

## A STUDY ABOUT RISK AND RETURN ON AUTOMOBILE INDUSTRIES

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**ABSTRACT:** Automobile Industry could be a image of technical marvel by humans. Automobile industry is taken into account to be the quickest growing sectors in any developing and even in a developed country. The risk and return analysis connected with any trade reveals the details attached to the actual industry.. While making the decisions regarding investment and financing, one seeks to achieve the right stability between risk and return, in order to improve the importance of the firm. This study reported a statistical significant relationship between risk and return. The study is undertaken with the main objective of determining the risk and return profile of selected automobile industries. In this article risk and return of Ashok Leyland, Bajaj Auto, and Eicher Motor are analyzed using statistical tools like mean, variance, standard deviation, beta and t-test. Finally, the study proves there's a relation between risk and return of the most effective company among the selected company

**Key words:** Risk, Return, Bombay stock Exchange (BSE).

### I. INTRODUCTION:

(a) **Risk:** In the investment world, the meaning of risk is that the probability that partner speculations genuine return will be totally not the same as anticipated. Risk implies that you have the opportunity of losing a few, or maybe all, of your unique investment. Low dimensions of risk are identified with low potential returns. Risk can be partitioned into two kinds: systematic and unsystematic.

(b) **Return:** Returns allude to the potential loss or gain experienced through investments in securities. On the off chance that an investor chooses to put resources into a security that has a relatively generally safe, the conceivable profit for that speculation is typically small. On the other hand, an interest in a security that has a high risk factor can possibly increase higher return.

### II. OBJECTIVES OF THE STUDY:

1. To understand the price movements of selected firms.
2. To calculate the return of the selected automobile companies.

3. To analyze the relationship between the returns of the selected automobile companies.

### III. REVIEW OF LITERATURE:

**K.C. John Wei and Feixue Xie, Financial Analysts Journal accruals, capital investments, and stock returns;** The evidence from this study shows that the “accruals anomaly” and the “capital investment anomaly” are separate, even though capital investments and accumulations may be related in a certain way. The results also specify that, after variation for the Fama–French three risk factors, investors earn substantially higher returns by using a strategy that exploits both anomalies at the same time than by exploiting either anomaly alone.

**Dale L. Domian, CFA, David A. Louton, and Marie D. Racine** in their study of modification in portfolios of individual stocks: Standard investment procedure suggests much of the benefit from modification is attained with a selection of between 8 and 20 stocks. Investors with a long-term investment horizon, however, might be concerned with underperformance risk

that could result in ending wealth levels significantly below target.

**Hasan Ali and Habibolah (2010)** tested the risk-return relationship by way of taking 74 companies as sample size in Tehran Stock Exchange during the period of 2003-2005. The study examined the characteristics of the return in terms of Skewness and Kurtosis to find out the distribution of return series. As far as the study is concerned, the effect of Kurtosis did not show any significant relation with the return during the study period whereas the Skewness showed the important effects on returns.

#### IV. RESEARCH METHODOLOGY:

It is the scientific way to solve the research problem. It is the systematic, theoretical analysis of the ways applied to a field of study.

#### Data collection:

**(a) Primary data:** This method includes the data collection from the personal discussion with the authorized clerks and members of the bonanza portfolio.

**(b) Secondary data:** The secondary data can be obtained from information collected through internet searches, books, government departments, websites and libraries.

#### V. STATISTICAL TOOLS:

1. MEAN
2. STANDARD DEVIATION
3. VARIANCE
4. BETA
5. T-TEST

#### VI. HYPOTHESIS OF THE STUDY:

H0: There is no significance difference between return of selected Automobile companies.

H1: There is a significant difference between return of selected Automobile companies.

#### VII. SAMPLE DESIGN:

The study of analysis mainly focusing at difference of changes in share prices of Indian Automobile companies listed on BSE indexes are taken for the study.

