

A Study on Risk and Return of Automobile Sector Stocks: Maruti Suzuki and Tata Motors

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Abstract

The automobile industry is one of the most significant sectors contributing to the economic growth of India. Investors often analyze automobile stocks to understand the relationship between risk and return before making investment decisions. This study focuses on two major automobile companies in India: Maruti Suzuki and Tata Motors. The objective of the study is to evaluate and compare the risk and return patterns of these companies' stocks. The research uses secondary data collected from stock market reports, company annual reports, NSE, and BSE websites for analysis. Different statistical tools such as average return, standard deviation, beta, and correlation are used to measure risk and return. The study identifies the performance of both companies under changing market conditions and examines which stock provides better investment opportunities. Maruti Suzuki is found to provide stable returns with comparatively lower risk, whereas Tata Motors offers higher return potential with greater volatility. The research helps investors understand stock behavior in the automobile sector and supports effective investment decision-making. Overall, the study concludes that risk and return are closely related and vary according to market fluctuations and company performance.

Keywords: Risk and Return Analysis, Automobile Sector, Maruti Suzuki, Tata Motors, Stock Market Performance, Equity Investment, Stock Volatility, Investment Risk, Portfolio Management, Comparative Stock Analysis.

I. INTRODUCTION

The automobile industry plays a vital role in the industrial and economic development of India. It contributes significantly to employment generation, technological advancement, exports, and GDP growth. The stock market performance of automobile companies attracts both individual and institutional investors because the sector is influenced by economic conditions, consumer demand, fuel prices, government policies, and technological innovations. Risk and return are two important concepts in investment analysis. Return refers to the profit earned from an investment, while risk indicates the uncertainty associated with achieving expected returns. Investors generally seek higher returns with minimum possible risk. Therefore, analyzing the relationship between risk and return helps investors make informed investment decisions. This study focuses on the stocks of Maruti Suzuki and Tata Motors, two leading

automobile companies in India with strong market presence and investor interest. Maruti Suzuki is known for its dominance in the passenger vehicle segment and stable financial performance, whereas Tata Motors has diversified operations in passenger vehicles, commercial vehicles, and electric vehicles. The study compares the risk and return characteristics of both companies using statistical and financial tools. By examining stock price movements and market performance, the research aims to identify which stock offers better investment opportunities and financial stability. The findings of the study provide useful insights for investors, researchers, and financial analysts interested in automobile sector investments.

Research Objective:

- To study the concept of risk and return in stock investments.

- To analyze the stock performance of Maruti Suzuki.
- To analyze the stock performance of Tata Motors.
- To compare the returns generated by both companies' stocks.
- To measure the level of risk associated with the selected stocks.
- To evaluate the volatility of automobile sector stocks.
- To study the relationship between market movements and stock returns.
- To identify the investment potential of Maruti Suzuki and Tata Motors.
- To provide suggestions for investors based on risk-return analysis.
- To understand the impact of market conditions on automobile sector stocks.

Research Methodology:

- The study is based on secondary data sources.
- Data is collected from NSE, BSE, company annual reports, and financial websites.
- The study focuses on Maruti Suzuki and Tata Motors stocks.
- Historical stock price data is used for analysis.
- The study period covers recent financial years.
- Statistical tools such as mean and standard deviation are applied.
- Beta is used to measure systematic risk.
- Percentage return method is used to calculate stock returns.
- Comparative analysis is conducted between the selected companies.
- Graphical representation is used for better interpretation of data.

II. REVIEW OF LITERATURE

Several researchers have studied the relationship between risk and return in stock markets and emphasized the importance of investment analysis in different sectors.

Studies reveal that higher returns are generally associated with higher levels of risk. Previous research on automobile sector stocks highlights the influence of economic growth, fuel prices, inflation, and government policies on stock performance. Researchers have also observed that company fundamentals, market capitalization, and investor confidence significantly affect stock returns. Some studies conclude that Maruti Suzuki provides stable and consistent returns due to strong market leadership, while Tata Motors demonstrates higher volatility because of global operations and changing demand conditions. Literature also suggests that beta and standard deviation are effective tools for measuring stock risk. The review indicates that risk-return analysis helps investors identify suitable investment opportunities and make better portfolio decisions.

