

A Study on Risk and Return Analysis on Pharmaceutical Company

¹S.Phani Kumar, ²K.Neeraja

¹Research scholar, ¹Assistant Professor

^{1,2} Department of MBA MREC (A)

MAISAMMAGUDA, SECUNDRABAD

Email id: ¹Phanisadhu9@gmail.com, ²neerajakatari@gmail.com

Abstract: Risk and return analysis plays a key role in most individual decision making process. Every investor wants to avoid risk and maximize return. In general, risk and return go hand. If an investor wishes to earn higher returns than the investor must appreciate that this will only be achieved by accepting a commensurate increase in risk. based on risk and return analysis, high risk gives high returns with low risk gives to low returns, based on this concept in banking and automobiles sector high risk gives low return, and information technology ,fast moving consumer goods pharmaceutical sector low risk gives high return. Alpha stock is positive and the companies are independent to market return and have a profitable return.

Keywords: Risk, Return, Mean, Standard deviation.

1. Introduction

The Pharmaceutical Industry develops, produces, and markets drugs licensed for use as medications. For this they have a well equipped R&D department. Pharmaceutical companies are allowed to deal in generic and/or brand medications and medical devices. They are subject to a variety of laws and regulations of the government regarding the patenting, testing, pricing and ensuring safety and efficacy and marketing of drugs. In finance, we assume that individuals base their decisions on what they expect to happen and their assessment of how likely it is that what actually occurs will be close to what they expected to happen. When evaluating potential investments in financial assets, these two dimensions of the decision making process are called expected return and risk.

Definition

Risk implies future uncertainty about deviation from expected earnings or expected outcome. Chance measures the vulnerability that a financial specialist will take to understand a pick up from a speculation.

Risk

Risk refers to the possibility that the actual outcome of an investment will differ from its expected outcome. More specifically, most investors are concerned about the actual outcomes being less than the expected out come. The wider range of possible outcomes, the greater the risk. Investments have two components that create risk. Risks specific to a

particular type of investment, company or business are known as UN systematic risk. Unsystematic risks can be managed through portfolio diversification, which consist of making investments in a variety of companies industries.

RETURN

Return is the essential propelling power that drives speculation. It speaks to the reward for undertaking venture. What's more, chronicled returns are regularly utilized as an essential contribution to evaluating future planned returns. Return is the primary motivating force that drives investment. It represents the reward for under taking investment. Since the game of investing is about returns (after allowing for risk), measurement of realized (historical) return is necessary to assess how well the investment manager has done. In addition, historical returns are often used as an important input in estimating future prospective returns.

Need of the study

The pharmaceutical industry in India is said to be most desired sector for lot of investors. When the expected return is high then the risk associated with such return is also high. So one who intends to invest in such companies needs to be aware of return and risk involved in the investment. And this study has attempted to analyze the risk return relationship of selected companies in pharmaceutical industry of Indian stock market. The Researcher has reviewed the existing research work and published articles for finding the return risk characteristics.

2. REVIEW OF LITERATURE

Basel (1971) showed that the individual security betas were stable on the ground of increasing the length of estimation period. He demonstrated that beta solidness has indicated greater change when the estimation time frame was bigger.

Sharpe & Cooper (1972) produced evidence in terms of stability with respect to individual security betas by way of taking US samples from 1931 to 1967 with the help of applying transition matrix approach and concluded that individual security betas showed stability over the period.

Black, Jensen and Scholes (1972) took an effort to investigate the stock market as an efficient and the

purpose for which they took the all scrip's of New York Stock Exchange and divided into ten portfolios with the span of 35 years. The study found that higher risk portfolios fetched higher return and further they found that the stocks those of belonging to the category of lower risk were undervalued whereas the stocks those of belonging to the category of higher risk were overvalued.

Meyers (1973) came out with additional proof on the stability of individual security betas by taking 15 years' period from the year 1952 to 1967 and they found the betas were stable for at least seven years and proved beyond the doubt that the individual security betas were also stable by discounting the earlier assumptions of individual security beta.

Ben and Shalit (1975) made an attempt to find out the relationship between the firm risk and its leverage, size and payout ratio. The review investigated 1000 extensive organizations recorded in the fortune registry in the time of 1970. The review found that the relationship by method for applying different relapses. The outcome demonstrated that the firm size, use, and payout proportion were observed to be the critical determinant of value hazard.

Barry & Wicker (1976) came out with the result that apart from the factor such as number of portfolio and duration of sub-periods influencing beta stability, the changing characteristics of the firm like capital structure, business policy marketing strategy and economics environment has also made an impact in determining the stability of beta.

