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Research Article

Risk and Return Analysis of Equity Shares of Selected Companies in Automobile Industry

Ch. Balaji[1], G. D. V. Kusuma[2], B. Ravi Kumar[3]

[1]Ashoka Business School, Hyderabad, Telangana, India, [2]Research Scholar, Rayalaseema University, Andhra Pradesh, India, [3]Department of MBA, Amrita Sai Institute of Science and Technology, Vijayawada, Andhra Pradesh, India

ABSTRACT

Automobile industry is a symbol of technical marvel by humankind. Automobile industry is considered to be one of the fastest growing sectors in any developing and even in a developed country. The objectives of the study are to analyze the average risk and returns of selected company securities in automobile industry and to analyze and compare the performance of five Indian automobile industries: Tata Motors, Ashok Leyland, Eicher Motors, Force Motor, and SML Isuzu. The source of information for this study has been taken from secondary data from company websites. The sample size of all five companies registered under automobile industry in LCVs and HCVs sector has been selected for analyzing the data. The data analyzed for the study is 5 years, i.e., January 1, 2012–March 31, 2017. Tools used for the study are risk, return, ranking method, and graphical method.

Address for correspondence:
Ch. Balaji, Ashoka Business School, Hyderabad, Telangana, India

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INTRODUCTION

Risk is a concept that denotes a potential negative impact to an asset or some characteristic of value that may arise from some present process or future event. Equity markets across the world are volatile, but India has a higher level of volatility. Stock market risk is the tendency of stock prices to decrease due to the change in value of the market risk factors. The market value of those investments will go up and down depending on the financial performance of the issuers and general economic, political, tax, and market conditions. Standard market risk factors are stock prices, interest rates, foreign exchange rates, and commodity prices.

Whether it is investing, driving, or just walking down the street, everyone exposes themselves to risk. Personality and lifestyle play a big role in how much risk you are comfortably able to take on. If you invest in stocks and have trouble sleeping at night, you are probably taking on too much risk. Risk and return are the two important aspects of any kind of investment. The relationship that exists between these two variables is the important consideration for deciding the investment avenue. The main objective of any investor would be to maximize the returns and minimize the risk.[1]

Risk

A probability or threat of damage, injury, liability, loss, or any other negative occurrence that is caused by external or internal vulnerabilities and that may be avoided through preemptive action.

Return

Return can be expressed as a percentage and is calculated by adding the income and the change in value and then dividing by the initial principal or investment amount. You can find the annualized return by dividing the percentage return by the number of years you have held the investment.

REVIEW OF LITERATURE

Kaplan and Schurz (2005)[2] analyzed on the investigate performance in the industry high-quality research papers on the functioning and performance of firms in the private equity industry have been published in the past 10 years. The purpose of this article is to review the papers I consider have made the most important contribution to our understanding of this topic. The most thorough study of private equity performance in the recent literature is the one by Kaplan and Scholar (2005). They investigate the performance, persistence, and capital flows in the industry, focusing both on LBO funds and venture capital (VC) funds. As regards performance they find that, on average, fund returns net of fees approximately equal the return of S&P 500. Evidence of large heterogeneity in returns across funds and time presented. Substantial persistence in LBO and VC fund performance is also documented. GP's who outperform the industry one fund is likely to outperform the industry in the next and vice versa.

Raj and Rakesh (2006)[3] analyzed the relationship between risk and return, observed a high positive relation between portfolio return and risk. Madhu and Tamimi (2010) in their study revealed that CAPM held good in Indian stock market in explaining the systematic risk and establishing the tradeoff between risk and return. To establish the positive risk-return relationship between equity returns and different distributional and financial risk variables.