**SAMPLE SIZE:** To analyze the risk and return of three Automobile companies.

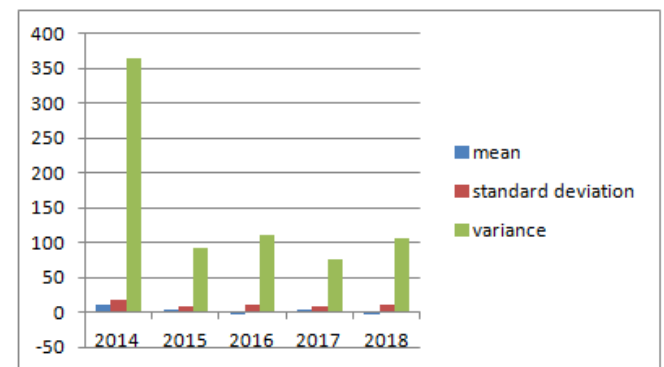
#### THREE AUTOMOBILE COMPANIES:

1. Ashok Leyland
2. Bajaj Auto
3. Eicher motor.

#### VIII. DATA ANALYSIS:

**Table 1:** Ashok Leyland

Year	mean	standard deviation	variance
2014	10.36622671	19.0779504	363.9682
2015	4.421141368	9.575398863	91.68826
2016	-0.604448034	10.53322291	110.9488
2017	3.051709898	8.687219559	75.46778
2018	-1.578208424	10.34030915	106.922

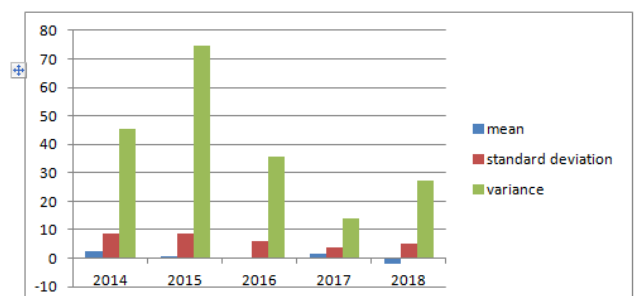


#### INTERPRETATION:

From the above table, it is seen that the highest mean value as 10.366 in the year of 2014, the lowest mean value as -1.57 in the year 2018. The highest standard deviation as 19.077 the year 2014, the lowest standard deviation as 8.68 in the year 2017. The highest variance as 363.9 in the year 2014, the lowest variance as 75.46 in the year 2017.

**Table 2:** Bajaj Auto

Year	mean	standard deviation	variance
2014	2.512478	8.525064465	45.18292859
2015	0.72656	8.639738612	74.64508328
2016	0.306658	5.965665779	35.58916818
2017	1.595019	3.743594381	14.01449889
2018	-2.02979	5.200831783	27.04865124

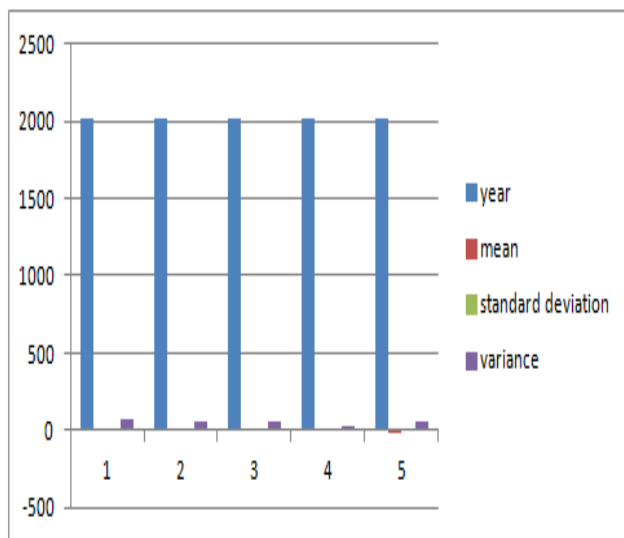


## INTERPRETATION:

From the above table, it is seen that the highest mean value as 2.51 in the year of 2014, the lowest mean value as -2.029 in the year 2018. The highest standard deviation as 8.63 in the year 2015, the lowest standard deviation as 3.74 in the year 2017. The highest variance as 74.64 in the year 2015, the lowest variance as 14.01 in the year 2017.

Table 3: Eicher Motor

year	mean	standard deviation	variance
2013	10.54018	8.863428499	78.56036
2014	0.600548	8.001076056	64.01722
2015	2.168247	7.958257417	63.33386
2016	2.068244	5.078853329	25.79475
2017	-2.17409	7.651159461	58.54024



## INTERPRETATION:

From the above table, it is seen that the highest mean value as 10.54 in the year of 2013, the lowest mean value as -2.17 in the year 2017. The highest standard deviation as 8.86 in the year 2013, the lowest standard deviation as 5.07 in the year 2016. The highest variance as 78.56 in the year 2013, the lowest variance as 25.74 in the year 2016.

