

A COMPARATIVE STUDY ON VOLATILITY ANALYSIS OF AUTOMOBILE SECTOR WITH RESPECT TO BSE SENSEX

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ABSTRACT

Stock Exchange is where stock agents and brokers can purchase and sell stocks, bonds, and different protections. Stock Exchanges may likewise give offices to issue and recovery of protections and other monetary instruments and capital occasions including the installment of pay and profits. Protections exchanged on a stock exchange incorporate stock gave by recorded organizations, unit trusts, derivate, pooled venture items, and securities. Stock exchanges frequently work as constant closeout markets with purchasers and vendors fulfilling at a focal area, for example, the floor of the exchange.

Keywords: capital, monetary instruments, Stock Exchange,

INTRODUCTION

Stock Exchange is where stock agents and brokers can purchase and sell stocks, bonds, and different protections. Stock Exchanges may likewise give offices to issue and recovery of protections and other monetary instruments and capital occasions including the installment of pay and profits. Protections exchanged on a stock exchange incorporate stock gave by recorded organizations, unit trusts, derivate, pooled venture items, and securities. Stock exchanges frequently work as constant closeout markets with purchasers and vendors fulfilling at a focal area, for example, the floor of the exchange.

Bombay Stock Exchange was set up in 1875. It is Asia's first and quickest developing stock exchange on the planet. In recent years, BSE has encouraged the development of the Indian Corporate Sector by giving it an effective capital raising stage. BSE gives a proficient and straightforward market for exchanging value, monetary standards, obligation instruments,

subordinates, and common assets. India. BSE is likewise the 1st listed stock exchange of India. BSE's prevalent value list – the S&P BSE SENSEX is India's most broadly followed stock market benchmark record. It is exchanged worldwide premise of stocks

Indian Automobile part stocks have developed as one of the main fragments in the stock market as they are increasingly alluring and consistently exchanged stocks the biggest and most established Bombay Stock Exchange (BSE) in Asia. The Sensex is the as a matter of first importance benchmark record in 1986, involving the stocks of thirty blue chip organizations all things considered. There were four automobile organizations in the BSE-Sensex namely Ashok Leyland, Bajaj Auto Ltd, Eicher's Motors Ltd, Escorts Ltd, Maruti Suzuki Ltd which are intermediary for auto division stocks. Considering the significance of auto stocks, BSE has shaped an index exclusively for auto stocks, named S&P BSE Auto. At present fourteen organizations are recorded in S&P BSE Auto.

OBJECTIVES OF THE STUDY

- To understand the relationship between the Automobile sector and the stock market.
- To study the volatility of Automobile sector stock prices to BSE Sensex.
- To compute the risk of selected Automobile sector and BSE Sensex.
- To analyze the returns of the BSE Sensex index and its sectoral indices.
- To examine the level of volatility prevailing in BSE Sensex index and its sectorial indices

SCOPE OF THE STUDY

- This study is an attempt to provide empirical support to the return factors across the sectoral indices and BSE Sensex.
- It attempts to cover the level of volatility from the BSE Sensex index and its sectoral indices.
- The study shows Trends in annualized volatility of the automobile sector with stock market indices the study of volatility effects in the stock market.
- The study of the scope is confined to stocks of the automobile sector will be compared with volatility and β values.
- It studies the risk, variance, and coefficient of variance of the selected stocks.

LIMITATIONS OF THE STUDY

- The study is based on secondary data.
- The study applies only to the S&P BSE Sensex index and its sectoral indices.
- The study is on the past performance of stocks, and the data, Risk-Return is calculated by using statistical tools, and it may not be accurate.
- Risk and Return are affected by various factors, and all these factors are difficult due to time constraints.
- The measurements have been influenced by extreme values and may not show useful results
- Volatility measures about the changes in the automobile sector that help to invest in BSE Sensex.

RESEARCH METHODOLOGY

The research design for this study will be theoretical as well as empirical in nature as it will be carried out with specific objectives and utilizes a large number of data of selected automobile companies.

To study the Automobile sector stocks the following automobile companies will be taken into consideration

COLLECTION OF DATA:

SECONDARY SOURCES: Secondary data will be collected from different sources like magazines newspaper, annual financial reports of selected automobile companies and other required data will be taken from B.S.E's web sites for research.

TOOLS OF THE STUDY:

- Variance $= \sum \frac{d^2}{n-1}$
- Risk $= \sqrt{\text{variance}}$
- Coefficient of variance = returns/ risk
- Systematic risk $\beta = \sum D1 * D2 / D2^2$

REVIEW OF LITERATURE

Dr.S.Baranidharan, N.Dhivya (2018) entitled "Causal Relationship and Volatility of BSE Index with exceptional references to Indian Stock Market" and the investigation investigated that there was a since a long time ago run affiliation and value development of BSE bothers the different Indices by utilizing the Unrestricted Co-reconciliation test. It additionally investigated that would be a bidirectional relationship occurs between the BSE SENSEX, BSE AUTOEX, BSE CORBANEX, and BSE GREENEX.

