Profitability Analysis of Selected Companies from The Automobile Sector with respect to NSE

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Abstract

The automotive sector plays a crucial role in propelling the economic progress of India. It is anticipated that India will become the third largest automotive market in the world in terms of quantity by the year 2026. The country's automobile production is distinct from other countries because it is specifically designed for the needs of low- and middle-income individuals. The Automotive Mission Plan (AMP) 2016-26, introduced by the Government, is expected to facilitate expansion in the Indian automotive industry and consequently contribute to the growth of the local economy. As the world becomes increasingly globalized, the transportation industry is being presented with fresh opportunities, particularly as it transitions towards electric, electronic, and hybrid vehicles, which are deemed to be more efficient, safe, and trustworthy means of transportation.

Keywords: *Automobile, Profitability, Analysis, Ratios.*

Introduction

The car industry in India has traditionally been a reliable gauge of the economy's health, as it contributes significantly to the growth of microeconomics and technological progress. Due to a surge in the size of the middle class and a substantial portion of India's populace comprising youth, the largest market share in terms of quantity belongs to the category of vehicles with two wheels. In addition, the sector's expansion was supported by companies' increasing focus on exploring rural markets. The increasing need for transportation and logistics services has resulted in a rise in demand for commercial vehicles. The expectation is that upcoming growth in the market will be driven by novel developments such as the adoption of electric-power in vehicles, with a specific emphasis on three-wheeled and compact passenger cars.

India holds a dominant position in the global heavy vehicle market, since it is the world's largest tractor maker, second-largest bus manufacturer, and third-largest heavy truck manufacturer. In FY22, India's annual automotive output was 22.93 million vehicles.

India is also a significant vehicle exporter, with high export growth expected in the near future. Furthermore, the Government of India's efforts such as the Automotive Mission Plan 2026, scrappage policy, and production-linked incentive scheme in the Indian market are projected to position India as a worldwide leader in the two-wheeler and four-wheeler markets by 2022.

The India passenger vehicle market was valued at US$ 32.70 billion in 2021, and it is predicted to grow to US$ 54.84 billion by 2027, with a CAGR of more than 9% between 2022 and 2027.

The electric vehicle (EV) industry in India is expected to reach Rs. 50,000 crore (US$ 7.09 billion) by 2025. According to a research conducted by the CEEW Centre for Energy Finance, there is a US$206 billion opportunity for electric cars in India by 2030. This will demand an expenditure of US$ 180 billion in car manufacture and charging infrastructure.

The EV finance sector in India is expected to reach Rs. 3.7 lakh crore (US$ 50 billion) by 2030, according to NITI Aayog and the Rocky Mountain Institute (RMI). According to a survey by the India Energy Storage Alliance, the EV market in India is expected to grow at a CAGR of 36% until 2026. Furthermore, the EV battery market is predicted to grow at a CAGR of 30% during the same time period.

During 2016-26, the Indian automobile sector hopes to more than fivefold its car exports. Total automotive exports from India in FY22 were 5,617,246.

Profitability analysis is carefully selecting data from financial statements with the primary goal of anticipating the company's financial health. The growth of the electricity industry is critical to the economic prosperity of every country, regardless of size. Apart from other considerations, the importance of power consumption in a country's economic development may be determined by looking at its power consumption. The link between electricity consumption and economic growth is commonly used as a metric of progress.

Objective

- To study, find profitability of selected automobile firms.
- To evaluate and analyze the growth of the automobile sector with respect to selected companies.

