



To cite this article: Dr. Sucharita Bhattacharyya (2025). IMPACT OF MERGER ON WEALTH OF INDIAN PHARMACEUTICAL INDUSTRY: A STUDY ON SUN PHARMACEUTICALS AND RANBAXY LABORATORIES, International Journal of Research in Commerce and Management Studies (IJRCMS) 7 (5): 581-587 Article No. 523 Sub Id 946

## IMPACT OF MERGER ON WEALTH OF INDIAN PHARMACEUTICAL INDUSTRY: A STUDY ON SUN PHARMACEUTICALS AND RANBAXY LABORATORIES

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DOI: <https://doi.org/10.38193/IJRCMS.2025.7541>

### ABSTRACT

Mergers have both positive and negative impacts on any industry. The wealth of Indian pharmaceutical industry may be triggered positively or negatively by any merger or acquisition. Innovation, research and development costs are very important in the pharmaceutical industry. In modern days, pharmaceutical companies are requiring a large amount of mergers and collaborations to survive. To compete with global competitiveness, to gain the benefit of economies of scale, expanded product portfolios through research and development companies are trying for merger. In this study Sun pharmaceutical and Ranbaxy merger is studied I terms of networth in pre and post- merger situation. Study shows significant impact of merger in networth of the companies.

**KEYWORDS:** Indian pharmaceutical industry, merger, networth, Ordinary least squares, Sun pharmaceutical.

### INTRODUCTION

The Pharmaceutical Industry (PI) is solely responsible for providing health security and protect public health. Healthcare industry is the backbone behind the healthy survival of human beings which is the most important indicator of the development as well as the most essential factor for development. Currently, the Indian Pharmaceutical Industry is the World's third largest pharmaceutical industry in terms of volume<sup>1</sup>. When we measure this in terms of value Indian Pharmaceutical Industry is slightly lagging behind and be the World's fourteenth largest pharmaceutical industry<sup>2</sup>. This is a very highly fragmented industry. There are more than 10000 companies operating specially in the area of generic formulation<sup>3</sup> over organised as well as unorganised segment in our country. Most of these companies belong to unorganised sector are small and medium in size and they contributed almost 35 percent of

<sup>1</sup> <https://ibef.org/industry/pharmaceutical-india>

<sup>2</sup> <https://ibef.org/industry/pharmaceutical-india>

<sup>3</sup> OPPI Annual Report 2017-18

the industry's turnover. But half of the total industry turnover has been contributed by a few large companies<sup>45</sup>. Moreover, the industry has over 20000 manufacturers<sup>6</sup>. Presence of Central Public Sector Enterprises is also witnessed by the industry. They are total 5 in numbers and they are producing bulk drug as well as products which are ready for consumption. All pharmaceutical players want to grow bigger, have better products with innovations, and increase market share. To survive the payers try to acquire smaller companies, or enter into joint venture with others, to gain control of their patent rights, technology, products, research and development (R&D) facilities, manufacturing facilities, and sometimes their marketing/distribution channels. The FDI policy has changed time to time as per the need of the nation. Earlier for making the native market growth by stopping the MNCs, the FDI inflow in the industry was highly restricted. But currently to encourage foreign investors in investing Indian pharma market FDI ceiling has been extended to 100 percent in pharma. For brownfield projects (existing assets), FDI up to 74% is permitted through the automatic route, while investments above 74% require government approval. This brings investment and facilitates players for reconstruction. Some important mergers are Sun Pharma and Ranbaxy, Daiichi Sankyo and Ranbaxy, Abbott and Piramal Healthcare, Mylan and Matrix Laboratories, Fresenius Kabi and Dabur Pharma, Sanofi Pasteur and Shantha Biotechnics, Cipla and two US-based companies, Torrent Pharma and Elder Pharma. Sun Pharma has spread its wings internationally too. The first movement was the acquisition of U.S.A. based pharmaceutical Caraco Pharmaceutical Laboratories. The company has strengthened itself through many acquisitions, takeovers and collaborations with different pharma companies in and outside India which includes many United States based companies too. Among those, the most interesting one is the acquisition of Ranbaxy which has made sun pharmaceutical the world's fifth largest speciality generic pharma company in 2014.

#### **LITERATURE REVIEW:**

*Henry G. Grabowski, John M. Vernon and Lacy Glenn Thomas (1978)* in their paper on Estimating the Effects of Regulation on Innovation: An International Comparative Analysis of the Pharmaceutical Industry used zero-one-time dummy variable representing the effect of regulation on R & D productivity.

*Coontz (2004)*, in their Research papers, after the merger and acquisition, the companies are unable to perform properly on their various studied parameters. According to their study, the results of mergers and acquisitions have been different in different industries. The performance of different companies depends on the industry they belong to.

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<sup>4</sup> Top 25-30 companies in terms of revenue

<sup>5</sup> OPPI Annual Report 2017-18

<sup>6</sup> KPMG report, June 2017

*Abhinna Srivastava* (2016) in his study, predicts that the merger had many negative impacts on merged company.