Dr. S. Krishnaprabha and Mr. M. Vijayakumar (2015) directed an examination on Risk and Return Analysis of Selected Stocks in India. Risk and return examination play a significant job in the decision-making process of the greater part of the financial specialists. Long haul financial specialists had the option to exploit the market as it is less unpredictable. As there is less change in the offers when analyzed to the market as well as its costs, the long-term investors are able to anticipate when the offer will raise. The majority of Information Technology, Fast Moving Consumer Goods, and Pharmaceutical Sectors give more return while contrasted with the Banking and Automobile segment.

DATA ANALYSIS AND INTERPRETATION

1. Showing Ashok Leyland Ltd from 1st October2019 to 31stJanuary2020

Average returns=0.0838

$$\text{Variance} = \sum \frac{d^2}{n-1}$$
$$= 0.16189701$$

$$\text{Risk} = \sqrt{\text{variance}}$$
$$= 0.402364275$$

$$\text{Coefficient of variance} = \text{returns/ risk}$$
$$= -8.9020611$$

Interpretation:

From the above table, it represents the risk and returns of Ashok Leyland ltd for 3 months i.e,1/10/2019 to31/01/2020. The company has an average return of 0.0838, the variance is 0.16189701, the risk is 0.402364275 and the coefficient of variance is -8.9020611. The investor buys a share of min price -4.1591 on Oct 2019 and sells the share of max price

10.0694 onjan2020. The investor has to check at every 6months of the period when shares are getting down has to invest in another company.

2. Statement showing Bajaj auto ltd from 1st October 2019 to31st January 2020

Average returns = 0.289073

$$\text{Variance} = \sum \frac{d^2}{n-1}$$
$$=0.140997$$

$$\text{Risk} = \sqrt{\text{variance}}$$
$$=0.37549627$$

$$\text{Coefficient of variance} = \text{returns/risk}$$
$$=9.880276$$

Interpretation:

From the above table, it represents the risk and returns of Bajaj ltd for 3 months i.e,1/10/2019 to31/01/2020. The company has an average return of 0.289073; the variance is 0.140997, risk is0.37549627and coefficient of variance is9.880276. The investor buys a share of min price - 6.0345on Oct 2019 and sells the share of max price7.9343 onjan2020. The investor has to check at every 6months of the period when shares are getting down has to invest in another company.

3. Statement showing Eichers motors ltd from1st October 2019 to 31st January 2020

Average returns=-0.17457

$$\text{Variance} = \sum \frac{d^2}{n-1}$$
$$=0.0272$$

$$\text{Risk} = \sqrt{\text{variance}}$$
$$=0.1648296$$

$$\text{Coefficient of variance} = \text{returns/ risk}$$
$$=-10.1695$$

Interpretation:

From the above table, it represents the risk and returns of Eicher motors ltd for 3 months i.e,1/10/2019 to31/01/2020. The company has an average return of -0.17457, variance is0.0272, the risk is 0.1648296 and the coefficient of variance is -10.1695. The investor buys a share of min price-5.6561on Oct 2019 and sells the share of max price 5.4850 onjan2020. The investor has to check at every 6months of the period when shares are getting down has to invest in another company.

4. Statement showing of Escorts ltd from1st October 2019 to 31st January 2020

Average returns =-0.1502

$$\begin{aligned}\text{Variance} &= \sum \frac{d^2}{n-1} \\ &= 0.0102\end{aligned}$$

$$\begin{aligned}\text{Risk} &= \sqrt{\text{variance}} \\ &= 0.100860126\end{aligned}$$

$$\begin{aligned}\text{Coefficient of variance} &= \text{returns/ risk} \\ &= 7.62161\end{aligned}$$

Interpretation:

From the above table it represents the risk and returns of Escorts ltd for 3 months i.e,1/10/2019 to31/01/2020. The company has an average return of-0.1502, the variance is 0.0102, the risk is0.100860126 and the coefficient of variance are 7.62161. The investor buys a share of min price -2.6976 on Oct 2019 and sells the share of max price4.0073 onjan2020. The investor has to check at every 6months of the period when shares are getting down has to invest in another company.

5. Statement showing of Maruti Suzuki ltd from1st October 2019 to 31st January 2020

Average returns =-0.00167

$$\begin{aligned}\text{Variance} &= \sum \frac{d^2}{n-1} \\ &= 1.03071\text{E-}05\end{aligned}$$

$$\begin{aligned}\text{Risk} &= \sqrt{\text{variance}} \\ &= 0.003210\end{aligned}$$

Coefficient of variance = returns/ risk
=-9.6301343

Interpretation:

From the above table it represents the risk and returns of Maruti Suzuki ltd for a period of 3 months i.e,1/10/2019 to31/01/2020. The company has an average returns of-0.00167 , variance is1.03071E-05 , risk is0.0032105 and coefficient of variance is-9.6301343 .The investor buy a share of min price -2.2931on oct 2019 and sell the share of max price3.1746 onjan2020.The investor has to check at every 6months of time period when shares are getting down has to invest in another company.