Laxmichand and Rambhia[4] researched on "exploring risk anomaly in Indian equity market" while traditional theory tells us that high returns of stocks are associated with high risks, this paper shows in that under certain conditions, a portfolio with low-volatility stocks can yield higher returns than a high-volatility portfolio, a phenomenon known as "risk-based anomaly." The motivation behind this research paper is the relatively new phenomenon of "risk-based anomaly," which has been extensively investigated in the US and a few other countries in the last few years; but not in emerging market, particularly India. Using a low-volatility portfolio strategy over an 11-year period (from 2001 to 2011) with rolling monthly iterations in the Indian market, the paper finds that as compared to a high-volatility portfolio, a low-volatility portfolio produces not only higher absolute returns but also higher risk-adjusted returns. The results have been consistent with those found by Roger Clarke (2006) for the US market.

Liem (2013)[5] in his paper, he has tested the relationship between the stock returns, corporate performance, and investment risks with the sample of listed companies in the automobile sector in the stock market. Descriptive statistical analysis, correlation test, and regression analysis indicate that there is no relationship between stock returns and corporate performance, but there exists a positive correlation between the stock returns and investment risks in the automobile sector.

Research gap

In the above review of literatures, the authors found that risk and returns involve in Indian equity market and corporate performance of the companies. In this study, it is analyzed about the risk and return analysis of equity shares of selected companies in automobile industry.

Objectives of the study

1. To analyze the average returns of selected companies securities in automobile industry.
2. To analyze the risk associated in selected companies securities in automobile industry.
3. To analyze and compare the performance of five Indian automobile industries: Tata Motors, Ashok Leyland, Eicher Motors, Force Motor, and SML Isuzu.
4. To suggest the investors to analyze the stock before investing into any automobiles stock.

Scope of the study

- The scope of the study is identified after and during the study is conducted. The project is based on tools such as average, risk, and returns. Further, the study is based on information of past 5 years.
- The analysis is made by taking into consideration five automobiles, i.e., Ashok Leyland, Eicher Motors, Force Motors, SML Isuzu, and Tata Motors.
- The scope of the study is limited for 5 years.

RESEARCH METHODOLOGY

Secondary data

The source of information for this study has been taken from secondary data from company websites.

Sample

The sample size of all five companies registered under automobile industry in LCVs and HCVs sector has been selected for analyzing the data. Those are:

1. Tata Motors.
2. Eicher Motors.
3. Ashok Leyland.
4. Force Motor.
5. SML Isuzu.

Period of the study

The data analyzed for the study is 5 years, i.e., January 1, 2012–March 31, 2017.

Statistical tools

1. Expected Returns $= \frac{\text{Closing price-opening price}}{\text{Opening price}} \times 100$
2. Beta $= \beta_a = \frac{\text{Cov}(r_a, r_p)}{\text{Var}(r_p)}$
3. Ranking method
4. Graphical representation

Data analysis

Interpretation

From Table 1, beta value (risk) of 1.09 indicates that one unit change in S&P BSE Auto index will cause a 1.09 change in Ashok Leyland. This shows that the market and the Ashoka Leyland stock move in slightly tandem. This shows stock is more volatile compared to the market. Alpha value −1.37 of Ashok Leyland stock for 5-year period is indicating that overall return and performance of stock is very poor.

Interpretation

From Table 2, beta value (risk) of 1.13 indicates that one unit change in S&P BSE Auto index will cause a 1.13 change in Tata Motors. This shows that the market and the Tata Motors stock move in slightly tandem. This shows stock is more volatile compared to the market. Alpha value −1.61 of Tata Motors stock for 5-year period is indicating that overall return and performance of stock is very poor.