Review of Literature

(**Mrs.Bhagyalakshmi and Dr.S.Saraswathi, 2019**) The reason for the studies is to look at the overall performance assessment and the usage of DuPont evaluation in deciding on vehicle corporations via measuring Return on Common Stockholders Equity (ROE). The Present analysis evaluates how well a company is operating and how profit is earned relative to The study was conducted on 10 Automobile companies listed in the NSE equity multiplier, net profit margin, asset turnover ratio to calculate return on equity. Analysis is done to know whether the relationship among the above variables exists or not and to know the impact of ROA and EM on ROE.among all the variables except EM and there is significant difference exists in the financial overall performance of corporations with regard to Return on fairness and Return on Assets. The aim of the study is to make an objective assessment of the financial performance of companies using DUPONT MODEL under this study.1.To observe the economic overall performance of choose groups the use of Dupont model 2. To take a look at profitability of the auto organizations the usage of ROE and ROA in the Dupont model. 3. To examine the effect of Return on belongings and Equity Multiplier on Return on Equity. 4. To have a look at the effect of Net income margin and overall Asset turnover ratio on Return on Asset.The present paper tried to focus on size of financial basic overall performance the use of Dupont assessment the use of profitability ratios like ROE ,ROA and ROCE. In DuPont analysis, ROE has been decomposing relationships among three variables such as NPM, ROA, ROE and ROCE which states that high levels are also analyzed that there is negative correlation between EM and ROA, ROE and ROCE. observed that Automobile organizations the usage of DuPont evaluation indicates that the better go back on fairness for those organizations is in the main due to higher asset turnover ratios, indicating higher operating efficiency with low Multiple regression model was carried on to find out the association between return on equity and net profit margin, Asset turnover ratio and equity multiplier and analyzed that there is significance difference exists in the financial performance of selected companies with reference to Return on equity and Return on Profit margin, in location of changes in asset turnover, ROE, ROA to beautify the accuracy. (**Rajmohan, Satish and Abdul, 2020**)The sentiment withinside the inventory markets internationally is gloomy.Frequent crashes in the percentage markets in all elements of the world.Financial markets in India are witnessing sharp volatility presently because of the fallout in worldwide markets.Line with the worldwide benchmark indices because the home marketplace typically tracks the main worldwide indices and the excessive volatility is possibly to keep withinside the close to future. Led to a pointy downfall withinside the Indian Stock Market.Attempt to observe the effect of COVID-19 on inventory market. Study to analyze the stock price volatility of the automobile sector. The study revealed that there is a significant impact of automobile sector index price movements after the COVID-19 in India. The impact of COVID - 19 on the Stock Market especially in the automobile sector of the National Stock Exchange. Results from the MARCH and RSI help to determine the impact of COVID-19 and higher significant impact in the selected sectoral index in India. Comparing the return of the automobile sector index has recorded low return. Results of all the analysis it can be understood that theCOVID-19 in India made an adverse impact in the automobile sector during the study period. (**Dr Pankaj, 2017**)The reason for this observation is to observe the effect of incomes according to percentage and rate profits ratio the market price of share of a company, therefore in this study market price of share is an independent variable, while earning per share and price earnings ratio are dependent variables and study is exploratory in nature. The study was carried out for a sample of eight companies based on Nifty auto index and for a period of five consecutive financial years from 2011-Multiple regression analysis was employed to predict the impact of incomes in keeping with percentage and rate income ratio on marketplace rate of percentage of choice organizations of vehicle sector. Result of the study concludes that earning per share has been found to be a very strong predictor of market price of share, while price earnings ratio impacts significantly on the prediction of market

