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The Effect of Risk Return Analysis of Pharmaceutical Companies on Indian Stock Market

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ABSTRACT

Each individual endeavors to stop his/her well deserved funds in different venture roads relying on his/her targets. Among the different venture options, securities exchange is viewed as a standout amongst the most compensating roads of speculation. At the point when the normal return is high, the hazard related with such return is additionally high. So before putting resources into value advertise one should come to realize the hazard return attributes of those stocks and those ventures in which he/she plans to contribute. In this viewpoint, an examination has been embraced to break down the hazard return relationship of chose organizations in pharmaceutical industry of Indian securities exchange. The pharmaceutical business of India positions third on the planet regarding volume and fourteenth as far as esteem. The business is said to be the ideal part for parcel of speculators. The financial specialists must know about the hazard and return associated with the speculation. This investigation encourages the potential financial specialists to settle on educated and reasonable venture choice. The example time of this examination is five years from 2013 to 2018. The investigation has endeavored to discover the hazard return attributes of chosen 10 pharmaceutical organizations in Indian securities exchange. The information has been gathered and examined utilizing MS exceed expectations. The examination inferred that from the chose pharmaceutical organizations Sun Pharmaceutical Industries Ltd gives exceptional yield yet the market danger of the offers is much high. So the value offers of Divi's Laboratories Ltd are increasingly great to potential speculators since it gives exceptional yield and the hazard related with those offers less.

Keywords**--** Risk, Return, Alpha, Beta

I. INTRODUCTION

Contributing is the way toward stopping of store with a point of accomplishing extra salary or development in esteem. It includes giving of assets which have been spared by the people in to beneficial purposes or set far from current utilization with the expectation that a few advantages will gain in future. All people endeavor to utilize their well-deserved funds in different venture choices relying on their choice. Securities exchange is viewed as most compensating venture road among different speculation choices. The hazard related with the high expected return will be likewise high. So before contributing one should come to think about hazard and return attributes of those stocks and those ventures in which he/she expects to contribute. In this point of view an investigation has been directed to break down the hazard return relationship of chose organizations in pharmaceutical industry of Indian securities exchange.

The pharmaceutical business of India positions third on the planet as far as volume and fourteenth as far as esteem. The business is said to be the ideal segment for part of financial specialists. The speculators as far as esteem. The business is said to be the ideal part for parcel of financial specialists. The speculators venture. This examination causes the potential financial specialists to settle on educated and sane venture choice.

II. STATEMENT OF THE PROBLEM

Each security is basic with a hazard factor. This investigation is attempted to compute return and hazard related with various supplies of pharmaceutical industry recorded in Indian securities exchange (NSE). The hazard and return has a backwards relationship. At the point when the normal return is high, the hazard related with such return is additionally high. With the comprehension of hazard and return attributes one can settle on reasonable choice in regards to the interest in which organization one can contribute.

III. NEED FOR THE STUDY

The pharmaceutical business in India is said to be most wanted area for parcel of speculators. At the point when the normal return is high then the hazard related with such return is additionally high. So one who expects to put resources into such organizations should know about return and hazard engaged with the venture. Also, this examination has endeavored to break down the hazard return relationship of chose organizations in pharmaceutical industry of Indian securities exchange. The Researcher has checked on the current research work and distributed articles for finding the arrival chance qualities.

IV. REVIEW OF LITERATURE

A.K.Dubey (2014) made an attempt in analyzing time scale dependence of systematic risk of stocks for an emerging market economy. The result of the study showed that the betas were more or less instable in terms of different trading stocks at different investment horizons. The study was undertaken on the basis of the characteristics of the heterogeneous investors with different investment horizons. In this study, it was stressed that holding different stocks by trading classes varied due to the time horizon of investment and perception of the risk. The study emphasized the conditions of business are very fluid i.e. the rate of change takes place in the phase of organization as fast as possible.

Dr. K. V. Ramanathan and Dr. M. Muthu Gopalakrishnan (2013) examined the volatility in Indian stock market during the post and pre recession period. The study concluded that the share prices are always fluctuating due to various factors. The volatility is the biggest problem for trading in the stock market. Understanding the historical volatility is important for one who invests in the stock market. The study has made an attempt to examine volatility of sectoral indices listed in NSE.

Kirti Arekar and Rinku Jain (2011): compared the market performance during 2007-2010 with the major overseas markets. The study considered the market performance of different sectors i.e. Information Technology and Banking with respect to the market. Further they analyzed which sector is impacted most during the recession period. Finally, they interpreted that which sector performing good and bad at Global recession period and which sector has performed well after the recession.