Calculation of risk and return of BSE Sensex

1. Comparative study on volatility analysis of Ashok Leyland ltd

Systematic risk $\beta = \frac{\sum D1 * D2}{D2^2}$
=-0.2233

Interpretation:

The volatility analysis of Ashok Leyland ltd with β value is -0.2233

2. Comparative study on volatility analysis of Bajaj Auto ltd

Systematic risk $\beta = \frac{\sum D1 * D2}{D2^2}$
=0.089873

Interpretation:

The volatility analysis of Bajaj Auto ltd with β value is 0.089873

3. Comparative study on volatility analysis of Eicher motors ltd

Systematic risk $\beta = \frac{\sum D1 * D2}{D2^2}$
=0.1808

Interpretation:

The volatility analysis of Eicher motor ltd with β value is 0.1808

4. Comparative study on volatility analysis of Escorts ltd

$$\text{Systematic risk } \beta = \frac{\sum D1 * D2}{D2^2}$$
$$= 0.0544$$

Interpretation:

The volatility analysis of Escort motor ltd with β value is 0.054

5. Comparative study on volatility analysis of MarutiSuzuki ltd

$$\text{Systematic risk } \beta = \frac{\sum D1 * D2}{D2^2}$$
$$= 0.0424$$

Interpretation:

The volatility analysis of Maruti Suzuki ltd with β value is 0.0424

Comparison of BSE Indices With Reference To Selected Companies

COMPANY NAME	Systematic risk
ASHOKLEYLANDLTD	-0.2233
BAJAJAUTOLD	0.0899
EICHERSMOTORS LTD	0.1808
ESCORTS LTD	0.0540
MARUTISUZUKI LTD	0.0424

FINDINGS

- The Ashok Leyland Ltd has average returns of 0.0838, the variance is 0.16189701, the risk is 0.402364275, coefficient of variance is -8.9020611 and systematic risk is 0.2233
- The Bajaj Auto Ltd has average returns of 0.289073, the variance is 0.140997, the risk is 0.37549627, the coefficient of variance is 9.880276 and systematic risk is 0.089873.
- The Eicher Motors Ltd has average returns of 0.17457, the variance is 0.0272, the risk is 0.1648296, the coefficient of variance is -10.1695 and systematic risk is 0.1808.
- The Escorts Ltd has average returns of 0.1502, the variance is 0.0102, risk is 0.100860126, the coefficient of variance is 7.62161 and systematic risk is 0.054.
- The Maruti Suzuki Ltd has average returns of -0.00167, variance is 1.03071E-05, risk is 0.0032105, coefficient of variance is -9.6301343 and systematic risk is 0.0424.

SUGGESTIONS

- The volatility of Ashok Leyland Ltd about Sensex of β is -0.2233, as it is -0 the investor cannot invest in stocks right now. In such case, the investor has to monitor his shares regularly with certain time intervals as the β turns into positive such that he can invest in further benefited stocks.
- The volatility of Bajaj Auto Ltd about Sensex of β is 0.88425554; from 0 to 1 investors can invest in stocks. The shares are in positive so that he can invest in such benefited stocks.
- The volatility of Eicher Motors Ltd with reference to Sensex of β is 0.1808; from 0 to 1 investor can invest into stocks. As the shares are in positive so that he can invest in such benefited stocks.
- The volatility of Escorts Ltd concerning Sensex of β is 0.054; from 0 to 1 investors can invest in stocks. As the shares are in positive so that he can invest in such benefited stocks.
- The volatility of Maruti Suzuki Ltd about Sensex of β is 0.0424; from 0 to 1 investors can invest in stocks. As the shares are positive in so that the investor has to monitor his shares regularly with certain time intervals so that he can invest in such benefited stocks.

CONCLUSION

As per the conclusion, the S&P BSE AUTO Index is down 15.0% over the last 30 days. And over the last 1 year, it has lost 20.2%. Within the Automobile sector, the top gainers were BAJAJ AUTO (up 1.2%) and MARUTI SUZUKI (up 1.0%). Meanwhile, the benchmark S&P BSE SENSEX was high. Here's an analysis of the annual report of ESCORTS LIMITED for 2019-2020. It includes volatility changes in stocks that help to analyze ESCORTS LIMITED. It also includes updates on the valuation of ESCORTS LIMITED. For the quarter ended January 2020, ASHOK LEYLAND has posted a returns mode. Read on for a complete volatility analysis of ASHOK LEYLAND's which slowly turns into a negative point. During the period the automobile sector is the best sector to invest in BSE stocks. Such that every investor has to monitor every stock whenever he has to invest in future returns.

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