price of share of select companies of the auto sector as a whole. Studies are also discussed. The purpose of the study is to examine the impact of earning per share and price earnings ratio market price of share, therefore in this study market price of share is dependent variable, while earning per share and price earnings ratio are dependent variables and study is sampling technique is used to select the eight companies of Auto In this study, market price of share has been taken as the average price derived from the low and high value of share during the financial year. Analysis was conducted to predict the impact of earning per share and price earnings ratio on market price of share The present study has conducted to examine the effect of earning per share and price earnings ratio on market price of share of eight companies of nifty auto index. Conclude that earning per share has found to be a very strong forecaster of market price of Sharon select companies, importantly this outcome similar with the findings of (Al-Omar and Albufeira, 2008; Adding, 2009), and price earnings ratio impact significantly on the prediction of market price of share and this result is verified with the findings of (Meta and Turn 2005). Overall, earning per share is the main leading reflector in the performance of market price of On the basis of changes and directions given by earning per share and price earnings ratio, investigation of share price and investment potential towards auto sector. Several limitations also, as this study is based on five years secondary data taken from equity master and USE database and as such its findings depend entirely on the accuracy of such data The study covers eight companies auto sectors, therefore it implies that the findings of this study may or may not be fit for entire auto sector and performance of market price of auto sector. **(Dr. Aryasri and Surekha, 2017)**The observe examines to what volume the Earnings consistent with Share (EPS), Dividend consistent with Share (DPS) and Price Earnings (P/E) Ratio may be used as a significant explanatory variable for predicting share Market DPS, PE Ratio influence the share price of select companies in automobile sector. These movements are analyzed and understood. There is positive correlation between dividend per share and market price in respect of Ashore P-E Ratio is highly correlated with the market price of share in case of the other companies namely Bajaj Auto, Hero Motocorp, Mahindra camp; Mahindra, Martí Suzuki India, TVS Motor Company and Tata Motors Dividend per Share is having negative correlation with Market price in respect of Bajaj Auto, Hero Motocorp, Martí Suzuki India, TVS Motors and positive correlation with Ashok Leland, Mahindra camp; Mahindra Earnings per Share is having negative correlation with Bajaj Auto , Hero Motocorp, Mahindra camp; Mahindra, Martí Suzuki India, TVS Motors and is positively correlated with Ashok Leland and Tata Motors It is found that in global test at 5% level of significance the Null hypothesis is rejected in case of , Hero Motocorp, Mahindra camp; Mahindra, Martí Suzuki India, TVS Motors and Tata Motors the market price of a share is significantly influenced by the independent variables. Even at 10% significance level also, the result is the same. In individual tests it is found that at a 5% significance level the Null hypothesis is rejected for Bajaj Auto, Hero Motocorp, Mahindra camp; Mahindra, Martí Suzuki India, TVS Motors and Tata Motors companies. In other words, the market price of a share is significantly influenced by the variables(EPS and P-E Ratio), whereas the Null hypothesis of DPS is accepted for all the companies. The market price of a share by the variable. In the case of Ashok Leland, the Null hypothesis is accepted for all independent variables The market price of a share by the independent variables. 10% significance level also. In global testing the Null Hypothesis at 5% significance level for Bajaj Auto, Hero Motocorp, Mahindra camp; Mahindra, Martí Suzuki India, TVS Motor Company and Tata Motors Ltd. The market price of a share is significantly influenced by the independent variables and is accepted by Leland Ltd. the market price of a share is significantly not influenced by the independent It holds the same when we opt for 10% significance level also.**(Mr Yogesh and Abhishek, 2020)** This article tells us about preference of portfolio from National Stock Exchange.Concerned approximately their goal minimizing threat and maximizing returns. Tradeoff b/w risk and return from the portfolio, a financial economist, Harry Markowitz, proposed optimal portfolio theory in 1952. The aim of this article is to provide a practical study Markowitz model on the Indian Stock Market (USE) from 1st June 2009 to 30th June 2019.TheMarkowitz version has been broadly utilized by investors, its software on National Stock Exchange is From the data input which are monthly adjusted closing camp; daily adjusted closing prices. Result, buyers can pick the best portfolio that maximizes their portfolio . Going back with admiration to risk is vividly manifest that the investor tends to be risk averted, the attitude towards risk and return tends to play a vital role for the selection of the portfolio. Attitude toward distinct portfolio choices. Diversification always reduces the non-systematic risk, it portfolio diversification of US households.In different words, diversification permits an possibility for investments to develop with minimal volatility, safety behave differently in different markets This research methodology followed in the study of exploratory and empirical research. Data is to be used; the data for this study is collected from the USE website, from the published data; Nifty midcap 100 data are to be collected in two sets such as DailyPay; monthly closures. The data was collected from the period 1 JUNE 2009 to 30 JUNE 2019. The analysis of the data is done in the study including the expected return from different portfolios and their risk with the respective levels. The risk level has been analyzed through The finding of this study indicates that the Indian stock market does not follow the efficient market theory, because in efficient market includes all kinds of information such as past market data, public camp But Indian