III. DATA ANALYSIS & INFERENCES

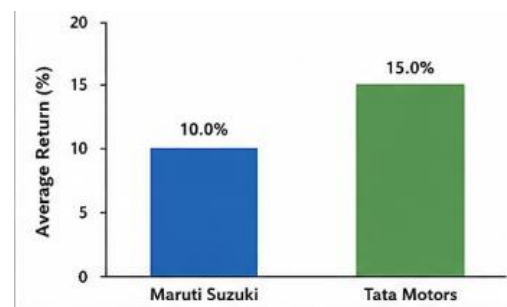


Fig 1: Anerage Monthly Return

INTERPRETATION :

The above bar graph compares the average monthly returns of Maruti Suzuki and Tata Motors. Tata Motors recorded a higher average monthly return of 15% compared to Maruti Suzuki's 10%. This indicates that Tata Motors generated better returns for investors during the study period. Higher returns suggest stronger growth opportunities and improved market performance. However, investors should also consider the level of risk associated with these returns before making investment decisions.

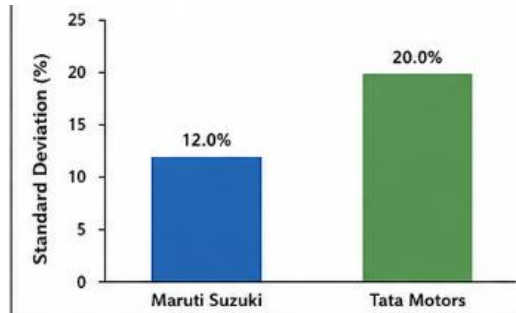


Fig 2: Risk

INTERPRETATION:

The graph shows the risk levels of both companies measured through standard deviation. Tata Motors has a higher standard deviation of 20%, while Maruti Suzuki has 12%. This means Tata Motors' stock prices fluctuate more frequently, making it a riskier investment option. On the other hand, Maruti Suzuki demonstrates greater stability and lower volatility. Therefore, conservative investors may prefer Maruti Suzuki, whereas risk-taking investors may choose Tata Motors for higher return opportunities.

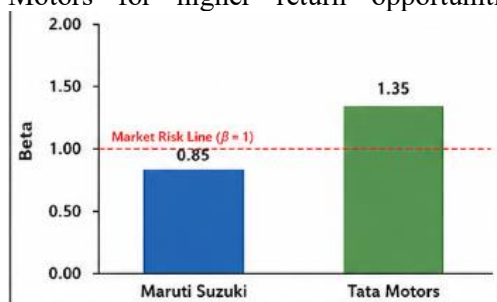


Fig 3: Beta Value

INTERPRETATION :

The beta value graph represents the sensitivity of both stocks to market movements. Maruti Suzuki has a beta value of 0.85, which is less than 1, indicating lower market risk and comparatively stable stock behavior. Tata Motors has a beta value of 1.35, which is greater than 1, showing that

the stock is more sensitive to market fluctuations. This suggests that Tata Motors may provide higher returns during favorable market conditions but also carries greater systematic risk.

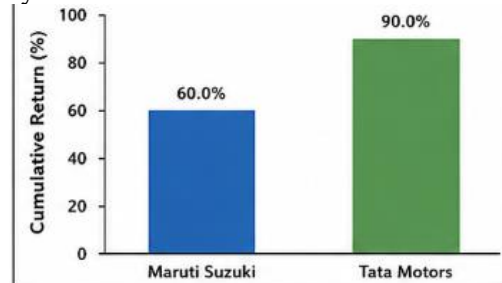


Fig 4: cumulative Return

INTERPRETATION :

The cumulative return graph compares the overall returns generated by both companies during the study period. Tata Motors achieved a cumulative return of 90%, which is significantly higher than Maruti Suzuki's 60%. This indicates that Tata Motors provided better long-term growth and profitability for investors. However, the higher cumulative return is also associated with increased market volatility. Maruti Suzuki, although providing lower cumulative returns, offers more stable and consistent performance.