*Bhattacharya & Roy* (2020), in their study has compared various financial ratios in pre-merger and post-merger situations, and showed that the merger did not improve the company in any way. The merger did not create any value for shareholders.

*Pavithra P KI, Dr. Manoj Kumara N V* (2018) in their study shows that there is a significant impact of merger in post-merger financial activity of Sun Pharmaceutical.

### **Objective of the Study**

This paper has a broad objective to find out the impact of merger on wealth of Indian Pharmaceutical Industry. The precise objectives of this study are:

To study the impact of merger on net worth of Indian Pharmaceutical Industry.

### **RESEARCH DESIGN**

This paper is to study about the effect of merger on Indian Pharmaceutical Industry's wealth. The biggest merger in the Indian pharmaceutical sector is the merger of Sun Pharmaceuticals and Ranbaxy. The merger was announced in 2014 and in 2015; Sun Pharmaceuticals acquired 100 percent of Ranbaxy. The value of this merger was 4 billion US dollars. That's why we used this merger to represent the Indian Pharmaceutical Industry merger as a case study to do our objective analysis. During the study both explanatory and empirical approaches are considered. Based on available literature the first part is structured and for the second section some statistical tools are used.

The study is purely based on secondary data. Only overall industry data are considered for depicting study results. All data are mainly collected from moneycontrol.com.

In this paper suitable accounting and statistical tools have been used for analysis and interpretation. Here a trend analysis in general and period wise growth is assessed. To show growth graphical representations are executed. Not only that multiple regressions are used to predict the study.

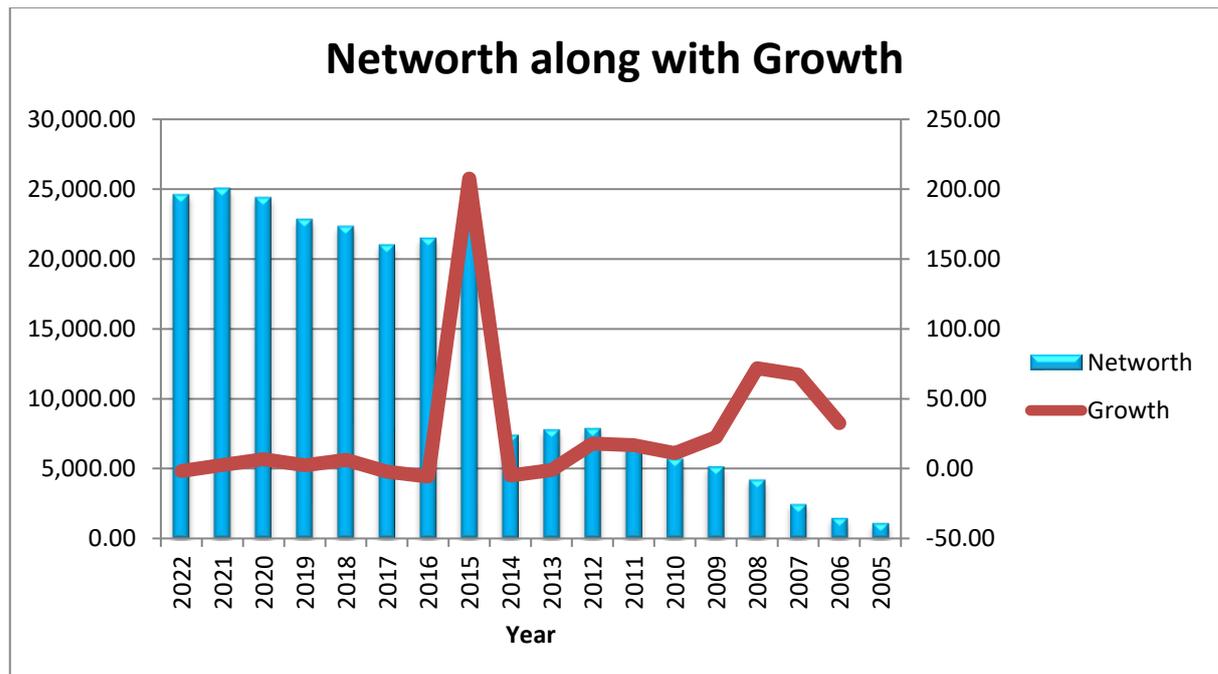
### **ANALYSIS AND INTERPRETATION**

#### **Impact of Merger on Networth of merging companies**

Here a trend analysis in general and period wise growth is assessed to find out net worth movement with merger. Here for the pre-merger period i.e. 2005-2014 we have combined the networth of sun pharmaceuticals and Ranbaxy laboratories. For post-merger period we have taken sun pharmaceuticals networth. Not only that using the Interrupted Time Series study two hypotheses are tested for which

level of significance considered up to 10%.

Indian pharmaceutical export for the study period with growth is shown through chart 1.