Table 4: BETA CALCULATION

Year	Ashok Leyland	Bajaj Auto	Eicher Motor
2013	0.120174872	0.33020224	0.323094148
2014	0.242746707	0.203563214	0.215867616
2015	0.27356732	0.920846258	0.167365263
2016	0.235077912	0.36656031	0.330121178
2017	0.215607801	0.613734763	0.564659902

## INTERPRETATION:

Beta is a proportion of a stock's volatility in connection to the market. If a stock moves not exactly the market, the stock's beta is under 1.0. High-beta stocks should be more risky yet give a possibility to higher returns; low-beta stocks present less hazard yet additionally lower returns. The Beta value of Ashok Leyland, Bajaj Auto and Eicher Motor has a negative trend between individual stock return and market return.

Table 5: T-Test for Ashok Leyland and Bajaj Auto.

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	3.131284303	0.622184207
Variance	22.5373682	2.915765236
Observations	5	5
Pearson Correlation	0.845060437	
Hypothesized Mean Difference	0	
Df	4	
t Stat	1.636593308	
P(T<=t) one-tail	0.088528263	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.177056526	
t Critical two-tail	2.776445105	

## INTERPRETATION:

As per table 5, tabulated value is 2.77 and the calculated value of t-stat is 1.63. It is much less than the tabulated value. It is highly not significant. Hence, we accept the null hypothesis. It means there is no significance difference between the return of selected auto mobile companies.

**Table 6: T-Test for Bajaj Auto and Eicher Motor**

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	0.622184207	2.640625016
Variance	2.915765236	22.57428645
Observations	5	5
Pearson Correlation	0.834468696	
Hypothesized Mean Difference	0	
Df	4	
t Stat	-1.305625958	
P(T<=t) one-tail	0.130854431	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.261708861	
t Critical two-tail	2.776445105	

### INTERPRETATION:

As per table 6, tabulated value is 2.77 and the calculated value of t-stat is -1.30. It is much less than the tabulated value. It is highly not significant. Hence, we accept the null hypothesis. It means there is no significance difference between the return of selected auto mobile companies.

**Table 7: T-Test for Ashok Leyland and Eicher Motor**

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	3.131284303	2.640625016
Variance	22.5373682	22.57428645
Observations	5	5
Pearson Correlation	0.875677749	
Hypothesized Mean Difference	0	
Df	4	
t Stat	0.463282295	
P(T<=t) one-tail	0.333623585	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.66724717	
t Critical two-tail	2.776445105	

### INTERPRETATION:

As per table 7, tabulated value is 2.77 and the calculated value of t-stat is 0.46. It is much less than the tabulated value. It is highly not

significant. Hence, we accept the null hypothesis. It means there is no significance difference between the return of selected auto mobile companies.

### IX. FINDINGS

1. From this study, it was found that the average returns of the selected Automobile companies are fluctuating.
2. The mean of Ashok Leyland, Bajaj Auto and Eicher Motor are high in the year 2013.
3. The Eicher Motor has the overall highest average return of 10.54 in the year 2014 when compared to other firms.
4. The Ashok Leyland has the lowest average return of 1.57 in the year 2017.
5. The Beta value of Ashok Leyland, Bajaj Auto and Eicher Motor has a negative trend between individual stock return and market return.
6. The negative beta value does not have any significance.
7. Tabulated value of Ashok Leyland and Bajaj auto is 2.77 and the calculated value of t-stat is 1.63. It is much less than the tabulated value.
8. Tabulated value of Bajaj auto and Eicher is 2.77 and the calculated value of t-stat is -1.30. It is much less than the tabulated value. It is highly not significant.
9. Tabulated value of Ashok Leyland and Eicher is 2.77 and the calculated value of t-stat is 0.46. It is much less than the tabulated value. It is highly not significant. Hence, we accept the null hypothesis. It means there is no significance difference between the return of selected auto mobile companies.

### X. CONCLUSION

The study provides information about the presentation of a variety of stocks in market in terms of risk and return. Automobile sector has undergone dramatic change and profiled themselves as one of the main industry which is strongly interdependent with other sectors. Based upon the performance of automobile companies, investing in Eicher motor will give higher returns as it possess low risk.



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