

RISK - RETURN ANALYSIS OF SELECTED SECTORS IN INDIA

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INTRODUCTION

The share market is a place where people purchase and sell securities such as shares of stocks and bonds and other money instruments. The share market also provides facilities for the issue and redemption of such securities and instruments and capital events as well as the payment of interest and dividends.

Major Stock Exchange in India

Bombay Stock Exchange

The BSE was established in the year 1875 July 9 and it is situated in Dalal Street Mumbai. It is the oldest stock exchange in Asia even older than the Tokyo stock exchange in 1876. It is the 6th largest stock exchange in Asia and the 10th largest stock exchange in the world. As of Nov 2019 there are 5512 listed companies the total

market capitalization of the companies listed on the BSE was more than and \$2.1 trillion on as of March 2019. (Rs 1,51,970.87 billion).

National Stock Exchange

NSE was established in 1994. It is situated in Mumbai and it is the leading stock exchange in India and the first materialized electronic exchange in the country. It is a modern and completely automatic screen based electronic trading system. It provides easy exchange facilities to the investors spread beyond the length and breadth of the country. NSE is the 2nd largest stock exchange in the world by a total of traders in equity shares from January to June 2019

Literature review

Uday Kumar & Suresh (2014) have undertaken to evaluate the risk return affair of Indian stock markets for the period 2007-2014 the target of their research was to know the behavioural system of significant stock market indices & correlation coefficient among such indices, the results suggest which BSE sensex was the perfect indicator which explains risk return affair, the assumption tested advisable that the mean values.

Pramod kumar (2016) compared uncertainty & return of BSE market with preferred banking stocks in India. This paper examined correlation coefficient among uncertainty & return of Bombay stock exchange sensex as well as banking share, the results show the stock market returns of sensex are positively correlated with the returns of total banking stocks except of ICICI bank stock. A study of beat showed the ICICI bank was the highest on the defensive stock as it was negatively sensitive to variations in sensex return.

Balakalian (2018) conducted an investigation on risk & return analysis of picked securities in India with a purpose of providing fundamental ideas of investigation was done in terms of mean return & standard deviation & co-efficient of variation other findings the investigation revealed that Feb. 2017 was the benefit month for the investors, this paper indicated the market changes & provided helpful data for picking up good stocks.

Mallikarjunappa T (2012) analyzed the affair between the risk & return of Indian goods futures markets. The important priority of the study was on forthcoming contracts of different goods & quartet indices, the results indicated the platinum & refined sunflower oil commodity the high yield returns of course carrying the highest risk factors, the total evaluation revealed which there was a high level of positive correlation among the returns & risk in the Indian commodities futures market.

Ruch Nithyanda Prabha (2018) carried study related to analysis of risk & return of NSE stocks in India, the major purpose of the research was to compare the performance of national stock exchange 50 stocks in terms of risk & return. He found that a few stocks moved along with the market, but some other stocks moved in the reversed direction, the results also show the volatility of single stocks visa-visa national stock exchange was highly varying.

Yulinglin (2012) investigated defect risk & equity returns in Taiwanese equity market, the big purpose of this paper was to evaluate the relation between default risk, range, book to market value & equity returns, the results revealed that range & book to market values had an outcome on portfolios that defaulted, the regression evaluation revealed that these two factors exercised a powerful impact on returns & systematic risk.

Gorbhnova (2016) analyzed the risk & return relationship on investment securities in Russia, he mainly focused on analyzing the returns & risks concerned in equity investment that would help develop a rating system of the investment options, the study of systematic risk advisable that the returns of the stocks were mainly driven by the market risks rather than stock specific risk.

Shaini & Mallikarjunappa (2016) believes that the stock market is greatly flexible & it is up to the investment to determine how he could make use of the stock market to gain higher returns. According to the writer beat it would be very useful in comparing the related systematic risk concerned in different stocks, in practice investors use beat to justice the riskiness of individual stock. Investors should recall risk is straight related to return and therefore he should confirm to keep risk, related proportional to returns. In common it is believed that greater will be the returns, but searching extra risk may not be advisable as it does not endure extra returns. At a particular level of return, security has its own degree of risk. It is advised that investors should analyses the market on a regular basis. That helps them pick the right stock to invest in.