Table 1: Stock returns of Ashok Leyland and market returns of S&P BSE auto

Financial year	Ashok Leyland		S&P BSE Auto	
	Share price	Returns	Index	Returns
2011–12				
Q4	28.67		9790.42	
2012–13				
Q1	27.40	−4.62	9658.81	−1.34
Q2	22.35	−22.60	9589.22	−0.72
Q3	26.25	14.86	10849.31	13.14
Q4	22.87	−14.80	10482.25	−3.38
2013–14				
Q1	22.20	−3.00	10946.66	4.43
Q2	13.57	−63.60	10589.19	−3.27
Q3	17.05	20.41	12218.50	15.39
Q4	18.60	8.33	12482.62	2.16
2014–15				
Q1	30.35	38.71	14371.76	15.13
Q2	37.25	18.52	16843.75	17.20
Q3	50.02	25.52	18809.99	11.67
Q4	68.68	27.18	19742.43	4.96
2015–16				
Q1	71.17	3.49	18708.82	−5.24
Q2	89.08	20.11	18121.38	−3.14
Q3	92.05	3.22	18549.88	2.36
Q4	109.55	15.97	16966.45	−8.54
2016–17				
Q1	104.70	−4.43	19192.43	13.12
Q2	87.47	−16.46	21776.97	13.47
Q3	83.28	−4.78	20862.48	−4.20
Q4	88.65	6.44	21769.32	4.35
Slope β	1.097470598			
Intercept α	−1.37948033			

Interpretation

From Table 3, beta value (risk) of 1.26 indicates that one unit change in S&P BSE Auto index will cause a 1.26 change in Eicher Motors. This shows that the market and the Eicher Motors stock move in slightly tandem. This shows stock is more volatile compared to the market. Alpha value 8.99 of Eicher Motors stock for 5-year period is indicating that overall return and performance of stock is excellent.

Interpretation

From Table 4, beta value (risk) of 1.09 indicates that one unit change in S&P BSE Auto index will cause a 1.09 change in Ford Motors share price. This shows that the market and the Ford Motors stock move in slightly tandem. This shows stock is more volatile compared to the market. Alpha value 7.4 of Ford Motors stock for 5-year period is indicating that overall return and performance of stock is very good.

Table 2: Stock returns of Tata Motors and market returns of S&P BSE auto

Financial year	Tata Motors		S&P BSE Auto	
	Share prices	Returns	Index	Returns
2011–12				
Q4	284.70		9790.42	
2012–13				
Q1	231.24	−18.78	9658.81	−1.34
Q2	250.23	8.21	9589.22	−0.72
Q3	292.81	17.02	10849.31	13.14
Q4	282.36	−3.57	10482.25	−3.38
2013–14				
Q1	293.02	3.77	10946.66	4.43
Q2	333.51	13.82	10589.19	−3.27
Q3	370.98	11.23	12218.50	15.39
Q4	408.48	10.11	12482.62	2.16
2014–15				
Q1	426.60	4.44	14371.76	15.13
Q2	517.19	21.24	16843.75	17.20
Q3	532.30	2.92	18809.99	11.67
Q4	541.71	1.77	19742.43	4.96
2015–16				
Q1	433.50	−19.98	18708.82	−5.24
Q2	341.02	−21.33	18121.38	−3.14
Q3	383.77	12.54	18549.88	2.36
Q4	365.13	−4.86	16966.45	−8.54
2016–17				
Q1	473.48	29.67	19192.43	13.12
Q2	536.02	13.21	21776.97	13.47
Q3	484.77	−9.56	20862.48	−4.20
Q4	459.97	−5.12	21769.32	4.35
Slope β	1.130931816			
Intercept α	−1.61340094			

Interpretation

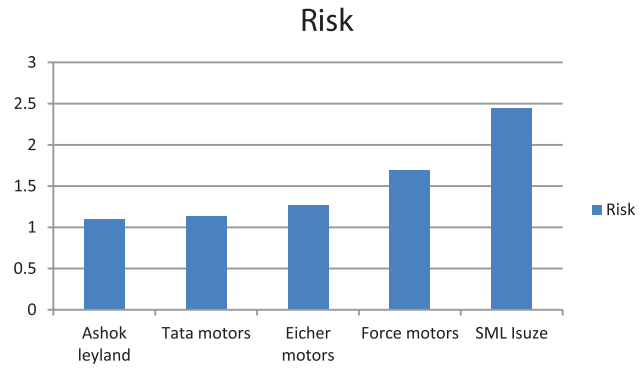
From Table 5, beta value (risk) of 2.44 indicates that one unit change in S&P BSE Auto index will cause a 2.44 units change in SML Isuzu share price. This shows that the market and the SML Isuzu stock move in slightly tandem. This shows stock is more volatile compared to the market. Alpha value −1.37 of SML Isuzu stock for 5-year period is indicating that overall return and performance of stock is very poor.