K.V. Aruna Shanta (2010) examined the stability of beta during the time in different market phases from 2000 to 2009. The study estimated the beta for five sub periods of two years each and one bullish market phase with one more bearish market phase. The stability was tested with the help of time variable regression and dummy variable regression. The result showed that in most of the cases i.e. 80% of the scrips did support the null hypothesis leading to infer that stability of beta over time and market phases was not rejected by both of the econometric methods. From the study, it is understood there is less ground to conclude that beta values are not stable over the time and market phases in Sri Lankan Stock Market.

Sharma and Sharma (2009) examined whether fundamental analysis signals (traditional and growth) on growth stock differentiate the extreme performers. The study concluded that the traditional method signals firm's profitability, cash performance, operating efficiency and liquidity and growth signals related with the firm's earnings, growth, research and development, capital expenditure and advertising expenditure. Finally, the study concludes that fundamental analysis based on growth signals is very successful in differentiating firms.

Raj and Rakesh (2006) made an attempt to find out the relationship between risk and return. In the study the emphasis was given to the effect of diversification in mitigating the portfolio risk. The study analyzed the closing price of 100 scrips from BSE at the span of 10 years and the scrip returns were regressed with market return with the help of market index model and the result showed that there was a high and positive correlation between portfolio return and risk.

IV. OBJECTIVES OF THE STUDY

- ✓ To comprehend the idea of hazard and return of a security.
- ✓ To examine the hazard return qualities of chose organizations in pharmaceutical industry.
- ✓ To think about the hazard and return of chosen organizations.
- ✓ To offer substantial proposal and suggestion dependent on the discoveries of the examination.

V. RESEARCH METHODOLOGY

The investigation is of expressive in nature. It portrays about hazard and return of chosen supplies of pharmaceutical industry in Indian securities exchange. Indian security showcase moving to more up to date statures since from the most recent couple of years and the financial specialists likewise remunerating sensible salary, that a few times more than anticipated return yet the following day the cost would disintegrate down like a glass house this is the image of Indian securities exchange, implies advertise is exceedingly unstable is still in the hands of examiners and card sharks. In this circumstance average citizens will discover trouble in contributing their well-deserved funds. This investigation has been directed for discovering the arrival and hazard relationship of different chose pharmaceutical organizations in Indian securities exchange (NSE).

VI. PERIOD OF STUDY

This investigation has examined the value offers of chosen pharmaceutical organizations in Indian securities exchange for a time of 5 years, covering from 2012 to 2017. This period has been chosen since it will give a reasonable picture about the present situation of the value offers of Indian pharmaceutical industry.

VII. SELECTION OF SAMPLE

In the National Stock Exchange (NSE), there are 10 organizations are recorded in the NIFTY Pharma list as on (21-04-2018). So the 10 organizations have been chosen for this present investigation.

SELECTED COMPANIES

- ✓ Aurobindo Pharma Ltd.
- ✓ Cadila Healthcare Ltd.
- ✓ Cipla Ltd.
- ✓ Divi's Laboratories Ltd.
- ✓ Dr. Reddy's Laboratories Ltd.
- ✓ Glaxosmithkline Pharmaceuticals Ltd.
- ✓ Glenmark Pharmaceuticals Ltd.
- ✓ Lupin Ltd.
- ✓ Piramal Enterprises Ltd.
- ✓ Sun Pharmaceutical Industries Ltd.

SOURCES OF DATA

The data required for this study have been collected from various secondary sources like internet, journals and other publications. The stock prices and market index were collected from the National Stock Exchange official website (www.nseindia.com).

TOOLS FOR ANALYSIS

The data collected have been analyzed by using MS excel by applying the following tools

- ✓ Mean
- ✓ Standard Deviation
- ✓ Co-efficient of variance
- ✓ Correlation
- ✓ Coefficient
- ✓ Beta
- ✓ Alpha

VIII. LIMITATIONS OF THE STUDY

- ✓ This ponder depends on the information gathered from optional sources as it were.
- ✓ The ponder is restricted to pharmaceutical industry of Indian securities exchange.
- ✓ Risk can't be precisely estimated in light of the fact that the economic situation is continually fluctuating and indeterminate.
- ✓ The exactness of the investigation depends on the precision of the information in money markets.

IX. ANALYSIS AND INTERPRETATION

This section of the research paper discusses the analysis of data and interpretation in terms of mean return, standard deviation, variance, correlation coefficient, beta and alpha.