Prathibha & Dinakar (2016): The author studies a period starting from 7th December 2015 to 8th February 2016 to risk of 12 banks listed in nifty. The investor found that all stocks had negative returns except Yes bank and kotak Mahindra Bank during the study period. The author found Yes Bank given higher returns compared to Punjab national Bank, And he also found that systematic risk higher for SBI Bank compared to you Yes Bank, The author concluded that the Bank of India and Syndicate Bank are less affected by market risk due to the negative beta, while compared to Punjab National bank and Bank of Baroda.

William and Vimala (2015) examined the volatility of equity share rate of five select private banks listed in the NSE. Taking into consideration which banks play a great role in the economy of India, An author studies the market volatility of the selected banks by using means, standard deviation and beta values using the opening and closing prices, It was concluded all the five banks ' volatility of the closing price is similar.

Anbukarasi and Nithya (2014) are studying for a period from Jan 2013 to June 2014. To bring out the correlation between select stock indices and the NIFTY, These people found that there was a significant correlation of the total selected indices except Metal, Pharma, Bank and Realty indices and concluded that the Pharma and Bank indices have a strong impact on NIFTY movements.

Shanmugasundram and Benedict (2013) the authors conducted an investigation on the volatility of the sector indices with reference to NSE. In this investigation the risk affair in different time intervals of the CNX NIFTY indicator and five sectors indices inclusive of Auto index, Bank index, FMCG index, Infrastructure index and IT index was examined. The results of the investigation did not support any significant difference over the risk of sector indices and NIFTY.

Sunil M Rashinkar and Divya U (2014), analysis Market Risk of selected Banking Stock in India. And this study was limited to five nationalized banks in India. It includes SBI, IDBI, Syndicate Bank, Punjab National Bank, and Bank of Baroda. And the period of study was 1 year (1 July 2013- 31 March 2014), and the tool used for analysis was Beta Coefficient. The tool used for analysis was Beta Coefficient. The tool used for analysis was Beta Coefficient. The study reveals the betas are negative for these banks SBI, IDBI, & syndicate. That implies stocks are moved against the market and fewer affected by market uncertainty and beta is more than one for Punjab National Bank & Bank of Baroda and it indicates the high market risk for stocks.

RatnaSinha (2013) is analysis the Risk and Return in equity investment in the banking sector. This study compares the banking equity performance with other two major sectors such as IT and Real and he took the eight banking companies as sample listed in the Indian stock market and Beta, Alpha, variance, standard deviation and correlation are used for analysis and The study suggests that there is a negative significant relationship of return in among the banking and non banking equity

S Nagarjun and Prabhakar (2013) study on equity evaluation of selected FMCG companies listed on NSE. They used standard deviation, coefficient of variation and beta to study the various selected FMCG Companies They found that it Nestle India limited stake rate as 53% affair with nifty index it was much lower than other companies selected from the FMCG sector.

Dr. P Vikreaman and P Vardharajan (2009) analyse the risk and return of the selected automobile companies for using the beta and alpha techniques for the period of 2004 to 2007. The calculation of return index and standardized risk give a clear understanding about the investment decision on these companies.

Baesel (1971) inspected demonstrated which the single security betas were constant on the ground of expanding the length of estimation period, a demonstrated that beat steadiness has indicated more change when the forecast time frame was bigger.

Nerlov (1968), found the factors influencing return of the scrip by taking 800 organizations from the Standard and Poor index with the period of 15 years. The factors were identified by the analysis such as sales, earnings and growth in earnings were regressed with return of the scrip for the objective of witnessing the influence of such factors on the return and it was found that dividend and leverage had strong influence on market return in long run whereas asset growth, Supply turnover, cash flows and liquidity did not apply any impact on the return of the scrip. It seemed that those variables were proved to be redundant.

Baesel (1971) showed that the single security betas were steady on the ground of rising the term of estimation time. He proved which beta strength has shown more development when the estimation time was longer.

Sharpe & Cooper (1972) composed information in terms of stability with respect to single security betas by way of taking US samples from 1931 to 1967 with the support of applying transition matrix approach and concluded that single security betas showed stability over the span of time.