Source: Author's representation

From the above chart it is clear that networth of Sun pharmaceuticals has an increasing trend throughout the study period. But it has a dramatic increase just after the merger. Growth percentage is volatile in pre-merger situation may be because of drastic up down in Ranbaxy Laboratories unstable network. There is a huge pick just after the merger. And post-merger it is showing stable growth throughout the study period.

### Hypothesis Testing

Following hypotheses are built to analyse Impact of merger on networth of studied companies.

1<sup>st</sup> assumption:  $H_N$  = There is no significant short-term impact of merger on networth of studied companies, whereas

$H_A$  = There is a significant short-term impact of merger on networth of studied companies

1<sup>st</sup> assumption  $H_N$  = There is no significant long-term impact of merger on networth of studied companies, whereas

$H_A$  = There is a significant long-term impact of merger on network of studied companies

To find out the impact of merger on network of studied companies a dummy variable is prepared and used for the period starting from 2005-2022. Dummy variable is introduced to segregate the available export observations into two consecutive periods, i.e. pre intervention period and post intervention period. Here network is treated as dependent variable and time, dummy [X2] & post intervention variables as independent variable. Here Ordinary least squares (OLS) multiple regression method is followed to assess the impact of independent variables on the dependent variable. Following is the general regression model which is used to represent the interrupted time series design.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + E \text{ (for 1<sup>st</sup> assumption)}$$

Here Y represents the dependent variable i.e. network measured annually. X1 is a time indicating independent variable. It is continuous time parameter measuring time yearly starting from the commencement of observation period. It coded values as 1 for the 1<sup>st</sup> year, 2 for the 2<sup>nd</sup> year and so on up to the final observation period. X2 are the dummy predictor variable which is independent in nature. Here all the observations are coded in terms of 0 and 1. The observations for time before intervention (i.e. merger) are coded as 0 and after intervention (i.e. merger) are coded as 1. X3 are also a time indicating independent variable. It also continuously measures time yearly basis after intervention (i.e. merger) year. The pre intervention (i.e. merger) observations are coded as 0 and post intervention (i.e. merger) observations are coded as 1, 2, 3 and so on up to the final observation period. The error of the model i.e. residuals unexplained by model is represented by E.

Here  $\alpha$  represents the single constant of the model along with three coefficients  $\beta_1, \beta_2, \beta_3$ . A the constant part of the equation estimates the intercept at time zero.  $B_1$  estimates the annual changes in network before merger took place.  $B_2$  shows the immediate or short term effect of merger.  $B_3$  shows the long term effect of merger on network of the merged company on post intervention (i.e. merger) period.

**Model Summary**

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>
1	0.985	0.970	0.963

Note. Models estimated using sample size of N=18

Source: Author's Calculation on jamovi software

It has been observed from the model summary that R-square (adjusted) valued at 96.3%. From the result it is evident that whatever may be the changes in networth of the studied merging companies throughout the observation period considered in the study is responsible up to 96.3% on time and intervention variables. This implies that some other micro and macro-economic factors near about 3.7% (not that much significant) are there to affect the networth. The above summary reveals that 96.3% of the variations are explained through this model.

**Model Coefficients**

Predictor	Estimate	SE	t	p
Intercept	1573	1003	1.57	0.139
TIME	1522	162	9.41	<.001
POST Intervention(i.e. merger)	-1033	278	-3.71	0.002
DUMMY	4068	1433	2.84	0.013

Source: Author's Calculation on jamovi software

t- value of the time i.e. 9.41, is very high which implies a very strong relationship between the dependent and predictor variable and that too predict small p value which is <.001 in this case. So time is insignificant at 1 percent level of significance and the t- value of dummy variable  $X_2$  i.e. for immediate impact or short term effect of merger is -3.71 which is quite high to prove its significance and with p value 0.002 dummy is significant at 1 percent level of significance. Post-Intervention variable  $X_3$  i.e. for impact of merger in long run the t- value is 2.84 which is more than the standard t value of being the variable significant. It indicates lower p value; in this case it is 0.013 which is significant at 1 percent level of significance.

Therefore, Null Hypothesis of the study ( $H_N$ ) is rejected and alternative hypothesis are accepted. Therefore, it can be said that there is a significant impact of merger on net worth of merged company in short term as well as in long term basis

**CONCLUSION:**

Mergers have both positive and negative impacts on any industry. The wealth of Indian pharmaceutical industry may be triggered by positively or negatively by any merger or acquisition. Sun Pharmaceutical has a long and strong record of mergers and acquisitions. The company first merged in 1983 and since then has completed nearly twenty acquisitions, both large and small. Sun Pharmaceutical's acquisition of Ranbaxy increased its net worth several times in one fell swoop. It has been experiencing stable growth even after the acquisition. From the statistical results we obtained,

it is clear that this merger has had both short-term and long-term effects on Sun Pharmaceutical's net worth. Acquisition of Ranbaxy has made sun pharmaceutical the world's fifth largest specialty generic pharma company in 2014.

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