



LIQUIDITY AND PROFITABILITY ANALYSIS OF SELECT AUTOMOBILE INDUSTRY

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ABSTRACT

The present study deals with the research of Liquidity and profitability analysis of select automobile industry. Therefore, all the business activities are directly depending on the financial aspects to functions and better performance of the business. So, finance is more important to run a business in the successful manner. Every company should focus on both the liquidity and profitability to stand in the market. It is necessary to evaluate the liquidity and profitability and also the impact of liquidity on profitability of select automobile companies. And finding which company is better in performance in comparing with the other select automobile companies.

KEYWORDS: Liquidity, Solvency, Efficiency, Profitability, ANOVA, Regression

1.1 INTRODUCTION

The automobile industry in India was the fifth largest in the world in 2020. India is expected to emerge as the third largest automotive market in the world in term of volume by 2026. Automobile industry comprises a wide range of companies and organisations involved in the design, development, manufacturing, market, selling of motor vehicles. The automobile industry in India, currently manufactured 22.7million vehicles including passenger vehicles, commercial vehicles, two wheelers, three wheelers, and quadricycles in April-March 2020. Due to increase population of the country, there is a surge in the demand in the two wheelers segment. In the past four years, domestic automobile production has grown at a CAGR of 2.36%. various automobile companies have expanded their operations internationally in the past few years. It is expected to be a third largest in the world in terms of volumes by the end of 2026.

1.2 STATEMENT OF THE PROBLEM

Evaluating the industry performance is necessary to understand the strengths and weakness to know the risk and rewards and to find out what changes to make to achieve higher returns and if possible, with less risk. Financial and operating aspects assume a significant role in determining the growth of industry. The effectiveness of the financial performance involves decision making in the profitability, solvency, and liquidity position and to check whether the organization is in a position to meet their obligation in properly and timely manner. Here the problem is to study about the liquidity and profitability position of select automobile companies.

1.3 SCOPE OF THE STUDY

The present study is concerned with the liquidity and profitability analysis of select Automobile Industry in India to analyse the effectiveness of the financial analyse of the company or an industry during the last ten years ranging from 2011-2012 to 2020-2021 to have a clear and a proper outline regarding the financial aspects of the organization by using financial analysis tools.

1.4 OBJECTIVE OF THE STUDY

- To examine the liquidity and solvency position of select Automobile companies.
- To identify the profitability position of the select Automobile companies.
- To Explore the impact of liquidity on profitability of select Automobile companies.

1.5 RESEARCH METHODOLOGY

- The research design adopted for this project was analytical approach which analysis the data collected and find what is the result and give solution according to the analysis from data collected.
- This study is based mainly on secondary data. The data relating to the study is obtained from CMIE date base, namely PROWESS. The further information is collected from the various magazines, books, journals.
- List of companies select for the study are as follows, they are Maruti Suzuki India Ltd, Tata Motors Ltd, Mahindra & Mahindra Ltd, Hyundai Motors India Ltd, Hero MotoCorp Ltd, Bajaj Auto Ltd.
- The present study focuses and covers the period of Ten years from (2011-2012 to 2020-2021)
- The tools are used to measures the liquidity and profitability analysis of select automobile industry is financial statement. The analysis is done in the ratio analysis, regression and ANNOVA.

1.6 RESEARCH GAP

The majority of the previous studies concentrated in analysing of financial performance analysis and working capital analysis in Automobile Industry, but there are only few studies are focused on Liquidity and Profitability analysis in Automobile Industry. Major studies in automobile industry are only based on particular company, there are only few studies are under taken in the basis of more than three to five and more than five companies in automobile industry for the period of less than Ten years of analysis.

1.7 LIMITATIONS

- The study is mainly carried based on the secondary data
- The period of study is limited to Ten years only
- The analysis is carried only for selected Automobile companies.

2.1 REVIEW OF LITERATURE

Ajmera Tushar R. (2020), conducted the study to measure profitability of selected companies of telecommunication sector in India. The study was also focused on identifying liquidity and solvency of the selected telecommunication companies, and how these indicators determine their management efficiency, the results of the study reveal that Reliance Communication suffered huge losses during the study period.

Jothi, K. & Geethalakshmi, A. (2017), this study tries to evaluate the profitability & financial position of selected companies of Indian automobile industry using statistical tools like, ratio analysis, mean, standard deviation, correlation. The study reveals the positive relationship between profitability, short term and long-term capital.

Maheswari, V. (2015), made an attempt to analyse the financial soundness of the Hero Honda motors limited have identified three factors, namely liquidity position, solvency position and profitability position based on the study of period 2002 to 2010 using ratio analysis.

3.1 THEORETICAL FRAMEWORK

Automobile Industry, all those companies, activities involved in the manufacture of motor vehicles, including most components, such as engines and bodies, but excluding tires, batteries, and fuel. The industry's principal products are passenger automobiles and light trucks, including pickups, vans, and sport utility vehicles. commercial vehicles (i.e., delivery trucks and large transport trucks, often called semis), though important to the industry, are secondary. The design of modern automotive vehicles is discussed in the articles automobile, truck, bus, and motorcycle; automotive engines are described in gasoline engine and diesel engine. The development of the automobile is covered in transportation, history of the rise of the automobile.

Automobile industry facts and statistics:

1. India was the fifth-largest automobile market in the year 2020.

2. The financial year 2021 statistics:
 - Passenger vehicles: 27.11 lakhs
 - Commercial vehicles: 5.69 lakhs
 - Three-wheelers: 2.16 lakhs
 - Two-wheelers: 151.79 lakhs

The automobile industry in India is a growing industry that shows promise and is necessary for the nation's economic and technological advancement. The availability of low-cost skilled labour, various research and development centres, and easy cheap steel production all help make India the viable choice. India is a growing economy and is a lucrative opportunity for investors.