Research design

Objectives of the study

1. To study the risk and return of the selected stocks from different sectors.
2. To analysis the risk level of various companies selected for the study.

Scope of the study

In the national stock exchange trade, there were 1952 companies that were recorded. Out of these 50 companies are critical, which shapes the S&P CNX clever file. From these 50 companies we select 06 companies from 3 different sectors.

Name of the Selected Sectors and Companies

Sectors Name	Company Name
Auto Mobile Sector	1. Bajaj Auto Ltd 2. Mahindra & Mahindra
Oil and Gas Sector	3. Reliance Industries Ltd 4. Hindustan Petroleum Corporation
Textile Industry	5. Raymond 6. Arvinda Ltd

Research methodology

- 1. Type of research:** The study is descriptive in nature. The major objective of descriptive research is to describe the state of view as it exists. At present, descriptive analysis deals with the demographic characteristics.
- 2. Sample period:** For this study, five years data is considered from 2015 to 2019.
- 3. Collection of data:** Basically secondary data is used in this study. The data is collected from the secondary source. The monthly closing share prices of selected companies are obtained on an official site like NSE india.com, moneycontrol.com, and moneypore.com.
- 4. Data analysis techniques:** The different tools used in this study are shown below

$$\text{Rate of Return} = \frac{\text{closing stock} - \text{opening stock}}{\text{opening stock}} \times 100$$

Calculation of beta

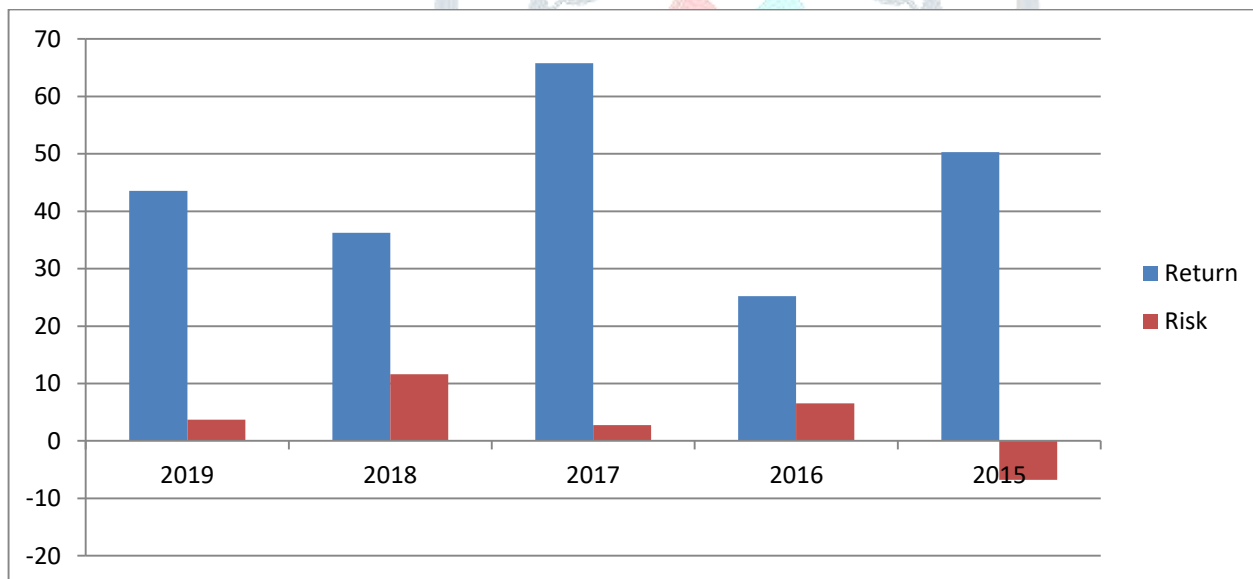
$$\text{stock price}(Y) = \frac{\text{closing stock} - \text{opening stock}}{\text{opening stock}} \times 100$$

$$\text{Market return}(X) = \frac{\text{closing index price} - \text{opening index price}}{\text{opening index price}} \times 100$$

$$\text{Beta}(\beta) = \frac{n \sum XY - (\sum X)(\sum Y)}{n(\sum x^2) - (\sum X)^2}$$

