced the Return on Equity (ROE) but quick ratio, inventory turnover ratio and fixed asset turnover ratio has negatively influenced the ROE. The coefficient of determination of performance variable of ROE was 0.958 at 5 per cent significant level. It means a change in return on equity (ROE) was explained by independent variables to the extent of 95 per cent. The F statistics and Durbin Watson coefficient were 5 per cent level of significant in ROE.

Table No.11

IMPACT OF FINANCIAL RATIOS ON PROFITABILITY OF AUROBINDO PHARMA

Independent Variables	Return on Equity	
	Regression Coefficient	t
Current Ratio	-1.725	-1.799
Quick Ratio	0.957	5.694
Inventory Turnover Ratio	0.182	1.080
Debtors Turnover Ratio	0.281	1.556
Fixed Asset Turnover Ratio	-0.108	-0.564
Constant	-44.106	
R ²	0.915*	
F value	32.424	
DW	3.107	

Source: Computed data

* Significant @5% level

The quick ratio, inventory turnover ratio and debtors' turnover ratio positively influenced the Return on Equity (ROE) but current ratio and fixed asset turnover ratio has negatively influenced the ROE. The coefficient of determination of performance variable of ROE was 0.915 at 5 per cent significant level. It means a change in return on equity (ROE) was explained by independent variables to the extent of 91 per cent. The F statistics and Durbin Watson coefficient were 5 per cent level of significant in ROE.

12. FINDINGS:

- The analysis indicated that the overall situation regarding the current ratio was better Lupin Ltd(13.22),Cipla(9.55) and Dr. Reddy's Laboratories(8.52) pharmaceutical companies because the average current ratio of these companies were above the standard rate. It is concluded from the ANOVA analysis, that there is a significant difference between the mean current ratios of the selected pharmaceutical companies.
- The analysis concluded that the quick ratio of Lupin Ltd pharmaceutical company (9.53) was better than all other companies throughout the period of study, followed by Dr. Reddy's Laboratories(6.96) Cipla(5.40), Sun Pharmaceutical(4.49) and Aurobindo Pharma(4.08) .From the ANOVA analysis, it is concluded that there is a significant difference between the mean quick ratios of the selected Pharmaceutical companies.
- Inventory turnover ratio of selected companies showed better in Lupin Ltd (24.56) followed by Dr. Reddy's Laboratories (24.53), Aurobindo Pharma (16.27), Cipla(15.27) and Sun Pharmaceutical (13.78). ANOVA analysis of Inventory turnover ratio concluded that there is a significant difference between the mean inventory turnover ratios of the selected Pharmaceutical companies.

13. SUGGESTIONS:

- It was found that the total assets of the selected pharmaceutical companies were increased considerably but turnover ratio of the total assets was reduced at mean time. It resulted that correlation between these was negative. As a result, that the selected companies utilized their assets during the study period. Hence, the selected Indian pharmaceutical companies must use their assets in fruitful manner.
- In some of the selected pharmaceutical companies, the current ratio, quick ratio and the inventory turnover ratio positively influenced the return on equity. Hence, all other pharmaceutical companies have to take up initiative to increase these ratios.

- The companies may concentrate on their cost of production, investment in fixed assets and their sales turnover to improve their profitability

14. CONCLUSION:

The present study has brought out the various facts about the financial performance of Indian pharmaceutical companies. The suggestions made in the study are of enormous use for the policy makers to make appropriate decision for extenuating the financial problems and to better financial performance. In order to participate with global economic scenario and to sustain its place, pharmaceutical companies needs to monitor its financial performance continually and take financial decisions rationally. Profits earned by a company, taken the absolute amount, provides an overview of a company's activity without giving details about the extent to which the company manages dividends, debts, liabilities or other indicators. ROE that the comparison of performance and condition of a company against its competitors, analyzing trends in the returns of a company in the context of trends of the components and forecasting the returns of a company based on forecasts of the components. ROE is the most comprehensive measure of profitability of a firm. It considers the operating and investing decisions made as well as the financing and tax-related decisions.

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