

# Risk – Return Evaluation of selected Pharma Stocks trading in NSE

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## Abstract

The main objective of this paper is to find the performance of selected equity stocks of Pharma industry on a long term basis. This paper includes different tools for evaluating the performance of the selected Pharma stocks. Some of the tools like standard deviation, Beta and Average returns are mainly used to calculate the risk and return of selected Pharma stocks in this study. The Pharma Sector occupies a position of importance in the Indian Economy. Stock markets play a predominant role in the up-liftment of the Indian Economy financially. Stock markets plays crucial role in the economic development of an investor. Indian financial markets also play a crucial role for the economic well being of the nation. Since secondary market is a part of financial market, it has major percent of share of contribution in the development of Indian Economy. In the present paper we are trying to evaluate the long term performance of Pharma industry with the help of evaluation of selected Pharma stocks. This evaluation is done on the basis of some statistical tools. The time period for evaluation is 5 years.

**Keywords:** Pharma industry, equity stocks, Beta, Indian Economy, stock markets, Indian financial markets, statistical tools.

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## 1. INTRODUCTION

Stock markets play a predominant role in the up-liftment of the Indian Economy financially. Both capital market and money markets are giving fruitful results to the investors as well as institutions. They play crucial role in the economic development of an investor. Indian financial markets also play a crucial role for the economic well being of the nation. Since secondary market is a part of financial market, it has major percent of share of contribution in the development of Indian Economy. <sup>[1]</sup>

Many of the investors choose to invest in capital markets because of its liquidity and credibility. Even illiterates gain much out of the stock markets both returns wise as well as knowledge and experience wise. There are several institution which are giving good recommendations on stocks based on technical and fundamental analysis. People use these sources well and get abundant knowledge and expertise in investing their money wisely. Not only individual investors, but also institutional investors are getting good returns in investing their idle funds of organization. The main intention behind investing in these areas are to get liquid returns with in short period of time. <sup>[2]</sup>

The Pharma industry has become one of the most robust industries in the world. Pharma, more than any other industry or economic facet, has an increased productivity, particularly in the developed world, and therefore is a key driver of global economic growth. Economies of scale and insatiable demand from both consumers and enterprises characterize this rapidly

growing sector. Information technology, and the hardware and software associated with the Pharma industry, are an integral part of nearly every major global industry. Owing to its easy accessibility and the wide range of Pharma products available, the demand for Pharma services has increased substantially over the years. The Pharma sector has emerged as a major global source of both growth and employment. <sup>[3]</sup>

## 2. OBJECTIVES OF THE STUDY

- To examine return of selected equity stocks of Pharma industry by calculating the average return.
- To examine risk of selected equity stocks of Pharma industry with the help of calculating Beta value for the stocks.
- To compare the performance of selected stocks with benchmarks. <sup>[4]</sup>

## 3. Methodology:

### Data:

The data used in this study is purely secondary data which is collected from several websites like NSE India. com, money control.com, yahoofinance.com etc. <sup>[5]</sup>

### Time period:

The time period of 5 years data is collected in order to get effective results. The following are the five companies used for evaluation of results. <sup>[6]</sup>

**Analysis and interpretation:**

- Data collected is thus analyzed and interpreted with the help of statistical and technical tools. [7]

- The opening price of the stock is taken on the first day of trading in January month of that year and closing price is taken as the last trading day of the December month.

**Table No. 1: Table showing the list of companies**

SL.NO	COMPANY NAME
1	CIPLA
2	LUPIN
3	BIOCON
4	CADILA HEALTH CARE
5	AURO BINDO PHARMA

**TABLE NO:2 CALCULATIONS OF RETURNS OF CIPLA**

Year	Opening price (Rs) as on Jan 1st week	Closing price (Rs) as on Dec last week
2016	431.00	543.20
2017	561.05	628.85
2018	633.20	564.25
2019	562.15	515.70
2020	507.10	281.15

$$\text{Return} = \frac{(\text{Closing price} - \text{Beginning Price}) * 100}{\text{Beginning Price}}$$

$$\text{Return (2013-2014)} = \frac{(543.20 - 431.00) * 100}{431.00} = 26.03\%$$

$$\text{Return (2014-2015)} = \frac{(628.85 - 561.05) * 100}{561.05} = 12.08\%$$

$$\text{Return (2015-2016)} = \frac{(564.25 - 633.20) * 100}{633.20} = -10.88\%$$

$$\text{Return (2016-2017)} = \frac{(515.70 - 562.15) * 100}{562.15} = -8.26\%$$

$$\text{Return (2017-2018)} = \frac{(281.15 - 507.10) * 100}{507.10} = -44.53\%$$