DATA ANALYSIS AND INTERPRETATION**AUTO MOBILES****BAJAJ AUTO LTD**

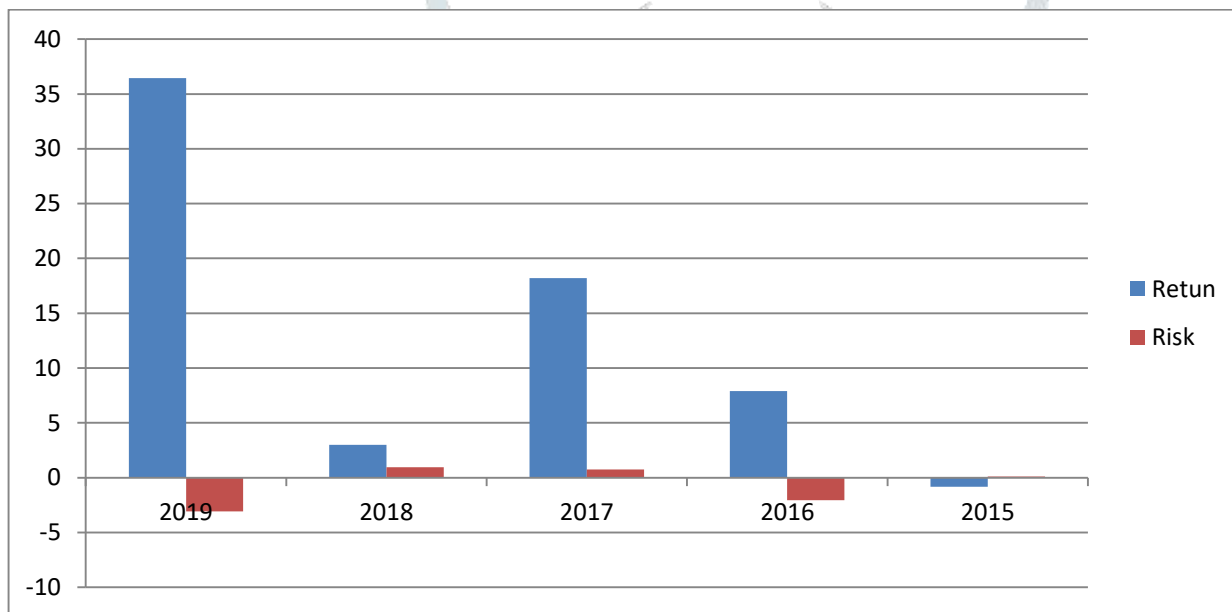
year	Return	Risk
2019	43.522	3.686
2018	36.246	11.618
2017	65.81	2.766
2016	25.187	6.55
2015	50.31	-6.773



Interpretation: As per the above graph plotted for 5 years (2015-2019 for Bajaj Auto Ltd , in the year 2016 to 2019 the Return is High and Risk is Low and in 2015 High Return with No Risk.