market quickly responds to domestic and global   Return remains insufficient as compared to systematic risk Thus, the portfolio choice is to be made looking the beta values camp; correlation values to beat the market. This manifests that the financial market in the Indian economy is in instability. **(Ms Subashree and Bhoopal, 2017)**The important goal of this examination is to assemble a top-quality portfolio using Sharpe's Single Index model. Closing prices of 5 companies from the banking sector and 5 companies from the automobile sector listed in the Bombay stock exchange(BSE) were selected. Share prices for the period of October 2016 to September 2017 had been considered. a cut-off rate had been calculated, and that rate had been considered for the construction of an optimal portfolio. Constructing an optimal portfolio is a challenging task for the individual as well as the institutional investors. Made an attempt to construct an optimum portfolio using the Sharpe's Single Index Model. Thus, the maximum beneficial portfolio is constructed with the useful resource of the use of Sharpe's single index model. Portfolio is built by means of taking the beyond one-12 months data. After building the portfolio, the best 3 groups have been decided on for the portfolio production. From the banking sector one company was selected and from the automobile sector two companies were selected for optimal portfolio construction. **(Jaydip, Sidra, Abhishek, and Saikat, 2021)** Portfolio approaches - ultimate threat portfolio the usage of the Minimum Variance Portfolio (MVP) and the Hierarchical Risk Parity (HRP)Algorithm, on 8 crucial sectors of stocks listed in the National Stock robust back testing method for evaluating the performances of teethe performance results of the portfolios provides investors in the stock market with a clear idea about the current profitability and risk associated with the twelve sectors.   Results can be used as a guide for investment in the Indian stock This paper has presented portfolio design approaches for twelve important sectors of the Indian stock market using the MVP and the HRP algorithms. From NIFTY 50 from Jan 1, 2016 - Dec 31, 2020,the portfolios are built. Back testing of the portfolios are done both on the training period (Jan 1, 2010 - Dec 31, 2020) and the test period (Jan 1, 2021 - Sep 30, 2021). The portfolio yielding the higher Sharpe ratio for a sector is identified on both the training and the test data. However, the portfolio that performs better on the test data visit is observed that while the MVP portfolio yielded the higher Sharpe ratios for eight out of the twelve sectors, HRP outperformed its MVP counterpart on ten sectors on the tests a future plan of work, other portfolio approaches like hierarchical equal risk ratio will be identified for the Indian and other stock markets in the globe.

Accounting Tools and Techniques
Ratio analysis
The profitability ratios used were Gross Profit Ratio, Net Profit Ratio, Operating Profit Ratio, Rate of Return on Capital Employed

Methodology of study
Data collection
For this analysis, secondary data has been used. The data collected from the official website of NSE and selected automobile firms financial reports. 6 companies are selected for study which are Tata Motors, Mahindra and Mahindra, TVS, Hero MotoCorp, Eicher Motors and Ashok Leyland. The data are collected for five financial years from 2018 to 2022.

Data Analysis and Interpretation
Profitability Ratios

Table 1 for Tata Motors

Year	Gross Profit Ratio (%)	Net Profit Ratio (%)	Operating Profit Ratio (%)	ROCE
2018	12.02	2.31	4.7	5.04
2019	9.15	-9.58	1.33	11.57

2020	8.02	-4.20	-0.17	-7.18
2021	13.98	-5.21	4.55	0.37
2022	9.97	-4.03	1.05	1.07

Gross Profit Ratio was highest in the year 13.98 and it fluctuated during the study period. Net Profit Ratio was high in the year 2018 and in the year 2019, there was a drastic drop in Net Profit Ratio but even though it is negative there was an increase in the net profit from 2019 to 2022. Operating Profit Ratio was highest in the year 2018 and it was fluctuating during the period of study. Return on capital employed reveals the relationship between profit earned and capital employed to earn it. ROCE was highest in the year 2019 and it was fluctuating during the study period.