Basu (1977) found in the study of 1400 Industrial Firms from the Compustat File of NYSE during the period from September 1956 to August 1971, the stocks with low price- earnings ratios had higher average returns than stocks with high price-earnings ratios.

Chen (1981) tested if any relation was existed between variability of beta co-efficient and portfolio residual risk. By way of analyzing the relation, he came out with the conclusion that OLS method was not appropriate to estimate portfolio residual risk if beta co-efficient changed over the time and further he stressed that it would lead to incorrect conclusion.

Srivastava (1984) studied a cross-sectional study of 327 firms of Bombay Stock Exchange for the year 1982-83. The study spotted that there was an association between the rate of dividend of a company and its market price of equity and high dividend rates were the cause for higher market prices of securities. The study did not support the MM approach of assumption 'Dividend is irrelevant

in terms of importance in explaining the rates of return in Indian context.

Objectives of the study

- To understand the concept of risk and return of a security.
- To analyze the risk return characteristics of selected companies in pharmaceutical industry.
- To compare the risk and return of selected companies.

Hypothesis

Ho: There is no significant relationship between risk and return in pharmaceutical companies.

H1: There is significant relationship between risk and return in pharmaceutical companies.

3. Research methodology

Data collection methods:

- The data collection methods in 2 types
- 1) Primary collection method.
 - 2) Secondary collection method.

1) Primary collection method

This method includes the data collection from the personal discussion with the authorized clerks and members of the India bull's financial services.

2) Secondary collection method

The secondary collection methods include the lectures of the superintendent of the department of market operations and so on. Also, the data collected from the news, magazines and different books issues of this study superintendent.

Sample design

The present study is aimed at finding at out the randomness in successive share price changes. All 4 pharmaceutical companies listed on the index, bankex of the Bombay stock exchange are taken for the study. For compare the pharmaceutical companies two major sector company taken for analysis.

Analysis and interpretation

Table-1

Mean Of Pharmaceutical Companies

Sl.No	Name of the company	Mean
1	Dr.reddy's	0.001851
2	Biocon	0.021551
3	Cipla	-0.00345
4	Granules	-0.0164

Table -2
Standard Deviation of Pharmaceutical Companies

Sl.No	Name of the company	Standard deviation
1	Dr.reddy's	0.103103
2	Biocon	0.050947
3	Cipla	0.078676
4	Granules	0.31537

Table-3 Skewness of Pharmaceutical Companies

Sl.No	Name of the company	Skewness
1	Dr.reddy's	-1.69404
2	Biocon	1.265888
3	Cipla	0.743017
4	Granules	-2.49505

Table-4 Kurtosis of Pharmaceutical Companies

Sl.No	Name of the company	Kurtosis
1	Dr.reddy's	4.617113
2	Biocon	0.890196
3	Cipla	-0.16541
4	Granules	7.671911

Table-5 Range of Pharmaceutical Companies

Sl.No	Name of the company	Range
1	Dr.reddy's	0.408418
2	Biocon	0.15776
3	Cipla	0.259483
4	Granules	1.255002

T-TEST RESULT OF DR.REDDY'S WITH BIOCON

T-test: paired two for means		
Table column subhead	Dr.reddy's	Biocon
Mean	0.001850949	0.02155079
Variance	0.010630261	0.0025956
Observations	11	11
Pearson Correlation	0.042714521	
Hypothesized Mean Difference	0	
D f	10	
t Stat	0.578019648	
P(T<=t) one-tail	0.288017425	

T-test: paired two for means		
Table column subhead	Dr.reddy's	Biocon
t Critical one-tail	1.812461102	
P(T<=t) two-tail	0.57603485	
t Critical two-tail	2.228138842	

For the above table
Ho is accepted It is not significance .Calculated value is (-0.578>1.812) the table

T-TEST RESULT OF DR.REDDY'S WITH CIPLA

T-test: paired two for means		
Table column subhead	Dr.reddy's	Cipla
Mean	0.001850949	-0.00345
Variance	0.010630261	0.00619
Observations	11	11
Pearson Correlation	0.042714521	
Hypothesized Mean Difference	0	
D f	10	
t Stat	0.578019648	
P(T<=t) one-tail	0.288017425	
t Critical one-tail	1.812461102	
P(T<=t) two-tail	0.57603485	
t Critical two-tail	2.228138842	

For the above table
Calculated value (0.219<1.812) table value hence the hypothesis is accepted.