MAHINDRA & MAHINDRA LTD

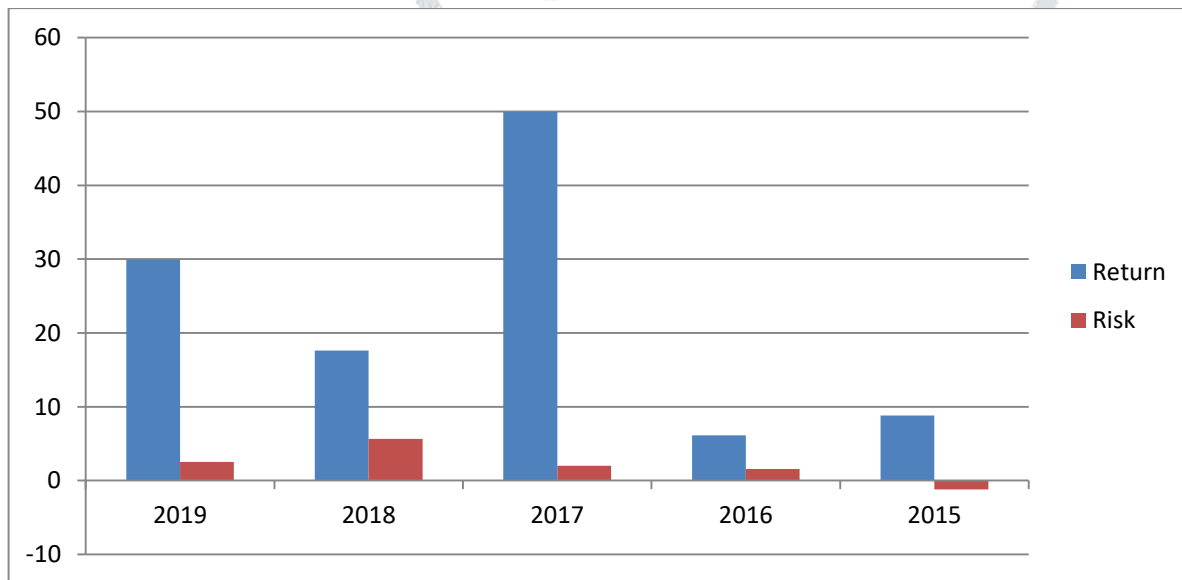
year	Return	Risk
2019	36.457	-3.088
2018	3	0.961
2017	18.187	0.731
2016	7.896	-2.053
2015	-0.829	0.111



Interpretation: As per the above graph plotted for 5 years (2015-2019 for Mahindra & Mahindra Ltd, in the year 2017, 2018, High Return with Low Risk, in 2019, 2016, High return with No Risk and in 2015 low return with High Risk.

OIL & GAS SECTOR**RELIANCE PETROLEUM LTD**

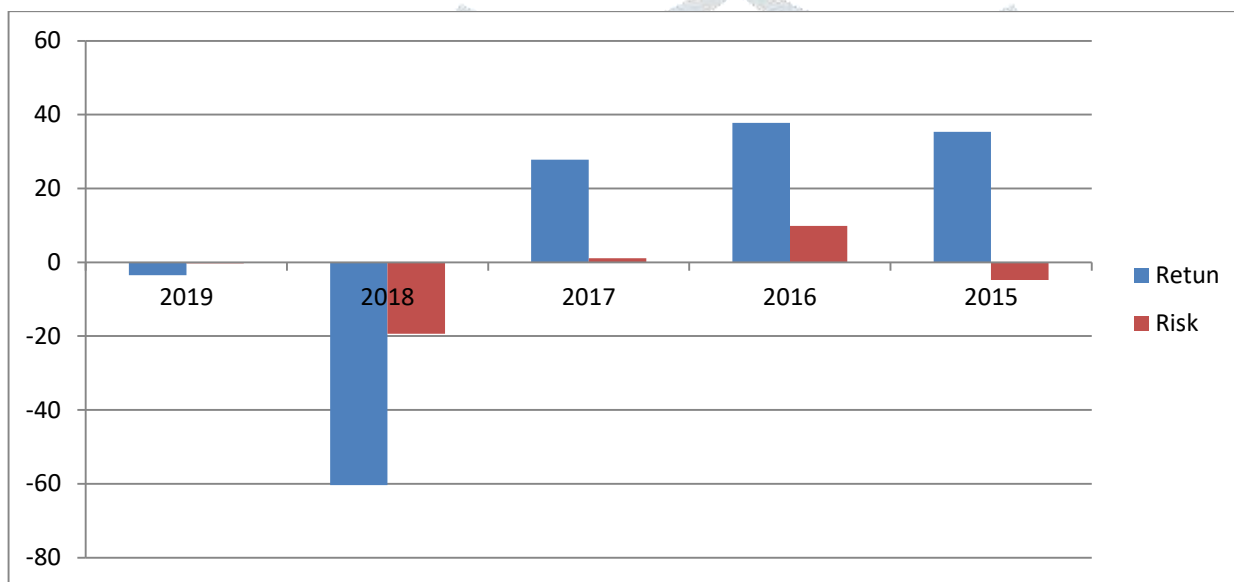
Year	Return	Risk
2019	29.933	2.535
2018	17.618	5.652
2017	49.956	2.009
2016	6.136	1.596
2015	8.818	-1.187



Interpretation: As per the above graph plotted for 5 years (2015-2019 for Reliance Petroleum Ltd, in the year 2016 to 2019 High Return with Low Risk and in 2015 High Return with No Risk.