**CALCULATION OF AVERAGE RATE OF RETURN:**

$$\bar{R} = (\Sigma R) / n$$

$$= (-25.58) / 5$$

$$= -5.116$$

**Table No. 3: CALCULATION OF BETA:**

Year	Market Returns (x)	Returns (y)	x <sup>2</sup>	Xy
2016	17.52	26.03	306.95	456.04
2017	26.33	12.08	693.26	318.06
2018	-9.87	-10.88	97.41	107.38
2019	18.93	-8.26	358.34	-156.36
2020	9.48	-44.53	89.87	-422.14
	$\Sigma x = 62.39$	$\Sigma y = -25.58$	$\Sigma x^2 = 1545.83$	$\Sigma xy = 302.98$

$$\text{Beta } (\beta) = (n \sum xy - \sum x \sum y) / (n \sum x^2 - (\sum x)^2)$$

$$= (5(894.74) - (62.39 * 50.49)) / (5(1545.83) - (62.39)^2)$$

$$= 1323.62 / 3836.9$$

$$\beta = 0.34$$

Table no.6 : CALCULATION OF RETURNS OF BIOCON

Year	Opening Price) as on Jan 1st	Closing Price as on Dec 31st
2016	2944.20	3282.80
2017	3313.95	2218.35
2018	2173.95	1218.30
2019	1205.45	1022.50
2020	1008.80	1131.80

$$\text{Return} = ((\text{closing price} - \text{opening price}) / (\text{opening price})) \times 100$$

$$\text{Return (2016)} = \frac{(3282.80 - 2944.20) * 100}{2944.20} = 11.50\%$$

$$\text{Return (2017)} = \frac{(2218.35 - 3313.95) * 100}{3313.95} = -33.06\%$$

$$\text{Return (2018)} = \frac{(1218.30 - 2173.45) * 100}{2173.45} = -43.95\%$$

$$\text{Return (2019)} = \frac{(1022.50 - 1205.45) * 100}{1205.45} = -15.17\%$$

$$\text{Return (2020)} = \frac{(1131.80 - 1008.80) * 100}{1008.80} = 12.19\%$$

## CALCULATION OF AVERAGE RATE OF RETURN:

$$\bar{R} = \Sigma R / n$$

$$= (-68.49) / 5$$

$$= -13.69$$

Table no.7: CALCULATION OF BETA:

Year	Market Returns X	Return Y	X <sup>2</sup>	XY
2016	17.52	11.50	306.95	201.48
2017	26.33	-33.06	693.26	-870.46
2018	-9.87	-43.95	97.41	433.78
2019	18.93	-15.17	358.54	-287.16
2020	9.48	12.19	89.87	115.56
	$\Sigma x = 62.39$	$\Sigma y = -68.49$	$\Sigma x^2 = 1545.83$	$\Sigma xy = -406.8$

$$\text{Beta } (\beta) = \frac{(n \sum xy - \sum x \sum y)}{(n \sum x^2 - (\sum x)^2)}$$

$$= (-68.49) / 26.59$$

$$= -2.57$$

**Table no.8 CALCULATION OF RETURNS OF CADILA HEALTH CARE**

Year	Opening Price as on Jan 1st	Closing Price as on Dec 31st
2016	1067.00	1795.35
2017	1819.55	629.70
2018	632.70	474.95
2019	463.10	459.15
2020	453.10	638.70

Return = ((closing price - opening price) / (opening price)) × 100

$$\text{Return (2016)} = \frac{(1795.35 - 1067.00) * 100}{1067.00} = -68.26\%$$

$$\text{Return (2017)} = \frac{(629.70 - 1819.55) * 100}{1819.55} = -24.93\%$$

$$\text{Return (2018)} = \frac{(474.95 - 632.70) * 100}{632.70} = 40.96\%$$

$$\text{Return (2019)} = \frac{(459.15 - 463.10) * 100}{463.10} = -65.39\%$$

$$\text{Return (2020)} = \frac{(638.70 - 453.10) * 100}{453.10} = -0.85\%$$

**CALCULATION OF AVERAGE RATE OF RETURN:**

Average rate of return =

$$R = \frac{\sum R}{n}$$

$$= \frac{18.05}{5}$$

$$= 3.61$$

**Table no. 9: CALCULATION OF BETA:**

Year	Market Returns X	Return Y	X <sup>2</sup>	XY
2016	17.52	68.26	306.95	1195.91
2017	26.33	-65.39	693.26	-1721.71
2018	-9.87	-24.93	97.41	246.05
2019	18.93	-0.85	358.34	-16.09
2020	9.48	40.96	89.87	388.30
	$\sum x = 62.39$	$\sum y = 18.05$	$\sum x^2 = 1545.83$	$\sum xy = 92.46$

