



A study on leverage analysis and earnings per share of selected pharmaceutical companies in India

Avani G Jani

Research Scholar, Department of Commerce and Business Administration, Saurashtra University, Rajkot, Gujrat, India

Abstract

Pharmaceutical industry has always been a significant sector for Indian economy as well as it also plays a crucial role in nation's healthcare system. But, since last three years, after the advent of COVID pandemic, Indian pharmaceutical sector has shown a remarkable progress, contributing significantly to the healthcare sector. The main objective of the present study is to analyze leverage and Earning per share of pharmaceutical sector of India. From which, top 3 pharma companies namely, Sun Pharma, Divis Labs and Dr. Reddy's Laboratories have been selected. The study period is from 2018-19 to 2021-22. Accounting tools like operating leverage, financial leverage and combined leverage have been used. In statistical tools, for testing of hypotheses, ANOVA test and correlation analysis have been applied.

Keywords: Pharmaceutical, leverage, earning per share

Introduction

Overview of leverage and EPS

The pharmaceutical industry is very vast and complex sector that plays a critical role in healthcare by researching, developing, producing and marketing drugs and medications. Its primary focus is on the developing of new pharmaceutical products to prevent, treat and cure various diseases and medical conditions.

The Indian pharmaceutical industry is one of the largest and most significant sectors in the country. It has evolved over the years to become a global player in the production and export of pharmaceutical products. The Indian pharmaceutical market is vast and ranks among the top in the world in terms of production and consumption of pharmaceuticals. The industry has experienced robust growth in recent years, driven by factors like increasing healthcare needs, rising incomes, and a growing elderly population. India is renowned for its prowess in the production of generic drugs. The India pharmaceutical industry is heavily export-oriented. It exports generic drugs and active pharmaceutical ingredients to various countries. Several Indian pharmaceutical companies are engaged in R&D and have collaborated with international pharmaceutical companies for drug development. During, COVID-19 drugs, vaccines, and medical supplies both domestically and globally. The Indian pharmaceutical industry's growth and success have positioned the country as a significant player in the global pharmaceutical landscape.

Leverage, in the context of finance, refers to the use of borrowed funds or debt to finance investments or business operations with the expectation that the returns generated from those investments will exceed the cost of borrowing. It involves using other people's money to amplify potential gains, but it also increases the potential risk. Degree of operating leverage measures how sensitive a company's operating income is to changes in sales revenue. The degree of financial leverage measures how sensitive a company's

earnings per share (EPS) is to changes in operating income. Combined leverage is total effect of both operating leverage and financial leverage on company's earnings per share (EPS).

Earnings per share (EPS) is a financial metric that represents the portion of a company's profit allocated to each outstanding share of its common stock. It is a key indicator used by investors, analysts, and shareholders to evaluate a company's profitability on a per share basis. EPS is calculated by dividing a company's net income after taxes by average number of outstanding shares during a specific period. EPS is reported in the company's financial statements and is typically expressed in currency units (i.e. dollars, euros, rupees, etc.) per share. It is a crucial metric for investors as it helps them assess the company's profitability and compare it with other companies in the same sector.

There are different variations in EPS, including basic EPS and diluted EPS. Basic EPS considers only the number of common shares outstanding, while diluted EPS takes into account the potential dilution that could occur from other securities, such as stock options or convertible bonds, that could be converted in common shares.

Review of literature

Has published an article. The main agenda for the study was to discuss the relationship of financial, operating and combined leverage with return on investment. Ratio analysis and correlation have been applied. The study has been carried out for years 2010 to 2014.

have published a article. This present study has main objective which is to establish a relationship between financial leverage and profitability in cement sector in Pakistan. For this, 18 cement firms have been selected for the period of 2005 to 2010. Researcher have analysed their data at 99% confidence level.

Have presented this article in journal. This study tries to examine the effects of corporate leverage on profitability of pharmaceutical industry in India. Researcher has taken 37

NSE listed pharma companies as a sample. And study period is 2004-2014. Statistical tools like correlation and regression analysis have been used.

Have written an article, In this article, the researchers have attempted to discover the financial leverage of Indian automobile industry. Time period for the study was from 2008 to 2017. Researchers have applied correlation and multiple regression models. Results declares that return on investments, size of firm, liquidity, asset structure, etc governs financial leverage in Indian automobile industry.

Has presented this article. The aim of the study has been to analyse the EPS and leverage. Most appropriate parametric test that is ANOVA is employed. 5 petroleum companies has been selected and time period for the study was from 2015 to 2019. The null hypothesis is accepted in all the companies.