HINDUSTAN PETROLEUM CORPORATION

Year	Return	Risk
2019	-3.493	-0.295
2018	-60.401	-19.379
2017	27.782	1.094
2016	37.782	9.826
2015	35.353	-4.759

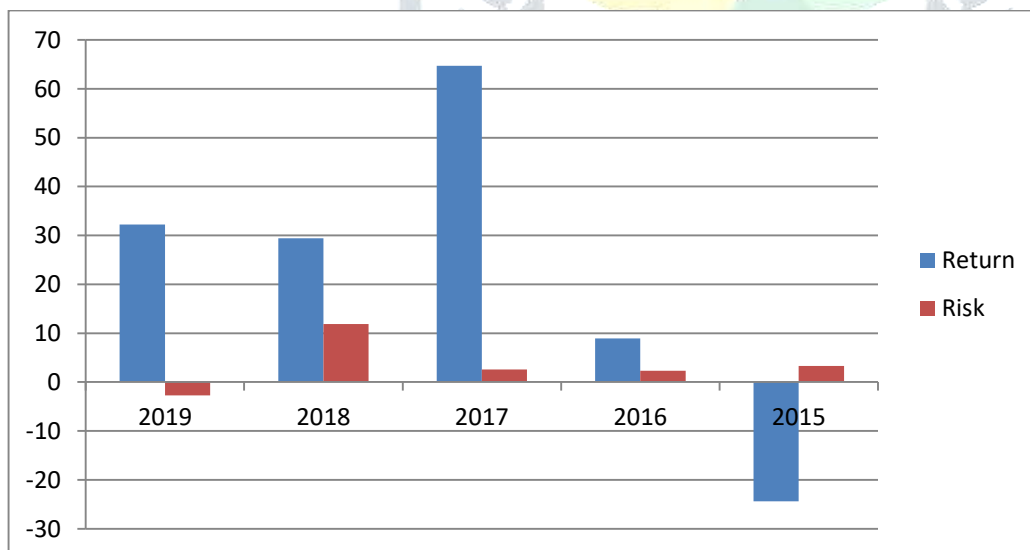
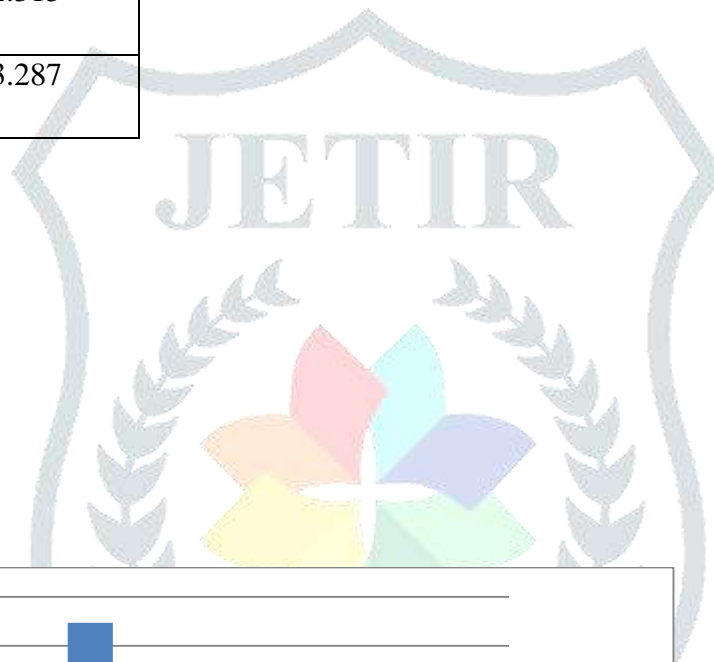


Interpretation: As per the above graph plotted for 5 years (2015-2019 for Hindustan Petroleum Corporation Ltd , in the year 2017, 2016, High Return with Low Risk and 2019, 2018 No Return and No Risk and in 2015 High return with Low Risk.