Table 3: Stock returns of Eicher Motors and market returns of S&P BSE Auto

Financial year	Eicher Motors		S&P BSE Auto	
	Share price	Returns	Index	Returns
2011–12				
Q4	2004.87		9790.42	
2012-13				
Q1	2083.50	3.92	9658.81	−1.34
Q2	2258.67	8.41	9589.22	−0.72
Q3	2821.73	24.93	10849.31	13.14
Q4	2763.75	−2.05	10482.25	−3.38
2013–14				
Q1	3489.25	26.25	10946.66	4.43
Q2	3569.33	2.30	10589.19	−3.27
Q3	4769.75	33.63	12218.50	15.39
Q4	5767.68	20.92	12482.62	2.16
2014–15				
Q1	7722.98	33.90	14371.76	15.13
Q2	11500.25	48.91	16843.75	17.20
Q3	15289.87	32.95	18809.99	11.67
Q4	15635.40	2.26	19742.43	4.96
2015–16				
Q1	19184.77	22.70	18708.82	−5.24
Q2	18182.93	−5.22	18121.38	−3.14
Q3	16710.37	−8.10	18549.88	2.36
Q4	19372.07	15.93	16966.45	−8.54
2016–17				
Q1	20056.33	3.53	19192.43	13.12
Q2	23866.23	19.00	21776.97	13.47
Q3	22150.43	−7.19	20862.48	−4.20
Q4	25261.87	14.05	21769.32	4.35
Slope β	1.26878598			
Intercept α	8.9964095			

Table 4: Stock returns of Force Motors and market returns of S&P BSE Auto

Financial year	Force Motors			S&P BSE Auto
	Share price	Returns	Index	Returns
2011–12				
Q4	500.62		9790.42	
2012–13				
Q1	451.55	−9.80	9658.81	−1.34
Q2	450.05	−0.33	9589.22	−0.72
Q3	461.52	2.55	10849.31	13.14
Q4	371.65	−19.47	10482.25	−3.38
2013–14				
Q1	290.38	−21.87	10946.66	4.43
Q2	291.02	0.22	10589.19	−3.27
Q3	328.72	12.95	12218.50	15.39
Q4	351.45	6.92	12482.62	2.16
2014–15				
Q1	514.30	46.34	14371.76	15.13
Q2	1162.22	125.98	16843.75	17.20
Q3	1162.95	0.06	18809.99	11.67
Q4	1454.33	25.06	19742.43	4.96
2015–16				
Q1	1892.23	30.11	18708.82	−5.24
Q2	2656.93	40.41	18121.38	−3.14
Q3	3047.50	14.70	18549.88	2.36
Q4	2866.50	−5.94	16966.45	−8.54
2016–17				
Q1	3117.90	8.77	19192.43	13.12
Q2	3729.97	19.63	21776.97	13.47
Q3	3978.40	6.66	20862.48	−4.20
Q4	4491.23	12.89	21769.32	4.35
Slope β	1.6866658			
Intercept α	7.4077261			



Interpretation

1. It has been found that in the year from 2012–13 to 2016–17 Ashok Leyland, Tata Motors, Eicher Motors, Force Motors, and SML Isuzu Motors have continuous low risk.
2. In the year from 2012–13 to 2016–17, SML Isuzu and Force Motors have the moderate risk compared to Tata Motors and Ashok Leyland.