Has written an article and published it in Research Gate. The aim of this study was to know the impact of leverage on financial performance of selected 10 chemical companies of India. Descriptive statistics, correlation and multiple regression analysis have been used for data analysis.

Objectives

- To analyse the leverage of selected pharmaceutical companies
- To analyse and evaluate EPS of selected pharmaceutical companies
- To examine whether there is any relationship exist between leverage and EPS in selected companies

Hypotheses

- **H₀:** Leverage of selected pharmaceutical companies does not significantly differ.
- **H₀:** EPS of selected pharmaceutical companies does not significantly differ.
- **H₀:** Leverage and EPS of selected pharmaceutical companies do not have significant relationship.

Research methodology

Universe

All the pharmaceutical companies of India are the universe for the study.

Population

The pharmaceutical companies listed on BSE as on 16th July, 2023 has been the population for the study.

Sampling design

The researcher have selected top 3 pharmaceutical companies from the population on the basis of market capitalization as on 16th July, 2023. These samples have been collected with the help of judgemental sampling technique.

Sampling units

Table 1

1	Sun Pharma
2	Divis Labs
3	Dr. Reddy’s Labs

(www.moneycontrol.com)

Period of the study

The study period for the present study is from 2018-19 to 2021-22.

Data collection

The study is completely based on secondary data. The relevant data has been collected from annual reports of selected companies as well as from related websites.

Tools and techniques

Researcher has used operating leverage, financial leverage and combined leverage as accounting tools. ANOVA and correlation have applied for further statistical analysis.

Data analysis

Operating leverage

Table 2

Year/Company	Sun Pharma	Divis Labs	Dr Reddy’s Labs
2019	4.97	1.92	10.54
2020	3.15	0.11	6.06
2021	5.57	1.57	0.8
2022	0.22	1.31	3.5
Min	0.22	0.11	0.8
Max	4.97	1.92	10.54
Avg	3.47	1.23	5.23

(Computed from annual reports)

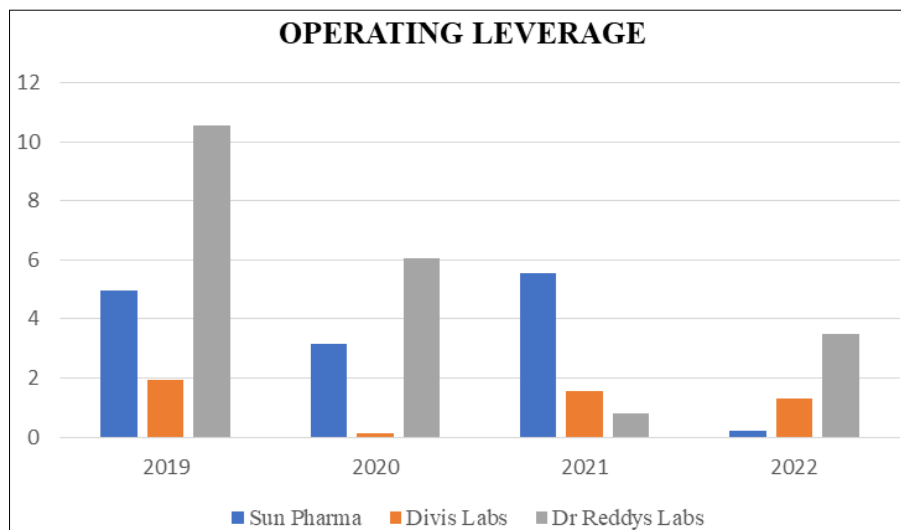


Fig 1

- **H₀:** Operating leverage of selected pharmaceutical companies does not significantly differ.

Table 3: ANOVA: single factor

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	32.12835	2	16.064175	2.04	0.18	4.25
Within Groups	70.67985	9	7.853316667			
Total	102.8082	11				

As the ANOVA table suggests, the p-value is greater than the significance level, 0.05, the null hypothesis is accepted and it can be said that there is no significant difference in

degree of operating leverage of selected pharma companies.