Textile Industry

RAYMOND LTD

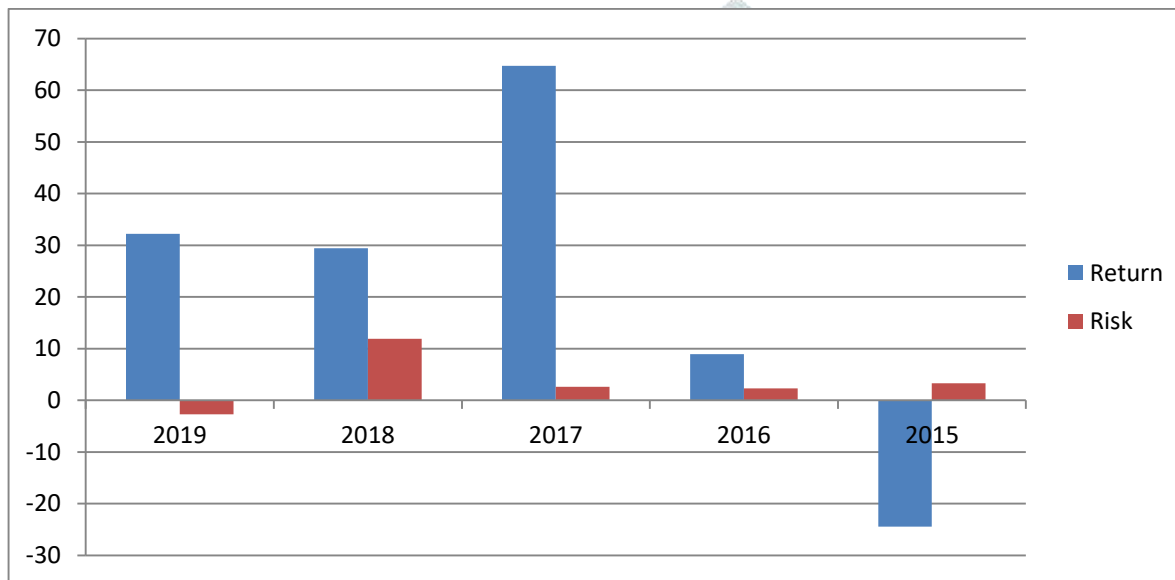
year	Return	Risk
2019	32.244	-2.73143
2018	29.411	11.897
2017	64.712	2.603
2016	8.903	2.315
2015	-24.419	3.287



Interpretation: As per the above graph plotted for 5 years (2015-2019 for Raymond Ltd, in the year 2018, 2017, 2016 High Return with Low Risk and in 2019 High return with No Risk and in 2015 No Return with High Risk.

ARVINDA Ltd

Year	Return	Risk
2019	40.422	3.424
2018	-59.847	19.2019
2017	0.206	0.008
2016	-0.052	-0.21
2015	15.641	-2.105



Interpretation: As per the above graph plotted for 5 years (2015-2019 for Arvinda Ltd, in the year 2018, 2017, 2016, High Return with Low Risk and in 2019 High Return with No Risk and in 2015 No Return with High Risk.

Analysis using Sharpe Module**AUTO MOBILE SECTOR****BAJAJ AUTO LTD**

Year	Rf=	Return	Std	Sharpe	Rank
2019	0.63	43.52242	2.01803	21.2546	III
2018	6.3	36.24651	2.23265	13.41299	IV
2017	0.63	65.8104	1.871006	34.8371	I
2016	0.63	25.18	2.53068	9.70091	V
2015	0.63	50.31088	1.9685	25.23684	II

Interpretation: Bajaj Auto Ltd very excellent in the year of 2017, 2015, and 2019. And good performance in the year of 2018, 2016 compare to other years.

MAHINDRA & MAHINDRA LTD

Year	Rf=	Return	Std	Sharpe	Rank
2019	0.63	-36.4571	6526.409	-20.0082	V
2018	6.3	3.00003	1.703524	1.391236	II
2017	0.63	18.18749	1.208555	14.52767	I
2016	0.63	-7.89641	1.601602	-5.32368	IV
2015	0.63	-0.8299	1.797241	-0.81232	III

Interpretation: Mahindra & Mahindra very excellent in the year of 2017, and Good performance in 2018 and very poor performance in the year of 2015, 2016, and 2019.