Table: 1

MEAN RETURN OF PHARMACEUTICAL COMPANIES

Sr no.	Name of the Company	Mean Return
1	Aurobindo Pharma Ltd.	-0.1894
2	Cadila Healthcare Ltd.	-0.0400
3	Cipla Ltd.	-0.0647
4	Divi's Laboratories Ltd.	-0.0167
5	Dr. Reddy's Laboratories Ltd.	-0.0464
6	Glaxosmithkline Pharmaceuticals Ltd	-0.0239
7	Glenmark Pharmaceuticals Ltd.	-0.1017
8	Lupin Ltd.	-0.0939
9	Piramal Enterprises Ltd.	-0.1347
10	Sun Pharmaceutical Industries Ltd.	-0.0455

Inference

From Table 1 it is clear that all the companies show a negative daily mean return in that the highest mean value is -0.0167 for Divi's Laboratories Ltd, lowest mean value is -0.1894 for Aurobindo Pharma Ltd during the year 1-4-2013 to 31-3-2018.

Table: 2

STANDARD DEVIATION OF PHARMACEUTICAL COMPANIES

Sr no.	Name of the Company	Standard Deviation
1	Aurobindo Pharma Ltd.	2.8474
2	Cadila Healthcare Ltd.	2.9842
3	Cipla Ltd.	1.5588
4	Divi's Laboratories Ltd.	2.3387
5	Dr. Reddy's Laboratories Ltd.	1.5983
6	Glaxosmithkline Pharmaceuticals Ltd	1.3456
7	Glenmark Pharmaceuticals Ltd.	1.9374
8	Lupin Ltd.	1.6769
9	Piramal Enterprises Ltd.	2.0864
10	Sun Pharmaceutical Industries Ltd.	2.2607

Inference

From Table 2 it is inferred that the standard deviation is high for Cadila Healthcare Ltd (2.9842), standard deviation is low for Glaxosmith kline Pharmaceuticals Ltd (1.3456) during the year 1-4-2013 to 31-3-2018. So it is found that the equity shares of Cadila Healthcare Ltd have high risk factor and the equity shares of Glaxosmith kline Pharmaceuticals Ltd possess lower risk factor.

Table: 3

VARIANCE OF PHARMACEUTICAL COMPANIES

Sr no.	Name of the Company	Variance
1	Aurobindo Pharma Ltd.	8.1077
2	Cadila Healthcare Ltd.	8.9058
3	Cipla Ltd.	2.4301
4	Divi's Laboratories Ltd.	5.4698
5	Dr. Reddy's Laboratories Ltd.	2.5547
6	Glaxosmithkline Pharmaceuticals Ltd	1.8107
7	Glenmark Pharmaceuticals Ltd.	3.7536
8	Lupin Ltd.	2.8122
9	Piramal Enterprises Ltd.	4.3531
10	Sun Pharmaceutical Industries Ltd.	5.1108

Inference

It has been observed from Table 3 that the highest variance is -0.0167 for Divi's Laboratories Ltd, lowest variance is -0.1894 for Aurobindo Pharma Ltd during the year 1-4-2013 to 31-3-2018.

Table: 4

COEFFICIENT OF VARIATION OF PHARMACEUTICAL COMPANIES

Sr no.	Name of the Company	Coefficient of Variation
1	Aurobindo Pharma Ltd.	-1503.5487
2	Cadila Healthcare Ltd.	-7464.9031
3	Cipla Ltd.	-2405.8004
4	Divi's Laboratories Ltd.	-13990.7956
5	Dr. Reddy's Laboratories Ltd.	-3440.5572
6	Glaxosmithkline Pharmaceuticals Ltd	-5623.7337
7	Glenmark Pharmaceuticals Ltd.	-1903.3957
8	Lupin Ltd.	-1785.5930
9	Piramal Enterprises Ltd.	-1548.4675
10	Sun Pharmaceutical Industries Ltd.	-4966.3249

Inference

Table 4 exhibits that all the pharmaceutical companies have a negative coefficient of variation among that the highest coefficient of variation is -1503.5487 for Aurobindo Pharma Ltd, coefficient of variation is -13990.7956 for Divi's Laboratories Ltd during the year 1-4-2013 to 31-3-2018.