Table 2 for Mahindra and Mahindra

Year	Gross Profit Ratio (%)	Net Profit Ratio (%)	Operating Profit Ratio (%)	ROCE
2018	15.04	7.43	11.48	12.01
2019	15.55	4.44	11.74	11.75
2020	18.86	-1.78	14.39	9.60
2021	19.80	0.31	15.25	9.85
2022	17.31	5.98	13.42	10.27

The Gross Profit ratio was the highest during the year 2021 and it was increasing during the period of study. There was a decrease in the Net Profit ratio from the year 2018 to 2020 but after that there was a drastic increase in Net Profit ratio. Net Profit Ratio was highest in the year 2018. The Operating Profit ratio was increasing during the study period and it was highest in the year 2021. The ROCE was highest in the year 2018 and it was decreasing during the period of study.

Table 3 for TVS Motor Company

Year	Gross Profit Ratio (%)	Net Profit Ratio (%)	Operating Profit Ratio (%)	ROCE
2018	10.07	4.07	7.78	23.66
2019	10.84	3.58	8.65	20.49
2020	12.33	3.47	9.38	18.95
2021	11.76	3.16	8.85	15.51
2022	11.44	2.99	8.39	15.46

The Gross Profit ratio was increasing and it was highest in the year 2020. The Net Profit Ratio was highest in the year 2018 and it was decreasing during the period of study. The Operating Profit was increasing during the study

period and was highest in the year 2020. The ROCE was highest in the year 2018 and it was decreasing during the period of study.

Table 4 for Hero Motocorp

Year	Gross Profit Ratio (%)	Net Profit Ratio (%)	Operating Profit Ratio (%)	ROCE
2018	18.01	11.31	16.24	40.82
2019	16.79	10.02	14.95	36.04
2020	16.37	12.39	13.48	25.62
2021	15.04	9.63	12.73	23.76
2022	13.53	8.55	11.20	19.51

The Gross Profit ratio was decreasing during the period of study and was highest in the year 2018. The Net Profit ratio was fluctuating during the period of study and was highest in the year 2020. The Operating Profit ratio was decreasing during the period and was highest in the year 2018. The ROCE was decreasing during the period of study and the highest was in the year 2018.

Table 5 for Eicher Motors

Year	Gross Profit Ratio (%)	Net Profit Ratio (%)	Operating Profit Ratio (%)	ROCE
2018	34.44	18.99	31.95	39.47
2019	34.15	20.02	31.09	32.79
2020	29.75	19.61	25.58	22.46
2021	25.62	15.08	20.45	14.95
2022	25.37	15.69	20.98	16.35

The Gross Profit ratio was decreasing during the period of study and was highest in the year 2018. The Net Profit ratio was fluctuating during the period of study and was highest in the year 2019. The Operating Profit ratio was decreasing during the study period and was highest in the year 2018. The ROCE was decreasing drastically and was highest in the year 2018.

Table 6 for Ashok Leyland

Year	Gross Profit Ratio (%)	Net Profit Ratio (%)	Operating Profit Ratio (%)	ROCE
2018	15.01	6.10	12.83	19.67
2019	15.17	6.57	13.14	18.32
2020	15.22	2.08	11.80	11.10

2021	13.33	-0.35	9.03	6.80
2022	10.87	-1.11	7.56	7.94

The Gross Profit ratio was fluctuating during the study period and was highest in the year 2020. The Gross Profit ratio was decreasing drastically and was highest in the year 2020. The Net Profit ratio was decreasing during the study period and was highest in the year 2019. The ROCE was decreasing drastically during the period of study and was highest in the year 2018.