OIL AND GAS SECTOR

RELIANCE PETROLEUM LTD

Year	Rf=	Return	Std	Sharpe Ratio	Rank
2019	0.63	29.93355	1.672389	14.131	II
2018	0.63	17.61808	1.706762	9.953	III
2017	0.63	49.95694	1.525907	32.326	I
2016	0.63	6.136911	1.36981	4.037	V
2015	0.63	8.81818	1.772038	4.620	IV

Interpretation: Reliance Petroleum Ltd performance very excellent in the year of 2017, 2019, and 2015. And very poor performance in the year of 2017, 2016.

HINDUSTAN PETROLEUM CORPORATION

Year	Rf=	Return	Std	Sharpe Ratio	Rank
2019	0.63	-3.49303	2.5104	-1.064	IV
2018	0.63	-60.4019	3.5179	-17.348	V
2017	0.63	27.21278	2.214094	12.006	III
2016	0.63	37.78274	2.173178	17.006	I
2015	0.63	35.3538	2.40674	14.427	II

Interpretation: Hindustan Petroleum Corporation performance very excellent in 2016, 2017, and 2015. And very poor performance in the year of 2018 and 2019. Rank is given based on the performance of company.

TEXTILE INDUSTRY

RAYMOND LTD

year	Return	Rf	Std	Sharpe Ratio	Rank
2019	32.244	0.63	2.516	12.56	II
2018	29.411	0.63	2.418	11.897	III
2017	64.712	0.63	2.365	27.094	I
2016	8.903	0.63	2.2001	3.76	IV
2015	-24.419	0.63	41.426	0.838	V

Interpretation: Raymond Ltd performance very excellent in 2017, 2019, and 2018, and very poor performance in the year of 2016 and 2015. Rank is given based on the performance of company.

ARVINDA LTD

year	Return	Rf	Std	Sharpe Ratio	Rank
2019	40.422	0.63	3.155	5.456	III
2018	-59.847	0.63	2.252	28.616	I
2017	0.206	0.63	0.018	-23.37	IV
2016	-0.052	0.63	0.032	-26.843	V
2015	15.641	0.63	2.751	12.608	II

Interpretation: Arvinda Ltd performance very excellent in 2018, 2015, and 2019, and very poor performance in the year of 2017 and 2016. Rank is given based on the performance of company.

COMPARISION OF SECTORS USING SHARPE MODULE

Sectors Name	Sharpe Ratio	Rank
Auto Mobile Sector	94.217	I
Oil & Gas Sector	33.073	III
Textile industry	52.616	II

Interpretation: Auto mobile Sector performance very excellent and Textile Industry Performance are very Good, and Oil and Gas Sector performance is good. Ranks are given based on the performance of sectors. The Sharpe model indicts more than 1 is excellent, and 1 is very Good, less than 1 is Good, and negative value is Bad.

Findings

- In some companies stocks we have to face negative relationship between return & risk, and some stocks are having zero rate of return with high rate of risk, better to eliminating these companies to invest the money
- The individual stock of risk and return is not same for all companies. It changes based on the company & industry performance.

- Bajaj Auto Ltd, Mahindra & Mahindra Ltd, Hindustan Petroleum Corporation Ltd, Raymond, Arvinda Ltd, are the good companies to invest as they have highest Return (companies having a positive return for a period of more than 3 years) with lowest Risk.
- By using Sharpe Module we find that the Auto Mobile Sector is performance is very excellent compare to other Sectors.

Suggestions

- If investor wants high return on securities they should be ready to take higher risk.
- Investment in equity should be given longer time horizon to perform.
- Investor can go for projected risk to reduce the future risk.
- Even, company having negative return will diversify risk by short selling.
- We suggest to investors to invest in auto mobile sectors because data shows the High return with risk and Sharpe Model also shows auto mobile performance is very excellent

Conclusion:

This study helps investors to invest money based on the company performance and it is ongoing exercise. The return & beat also plays an important role in eliminating those companies which provide low rate of return with high rate of risk. This study helps to reduce the risk with diversification, more diversification, less is the risk associated. Risk persists even after diversification, a past return does not promise future returns because stocks are very volatile.

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