T-test result of Dr.Reddy's with granules

T-test: paired two for means		
Table column subhead	Dr.reddy's	Granules
Mean	0.001850949	-0.0164
Variance	0.010630261	0.099458
Observations	11	11
Pearson Correlation	0.042714521	

T-test: paired two for means		
<i>Table column subhead</i>	<i>Dr.reddy's</i>	<i>Granules</i>
Hypothesized Mean Difference	0	
D f	10	
t Stat	0.57801 9648	
P(T<=t) one-tail	0.28801 7425	
t Critical one-tail	1.81246 1102	
P(T<=t) two-tail	0.57603 485	
t Critical two-tail	2.22813 8842	

For the above table Calculated value (0.1999 < 1.812) table is at 5% level off significance in the H₀ (or) hypothesis accepted.

Statistical analysis

- Descriptive statistics: To analyze the descriptive statistics the mean value is considered.
- T-test: The t-test is done to find the significant difference with the 4 companies and the factors. If the t-test value is greater than T-critical two tail null hypotheses is rejected, if it is less there is acceptance of null hypothesis.

The actual return for the period of 1 year is 0.020% in Dr.Reddy's Company and Cipla is the least return - 0.038% .Standard deviation is highest in granules pharmaceutical company 0.315% and lowest in Biocon with 0.051%.

4. Testing of hypothesis

In all samples calculated value (t-test) is less than the tabulated value (t critical two tail). Hence accept the null hypothesis. Thus, there is no significant relation of risk and return in pharmaceutical companies.

Findings

- During the study period the mean return for selected pharmaceutical companies shares both positive and negative figures.
- The standard deviation reveals the total risk ,the equity shares of Cipla ltd has high risk and the equity shares of Dr.Reddy's ltd has low risk.
- The skewness for Dr. Reddy's is very less when compared to other pharmaceutical companies.
- All the four pharmaceutical companies range is satisfactory.

5. Conclusion

Many investors are confused while they invest their money. In order to get maximum return the investor must consider both risk and return factors. By analyzing the selected pharmaceutical companies in the Indian stock market the equity shares of pharmaceutical companies is giving high return but the market risk of the shares are higher and the volatility of the return is also high than the market. But the equity shares Reddy's ltd gives high return and the market risk below average and the volatility of the return is lesser than the market. So these share more favorable to invest and the earning capacity of the shares is high. The study is an attempt to find the volatility of selected shares in pharmaceutical company listed in NSE for the purpose of providing valuable knowledge to the investor to scuseed.

Reference

- 1) McGuire, John L.; Hasskarl, Horst; Bode, Gerd; Klingmann, Ingrid; Zahn, Manuel (2007). "Pharmaceuticals, General Survey". Doi:10.1002/14356007.a19_273.pub2.
- 2) Walter Sneader (31 October 2005). Drug Discovery: A History. John Wiley & Sons. pp. 155–156. ISBN 978-0-470-01552-0.
- 3) Bloch AB, Orenstein WA, Stetler HC, et al. (1985). "Health impact of measles vaccination in the United States". Pediatrics. 76 (4): 524–32. PMID 3931045.
- 4) Tobert, Jonathan A. (July 2003). "Lovastatin and beyond: the history of the HMG-CoA reductase inhibitors". Nature Reviews Drug Discovery. 2 (7): 517–526. ISSN 1474-1776. PMID 12815379. Doi:10.1038/nrd1112.
- 5) Buchkowsky, SS; Jewesson, PJ (Apr 2004). "Industry sponsorship and authorship of clinical trial over 20 years". Ann Pharmacother. 38 (4): 579–85. PMID 14982982. Doi:10.1345/aph.1D267.
- 6) Moynihan, Ray; Cassels, Alan (2005). Selling sickness: how the drug companies are turning us all into patients. Crows Nest, N.S.W.: Allen & Unwin. ISBN 1-74114-579-1.
- 7) Kaufman, Marc (2005-05-06). "Merck CEO Resigns as Drug Probe Continues". Washington Post. Retrieved 2007-05-23.
- 8) IMS Health (2015-06-18). "Are European biotechnology companies sufficient protected?". Portal of Competitive Intelligence.
- 9) Sepkowitz KA (July 2011). "One hundred years of Salvarsan". N. Engl. J. Med. 365 (4): 291–3. PMID 21793743. Doi:10.1056/NEJMp1105345.
- 10) Rosenfeld L (December 2002). "Insulin: discovery and controversy". Clin. Chem. 48 (12): 2270–88. PMID 12446492.
- 11) **Websites**
www.moneycontrol.com
www.economic times.com
www.yahoo financial.com
www.Bse India.com
www.the-finapolis.com