Financial leverage

Table 4

Year/Company	Sun Pharma	Divis Labs	Dr Reddy's Labs
2019	2.83	1.06	0.86
2020	4.31	2.75	2.06
2021	1.08	0.94	2.53
2022	20.37	1.27	0.95
Min	1.08	0.94	0.86
Max	20.37	2.75	2.53
Avg	7.15	1.50	1.6

(Computed from annual reports)

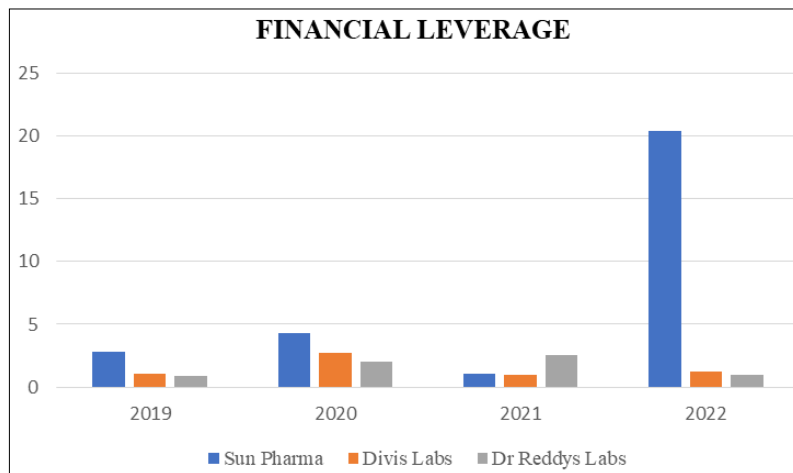


Fig 2

- **H₀:** Financial leverage of selected pharmaceutical companies does not significantly differ.

Table 5: ANOVA: single factor

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	83.49545	2	41.747725	1.54	0.26	4.25
Within Groups	242.510375	9	26.9455972			
Total	326.005825	11				

From the above table it is very evident that, the p-value is more than the significance value 0.05 and so that the null hypothesis gets accepted, and can be said that there is no significant difference in financial leverage of selected

pharmaceutical companies. The difference is not so significant.

Combined leverage

Table 6

Year/Company	Sun Pharma	Divis Labs	Dr Reddy's Labs
2019	14.07	2.03	9.06
2020	13.58	0.3	12.48
2021	6.02	1.48	2.02
2022	4.48	1.66	3.32
Min	4.48	0.3	2.02
Max	14.07	2.03	12.48
Avg	9.54	1.37	6.72

(Computed from annual reports)

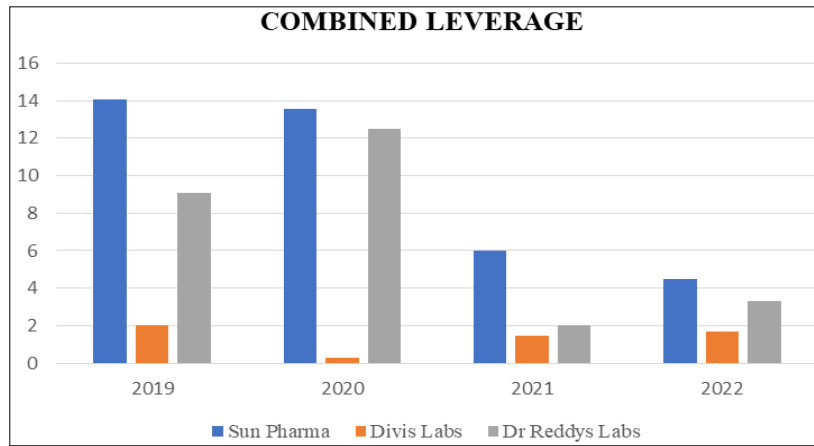


Fig 3

- **H₀:** Combined leverage of selected pharmaceutical companies does not significantly differ.

Table 7: ANOVA: single factor

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	137.78195	2	68.890975	4.16	0.05	4.25
Within Groups	148.81635	9	16.53515			
Total	286.5983	11				

As the above table suggests, p-value and significance value are equal and also critical value is greater than calculated value. So the null hypothesis is accepted and it can be said that there is no significant difference in financial leverage of selected pharmaceutical companies.

Earnings per share

Table 8

Year/Company	Sun Pharma	Divis Labs	Dr Reddy's Labs
2019	3.4	50.2	76.98
2020	13.4	51.71	177.23
2021	8.92	73.63	131.84
2022	-0.4	111.07	97.85
Min	-0.4	51.71	76.98
Max	13.4	111.07	177.23
Avg	6.33	71.65	120.97

(www.moneycontrol.com)