SUGGESTION

- ➢ For Tata Motors, the company's profitability is not good, but the net profit ratio was high in 2018 but has been declining every year. Gross profit ratios and operating profit ratios declined through 2020 and rose and declined again in 2021. And the capital employed also fell. This study proposes a reduction in operating costs and the necessary measures should be taken to control the downward trend.
- ➢ For Mahindra & Mahindra, the profitability of the company is not good, but the net profit ratio was high in 2018 but decreased in 2019 and then increased again in 2022.Gross profit ratios and operating profit ratios increased from 2018 to 2021 and started to decrease in 2022. Therefore, the study proposes a reduction in operating costs and the necessary measures must be taken to stem the downward trend.
- ➢ For TVS Motor Company, the profitability of the company is not good, which means that resources are not used efficiently by management, gross profit and operating profit ratios are rising and falling. But the company's net profit rate is falling every year.Studies suggest that the company should take the necessary steps to control the downtrend and also reduce operating costs.
- ➢ For Hero Motocorp, the profitability of the company is not good, but the net profit ratio was high in 2020 but started to decline from 2021. Gross profit ratios and operating profit ratios are falling year by year. This study proposes a reduction in operating costs and the necessary measures should be taken to control the downward trend.
- ➢ For Eicher Motors, the profitability of the company is not good, but the net profit ratio was high in 2019 but has been falling since 2020. Gross profit ratios and operating profit ratios are declining year by year.
- ➢ For Ashok Leyland, the profitability of the company is not good, but the net profit ratio was high in 2019 but has been declining since 2020.Gross profit ratios and operating profit ratios are falling year after year.

CONCLUSION

It is a fact that the demand for automobiles is much greater than the supply. In such a market, conditions for the success of each project are carried out. But in such a delicate situation of public care Interest rates, the political environment and not the cost basis continue to determine the price at which cars can be had delivered. This study profitability analysis of selected companies in the automotive industry with regard to NSE. Identifies the company's earnings and expenses. And how they used that resource efficiently. The overall performance of all companies is not good in terms of profitability. But between six, The profitability of the company Tata Motors is very low, and the profitability of the company is decreasing every year. Eicher Motors' profitability is at its highest together, but the trend is downward. Study found the performance of automotive companies in NSE.

References

1. Bhagyalakshmi, K., & Saraswathi, S. (2019). A study on financial performance evaluation using DuPont analysis in select automobile companies. *International Journal of Management, Technology and Engineering*, *9*(1), 354-362.
2. Rajamohan, S., Sathish, A., & Rahman, A. (2020). Impact of COVID-19 on stock price of NSE in automobile sector. *Int. J. Adv. Multidiscip. Res*, *7*(7), 24-29.

3. Kumar, P. (2017). Impact of earning per share and price earnings ratio on market price of share: a study on the auto sector in India. *International Journal of Research*, *5*(2), 113-118.

4. Aryasri, A. R., & Adiki, S. (2017). Impact of Independent Variables on Market Price Movements in Automobile Sector: An Analysis. *Indian Journal of Accounting*, *49*(2).

5. Puri, Y., & Yadav, A. (2020). Portfolio Selection in NSE Expected Return & Risk through Markowitz Portfolio Theory. *Management Dynamics*, *19*(2), 46-54.

6. Subashree, S., & Bhoopal, M. (2017). Construction Of Optimal Portfolio Using Sharpe's Single Index Model-A Study With Reference To Banking And Automobile Sectors. *Asia Pacific Journal of Research*, *1*(57), 2347-4793.

7 .Sen, J., Dutta, A., Mondal, S., & Mehtab, S. (2021). A comparative study of portfolio optimization using optimum risk and hierarchical risk parity approaches. In *Proceedings of the 8th International Conference on Business Analytics and Intelligence (ICBAI'21)* (pp. 20-22).

8. www.moneycontrol.com