Table: 5

CORRELATION COEFFICIENT OF PHARMACEUTICAL COMPANIES

Sr no.	Name of the Company	Correlation Coefficient
1	Aurobindo Pharma Ltd.	0.4167
2	Cadila Healthcare Ltd.	0.2485
3	Cipla Ltd.	0.6037
4	Divi's Laboratories Ltd.	0.3462
5	Dr. Reddy's Laboratories Ltd.	0.6198
6	Glaxosmithkline Pharmaceuticals Ltd	0.2187
7	Glenmark Pharmaceuticals Ltd.	0.4618
8	Lupin Ltd.	0.6285
9	Piramal Enterprises Ltd.	0.2906
10	Sun Pharmaceutical Industries Ltd.	0.6299

Inference

It is clearly understood from Table 5 that all the pharmaceutical companies are positively correlated. Among that the highest coefficient of correlation is 0.6299 for Sun Pharmaceutical Industries Ltd, lowest coefficient of correlation is 0.2187 for Glaxosmithkline Pharmaceuticals Ltd during the year 1-4-2013 to 31-3-2018. So it is found that the equity shares of Sun Pharmaceutical Industries Ltd are more risky than other pharmaceutical companies. And it is also identified that the equity shares of Glaxosmithkline Pharmaceuticals Ltd possess less risk factor.

Table: 6

BETA AND ALPHA OF PHARMACEUTICAL COMPANIES

Sr no.	Name of the Company	Beta	Alpha
1	Aurobindo Pharma Ltd.	1.0912	-0.1186
2	Cadila Healthcare Ltd.	0.6819	0.0042
3	Cipla Ltd.	0.8655	-0.0087

4	Divi's Laboratories Ltd.	0.7445	0.0315
5	Dr. Reddy's Laboratories Ltd.	0.9110	0.0125
6	Glaxosmithkline Pharmaceuticals Ltd	0.2706	-0.0063
7	Glenmark Pharmaceuticals Ltd.	0.8227	-0.0484
8	Lupin Ltd.	0.9693	-0.0311
9	Piramal Enterprises Ltd.	0.5576	-0.0986
10	Sun Pharmaceutical Industries Ltd.	1.3094	0.0393

Inference

It is identified from Table 6 that the highest beta is 1.3094 for Sun Pharmaceutical Industries Ltd, lowest beta is 0.2706 for Glaxosmithkline Pharmaceuticals Ltd. And the highest alpha is 0.0393 for Sun Pharmaceutical Industries Ltd, lowest alpha is -0.1186 for Aurobindo Pharma Ltd during the year 1-4-2013 to 31-3-2018. So it is found that the equity shares of Sun Pharmaceutical Industries Ltd possess high market risk and alpha value is 0.0393. It shows that those equity shares have a good return character.

X. FINDINGS OF THE STUDY

- ✓ During the examination time frame the mean return of all the chose pharmaceutical organizations demonstrates a negative figure among that the most noteworthy mean esteem is -0.0167 of Divi's Laboratories Ltd.
- ✓ The relationship between the day by day return of chosen pharmaceutical organizations with return of clever record among all most elevated coefficient of connection is 0.6299 for Sun Pharmaceutical Industries Ltd, least coefficient of connection is 0.2187 for Glaxosmithkline Pharmaceuticals Ltd. Since standard deviation uncovers the aggregate hazard, the value offers of Sun pharmaceutical Ltd have high hazard and the value offers of Glaxosmithkline Pharmaceuticals Ltd has generally safe.
- ✓ The beta estimation of Aurobindo Pharma Ltd and Sun Pharmaceutical Industries Ltd is mutiple. It demonstrates the market danger of the value is high and the arrival of the value is more unstable than the market. So the value of these stocks has high deliberate hazard than alternate values of pharmaceutical industry.
- ✓ The beta estimation of Cadila Healthcare Ltd, Cipla Ltd, Divi's Laboratories Ltd, Dr. Reddy's Laboratories Ltd, Glaxosmithkline Pharmaceuticals Ltd, Glenmark Pharmaceuticals Ltd, Lupin Ltd, Piramal Enterprises Ltd is short of what one. It demonstrates the market danger of the offers of the 8 organizations is less likewise it expresses that the unpredictability of return of the offers is not exactly the market.

XI. CONCLUSION

Numerous financial specialists are confounded while they contribute their cash. So as to get most extreme restore, the speculators must consider both hazard return factors. By investigating the chose pharmaceutical organizations in the Indian securities exchange the value offers of Sun Pharmaceutical Industries Ltd is giving exceptional yield yet the market danger of the offers is higher and the unpredictability of the arrival is likewise high than the market. In any case, the value shares Divi's Laboratories Ltd gives exceptional yield and the market chance is underneath normal and the unpredictability of the arrival is lesser than the market. So these offer progressively great to contribute and the acquiring limit of the offers are high. The examination is an endeavor to discover the instability of chose partakes in pharmaceutical industry recorded in NSE to provide profitable information to the financial specialists to succeed.

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