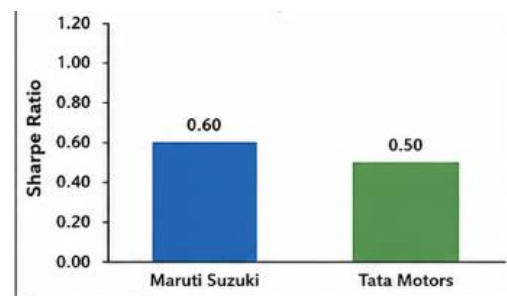


Fig 5: Sharpe Ratio

INTERPRETATION :

The Sharpe ratio graph measures the risk-adjusted return of both companies. Maruti Suzuki has a Sharpe ratio of 0.60, while Tata Motors has 0.50. A higher Sharpe ratio indicates better returns for each unit of risk taken. Therefore, Maruti Suzuki provides better risk-adjusted performance compared to Tata Motors. This suggests that Maruti

Suzuki is a more efficient investment option for investors seeking stable returns with lower risk exposure.

IV. FINDINGS

- Tata Motors provides higher average returns compared to Maruti Suzuki.
- Maruti Suzuki shows more stable stock performance.
- Tata Motors experiences higher market volatility.
- Maruti Suzuki has lower systematic risk.
- Beta value of Tata Motors is greater than 1, indicating aggressive stock behavior.
- Automobile sector stocks are influenced by economic conditions and fuel prices.
- Investors seeking stable returns may prefer Maruti Suzuki.
- Investors willing to take higher risk may invest in Tata Motors.
- Risk and return have a direct relationship in stock investments.
- Proper analysis helps investors make effective investment decisions.

V. CONCLUSION

The study concludes that both Maruti Suzuki and Tata Motors are important automobile sector stocks with different risk-return characteristics. Maruti Suzuki offers stable returns with lower risk, making it suitable for conservative investors. Tata Motors provides higher return opportunities but involves greater market volatility and risk. Therefore, investors should select stocks based on their investment objectives and risk-bearing capacity. Risk and return analysis plays a significant role in understanding stock market behavior and making better investment decisions. In the future, this research could be expanded by:

- Risk and return are important factors in investment analysis.
- Maruti Suzuki is less risky compared to Tata Motors.
- Tata Motors offers higher growth opportunities.

- Market fluctuations affect automobile sector stocks significantly.
- Investors should diversify their portfolios to reduce risk.
- Financial analysis supports effective decision-making.
- Long-term investment planning is beneficial in the automobile sector.

VI. FUTURE SCOPE

The future scope of the study on risk and return of automobile sector stocks can be expanded by analyzing the performance of Maruti Suzuki and Tata Motors over a longer period. Future research can examine daily, weekly, and monthly returns to identify changes in volatility, market trends, and risk levels across different market conditions.

Further studies can compare Maruti Suzuki and Tata Motors with other major automobile companies such as Mahindra & Mahindra, Bajaj Auto, and Hero MotoCorp. Risk-adjusted measures such as Sharpe Ratio, Treynor Ratio, Jensen's Alpha, beta, and standard deviation can be used to determine which stocks provide better returns relative to the risks undertaken.

Future research can also investigate the impact of macroeconomic and industry-specific factors on automobile stock performance. Variables such as interest rates, inflation, crude-oil prices, exchange rates, government policies, automobile sales, semiconductor availability, and changes in consumer demand can be incorporated to understand their influence on stock prices and returns.

Another important area for future research is the impact of the transition toward electric vehicles and sustainable mobility. Changes in EV adoption, technological innovation, battery costs, government incentives, environmental regulations, and investments in electric mobility may significantly influence the future financial performance and market valuation of automobile companies.

Finally, future studies can employ advanced statistical techniques, artificial intelligence, machine learning, and time-series forecasting to predict stock returns and

volatility. Portfolio optimization techniques can also be used to determine the appropriate allocation between Maruti Suzuki and Tata Motors. Such research would provide useful insights for investors seeking to balance risk, return, diversification, and long-term investment objectives.

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