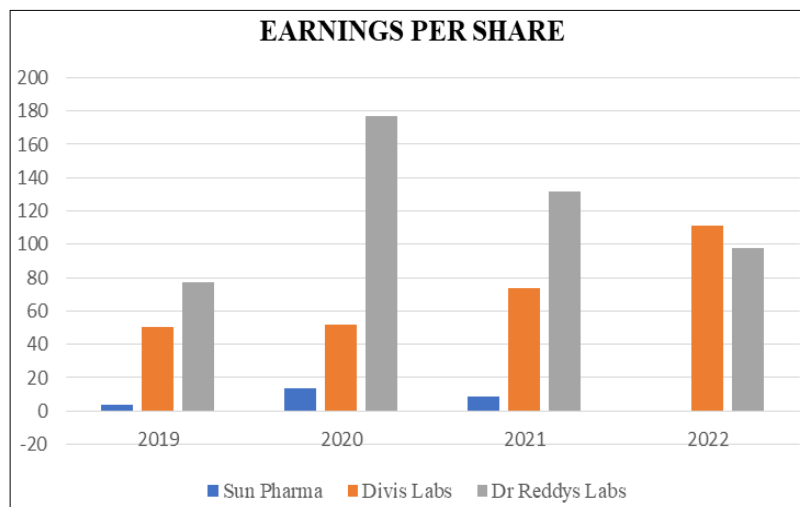


Fig 4

- **H₀:** EPS of selected pharmaceutical companies does not significantly differ.

Table 9: ANOVA: single factor

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	26457.619	2	13228.809	14.38	0.001	4.25
Within Groups	8279.1326	9	919.90362			
Total	34736.751	11				

The table suggests that the p-value is less than significance value 0.05 that is why the researcher has failed to accept the null hypothesis and can be said that there is a significant difference in EPS of selected companies and that difference is not because of chance factor.

Correlation

Correlation of operating leverage with EPS

H₀: Operating leverage and EPS of selected pharmaceutical companies do not have significant relationship.

Table 10

Company	Correlation coefficient	Relationship
Sun pharma	0.47	Positive
Divis Labs	0.16	Positive
Dr Reddy's Labs	-0.36	Negative

Above table clearly indicates relationship between operating leverage as well as EPS. Absolutely, the null hypothesis is rejected here as there is moderately positive relationship in Sun pharma and weak negative relationship seen Dr

Reddy’s Labs respectively. In Divis Labs, it is very weak positive correlation exists between operating leverage and EPS.

Correlation of financial leverage with EPS

H₀: Financial leverage and EPS of selected pharmaceutical companies do not have significant relationship.

Table 11

Company	Correlation coefficient	Relationship
Sun pharma	-0.69	Negative
Divis Labs	-0.35	Negative
Dr Reddy’s Labs	0.77	Positive

The table indicates that there is weak negative relationship exists between financial leverage and EPS in Divis Labs. In Dr Reddy’s Labs, there is strong positive correlation is seen between financial leverage and EPS.

Correlation of combined leverage with EPS

H₀: Combined leverage and EPS of selected pharmaceutical companies do not have significant relationship.

Table 12

Company	Correlation coefficient	Relationship
Sun pharma	0.44	Positive
Divis Labs	0.29	Positive
Dr Reddy’s Labs	0.38	Positive

The above table shows relationship status of combined leverage and EPS. Here, in each selected company, there is positive correlation is evident. In Sun pharma, it is moderately positive, in Divis Labs, it is slightly (weak) positive correlation is seen. And in Divis Labs, it is weak correlation.

Limitations of the study

- Only 3 companies are taken here so study can not be generalised for the whole population on this basis.
- The study period is from 2019 to 2022, i.e. 4 years only. Which means the impacts of other years is not seen here in this study.
- Moreover the researcher has used related secondary data from websites and annual reports so study contains all the inherent limitations of secondary data.
- Also we can not deny the limitations of tools and techniques used over here by the researcher.

Conclusion

Leverage, nowadays, is a very useful tool for companies to enhance returns and wealth of shareholders. Basically, companies try to boost equity shareholder’s wealth by using leverage, especially, financial leverage. Here, the study of selected pharmaceutical companies has shown leverage position and EPS conditions for the study period of 4 years starting from 2018-19 to 2021-22. The overall analysis has shown that there does exists relationship between leverage and EPS either it is positive or negative. The study also revealed that, Divis Labs using less leverage as compared to the other two. But, it has shown growth in EPS year by year in comparison to the other two pharma companies. And in Divis Labs, there is seen very slight correlation between leverage and EPS. The researcher, after studying these three top pharma companies want to suggest investors that, they

should invest in Divis Labs as they are giving growing EPS every next year. In Sun Pharma, the EPS in getting negative which is not a good sign for invest in. the reason behind this is probably the massive use of leverage, which is not good situation as it does not give the benefit of trade on equity. Dr. Reddy’s Labs is definitely providing huge EPS every year but again it is very fluctuating. Overall, it can be said that in these selected companies, Divis Labs has utilised leverage very wisely throughout the years. So, investors should invest in Divis Labs, as it is using leverage very wisely and have EPS growing year by year.

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