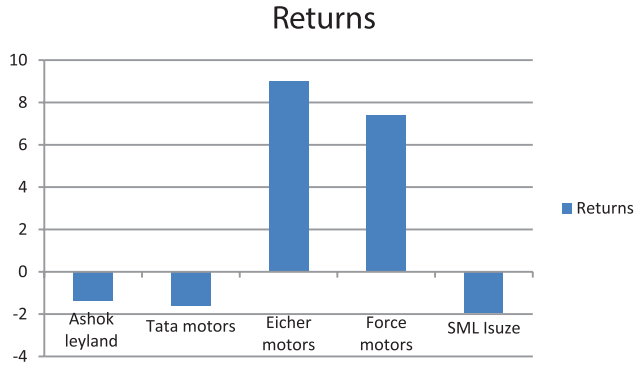


Table 5: Stock returns of SML Isuzu and market returns of S&P BSE Auto

Financial year	SML Isuzu		S&P BSE Auto	
	Share price	Returns	Index	Returns
2011–12				
Q4	411.23		9790.42	
2012–13				
Q1	386.37	−6.05	9658.81	−1.34
Q2	408.08	5.62	9589.22	−0.72
Q3	443.53	8.69	10849.31	13.14
Q4	309.25	−30.28	10482.25	−3.38
2013–14				
Q1	287.07	−7.17	10946.66	4.43
Q2	242.87	−15.40	10589.19	−3.27
Q3	270.30	11.30	12218.50	15.39
Q4	320.03	18.40	12482.62	2.16
2014–15				
Q1	544.30	70.08	14371.76	15.13
Q2	895.25	64.48	16843.75	17.20
Q3	916.03	2.32	18809.99	11.67
Q4	1158.38	26.46	19742.43	4.96
2015–16				
Q1	1212.02	4.63	18708.82	−5.24
Q2	1225.08	1.08	18121.38	−3.14
Q3	1152.57	−5.92	18549.88	2.36
Q4	805.72	−30.09	16966.45	−8.54
2016–17				
Q1	1138.27	41.27	19192.43	13.12
Q2	1316.63	15.67	21776.97	13.47
Q3	1136.92	−13.65	20862.48	−4.20
Q4	1296.12	14.00	21769.32	4.35
Slope β	2.446874892			
Intercept α	−1.94049072			

Table 6: Risk associated with automobile companies in India

Company	Risk	Ranking
Ashok Leyland	1.09747	1
Tata Motors	1.13093	2
Eicher Motors	1.26879	3
Force Motors	1.68667	4
SML Isuzu	2.44687	5

Interpretation

1. It has been found that Eicher Motors and Force Motors have the high returns in the year from 2012–13 to 2016–17 compared to Ashok Leyland, Tata Motors, and SML Isuzu.
2. In the year from 2012–13 to 2016–17, Eicher Motors have better returns compared to other companies selected for the study.

Table 7: Returns associated with automobile companies in India

Company	Returns	Ranking
Ashok Leyland	−1.3795	3
Tata Motors	−1.61	4
Eicher Motors	8.99641	1
Force Motors	7.40773	2
SML Isuzu	−1.9405	5

Overall Analysis

Risk

1. Overall, in all the five financial years, Tata Motors and Ashok Leyland have the low risk.
2. The SML Isuzu has the highest risk compared to Force Motors and Eicher Motors.

Returns

1. It has been found that Eicher Motors and Force Motors have the high returns overall compared to other companies selected for the study.

Suggestions

It has been suggested based on the observation that in all five financial years continuously the risk is low in Ashok Leyland and Eicher Motors compared to Tata Motors, Force Motors, and SML Isuzu.

Overall, the returns of the Ashok Leyland and Eicher Motors are high compared to Tata Motors, Force Motors, and SML Isuzu.

Hence, it is suggested that for bearing low risk it's better to invest in Eicher Motors and Ashok Leyland to bear high risk for high returns it is suggested to invest in Tata Motors.

CONCLUSION

It has been concluded that to invest in the stocks for bearing low risk the investor can invest in the Eicher Motors and Force Motors as the risk is continuously low and to gain high returns investors can invest in Eicher Motors and Force Motors.

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