Beta ( $\beta$ ) =  $\frac{(n \sum xy - \sum x \sum y)}{(n \sum x^2 - (\sum x)^2)}$

$$= \frac{5(92.46) - (62.39)(18.05)}{5(1545.83) - (62.39)^2}$$

$$= \frac{-663.83}{3851.63}$$

$$= -0.17$$

**Table no.10 : CALCULATION OF RETURNS OF AURO BINDO**

Year	Opening Price as on Jan 1st	Closing Price(Rs) as on Dec 31st
2016	1556.85	2133.15
2017	2176.70	2553.95
2018	2453.90	2520.30
2019	2411.70	2431.80
2020	2909.65	2849.15

Return = ((closing price-opening price))/(opening price) × 100

$$\text{Return (2016)} = \frac{(2133.15-1556.85)*100}{1556.85} = 37.01\%$$

$$\text{Return (2017)} = \frac{(2553.95-2176.70)*100}{2176.70} = 17.33\%$$

$$\text{Return (2018)} = \frac{(2520.30-2453.90)*100}{2453.09} = -2.70\%$$

$$\text{Return (2019)} = \frac{(2431.80-2431.80)*100}{2431.80} = 0.83\%$$

$$\text{Return (2020)} = \frac{(2849.15-2909.65)*100}{2909.65} = -2.07\%$$

#### CALCULATION OF AVERAGE RATE OF RETURNS:

$$\bar{R} = \frac{\sum R}{n} = \frac{55.80}{5} = 11.16$$

**Table no.11:CALCULATION OF BETA:**

Year	Market Returns X	Returns Y	X <sup>2</sup>	XY
2016	17.52	37.01	306.95	648.41
2017	26.33	17.33	693.26	456.29
2018	-9.87	2.70	97.41	-26.64
2019	18.93	0.83	358.34	15.71
2020	9.48	-2.07	89.87	-19.62
	$\sum x=62.39$	$\sum y=55.8$	$\sum x^2=1545.83$	$\sum xy=1074.15$

$$\text{Beta } (\beta) = \frac{(n \sum xy - \sum x \sum y)}{(n \sum x^2 - (\sum x)^2)}$$

$$= \frac{(5(1074.15) - (62.39)(55.8))}{(5(1545.83) - (62.39)^2)}$$

$$= 1889.38/3851.63$$

$$= -0.49$$

**Table no.12:**  
**TABLE SHOWING AVERAGE RETURNS OF 5 STOCKS FOR 5 YEARS**

COMPANY NAME	AVERAGE	RANK
CIPLA	-5.11%	5
LUPIN	10.09%	3
BIOCON	13.69%	1
CADILA HEALTH CARE	3.61%	4
AURO BINDO PHARMA	11.16%	2

**INTERPRETATION:**

BIOCON equity have higher average rate of return i.e(13.69)among all companies for 5 years followed by Aurobindo, Lupin, Cadilla and Cipla which gives negative returns. <sup>[8]</sup>

**Table no.13:**  
**TABLE SHOWING THE VALUE OF BETA FOR 5 YEARS**

S.NO	COMPANY NAME	BETA	Rank
1	CIPLA	0.81%	4
2	LUPIN	0.34%	2
3	BIOCON	1.64%	5
4	CADILA HEALTH CARE	-0.17%	1
5	AURO BINDO PHARMA	0.49 %	3

**INTERPRETATION:**

CADILA HEALTH CARE equities holds lowest risk of (-0.17)among all other companies which is less than the benchmark. Biocon holds high risk than remaining four companies i.e (1.64 )

**4.FINDINGS**

- By analyzing the performance of pharmaceutical sector companies CIPLA company gives negative returns and BIOCON gives high rate of returns for the last five years
- It is found that by analyzing the performance of pharmaceutical sector companies BIOCON gives high rate of returns and moderate risk.
- It is also found that CADILA HEALTH CARE Company gives low rate of returns and gives high rate of risk.

**5.SUGGESTIONS**

From this study it is suggest that the investors may invest their funds in the following companies to yield higher returns. there are

- BIOCON and AURO BINDO PHARMA companies gives high rate of returns and low rate of risk.
- Investors invest in LUPIN to get medium returns with low risk suitable for risk avedas
- CIPLA is very less returns it having higt risk and is also the performance is very low so that is the reason why I am not able to suggest CIPLA stock to the investor. <sup>[8]</sup>

**6.CONCLUSION**

As per the study is concerned, it is concluded that investing in stock markets is like gambling and one should be very cautious while investing in stocks. For better returns, it is recommended to do fundamental analysis before investing in a particular stock. As stock markets are volatile in nature, it is recommended to the investors to invest their money on long term basis and not to go for short term. Definitely, one can gain some returns in long term. Based on this study, it is evident that all the five stocks have give moderate to good returns when

compared to other type of traditional investments like bank deposits, post office savings etc. As this study is done only on 5 stocks of IT industry, we may not come to a conclusion that IT industry is performing well. There are other industries which are performing better than IT industry. Hence investors are recommended to do fundamental analysis which covers the analysis of Economy, Industry and company.

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