4.1 DATA ANALYSIS ANA INTERPRETATION

4.1.1 CURRENT RATIO

Current ratio gives the proportion of current assets to current of a business concern. It is computed by dividing current assets by current liabilities. Current ratio indicates the ability of an entity to meet its current liabilities as and when they are due for payment. The ideal norm is 2:1; which means that every one rupee of current liability is appropriately covered by two rupees of current assets.

$$\text{Current ratio} = \text{Current Assets} / \text{Current Liabilities}$$

YEAR	MARUTI SUZUKI INDIA LTD	TATA MOTORS LTD	MAHINDRA & MAHINDRA LTD	HYUNDAI MOTORS INDIA LTD	HERO MOTOCORP LTD	BAJAJ AUTO LTD
2011-12	1.351	0.623	1.079	1.442	1.113	1.118
2012-13	1.305	0.486	1.096	1.118	1.217	1.499
2013-14	1.600	0.375	1.285	1.160	1.256	1.187
2014-15	0.965	0.437	1.128	1.132	1.359	2.128
2015-16	0.711	0.646	1.181	1.507	1.781	1.699
2016-17	0.664	0.607	1.307	1.800	1.816	2.923
2017-18	0.513	0.629	1.235	2.072	2.030	2.246
2018-19	0.874	0.592	1.271	2.232	1.960	1.449
2019-20	0.747	0.541	1.374	2.066	2.066	1.551
2020-21	1.150	0.616	1.337	1.881	1.778	2.512
MIN	0.513	0.375	1.079	1.118	1.113	1.118
MAX	1.600	0.646	1.374	2.232	2.066	2.923
AVERAGE	0.988	0.555	1.229	1.641	1.637	1.831
S.D	0.352	0.093	0.104	0.424	0.364	0.596
CV	0.356	0.167	0.084	0.258	0.222	0.325
CAGR	-1.596	-0.109	2.170	2.690	4.798	8.436

INTERPRETATION

The current ratio of automobile companies was explained in the table 4.1.1, the maximum average found is 1.831 in Bajaj Auto Ltd and the least value was found is 0.555 in Tata Motors Ltd. CAGR maximum value found in Bajaj Auto Ltd is 8.436 and last value found is -1.596 in Maruti Suzuki India Ltd.

4.1.1.1 ANOVA

Ho: There is no mean difference between current ratio and select automobile companies

Table 4.1.1.2 Analysis for Variance Test for Current Ratio

		Sum of Squares	df	Mean Square	F	Sig.
CURRENT RATIO	Between Groups	11.684	5	2.337	17.317	0.000
	Within Groups	7.287	54	0.135		
	Total	18.970	59			

INTERPRETATION:

The above table indicates that the calculated value of F is 17.317, while the 5% level of significance, the p value is .000. Therefore, null hypothesis is rejected hence it is concluded that there is mean difference in Current Ratio of the select Automobile companies.

4.2 LIQUID RATIO

Liquid ratio gives the proportion of quick assets to current liabilities. It indicates whether the business concern is in a position to pay its current liabilities as and when they become due, out of its quick assets. Quick assets are current assets excluding inventories and prepaid expenses. The ideal norm is 1:1 which means that one rupee of current liabilities is matched with one rupee of liquid assets.

$$\text{Liquid ratio} = \text{Liquid Assets} / \text{Current Liabilities}$$

Table 4.2.1
Table Showing Liquid Ratio of Select Automobile Companies

YEAR	MARUTI SUZUKI INDIA LTD	TATA MOTORS LTD	MAHINDRA & MAHINDRA LTD	HYUNDAI MOTORS INDIA LTD	HERO MOTOCORP LTD	BAJAJ AUTO LTD
2011-12	0.658	0.380	0.635	0.912	0.848	0.947
2012-13	0.579	0.257	0.709	0.628	0.932	1.317
2013-14	0.814	0.154	0.861	0.574	0.980	1.011
2014-15	0.243	0.175	0.772	0.515	1.010	1.924
2015-16	0.268	0.278	0.785	0.614	1.438	1.056
2016-17	0.290	0.256	0.911	0.965	1.556	2.348
2017-18	0.209	0.331	0.804	1.332	1.789	1.970
2018-19	0.598	0.310	0.790	1.623	1.638	1.054
2019-20	0.382	0.323	0.903	1.453	1.721	1.139
2020-21	0.893	0.383	0.907	1.522	1.501	2.028
MIN	0.209	0.154	0.635	0.515	0.848	0.947
MAX	0.893	0.383	0.911	1.623	1.789	2.348
AVERAGE	0.493	0.285	0.808	1.014	1.341	1.479
S.D	0.249	0.077	0.091	0.433	0.360	0.527
CV	0.504	0.271	0.113	0.427	0.268	0.356
CAGR	3.098	0.069	3.638	5.252	5.880	7.917

INTERPRETATION

The Liquid ratio of automobile companies was explained in the table 4.2.1, the maximum average found is 1.479 in Bajaj Auto Ltd and the least value was found is 0.285 in Tata Motors Ltd. CAGR maximum value found in Bajaj Auto Ltd is 7.917 and last value found is 0.069 in Tata Motors Ltd.

4.2.1.1 ANOVA

Ho: There is no mean difference between liquid ratio and select automobile companies

Table 4.1.2.2 Analysis of Variance Test for Liquid Ratio

		Sum of Squares	df	Mean Square	F	Sig.
LIQUID RATIO	Between Groups	10.958	5	2.192	19.610	0.000
	Within Groups	6.035	54	0.112		
	Total	16.993	59			

INTERPRETATION

The above table indicates that the calculated value of F is 19.610, while the 5% level of significance, the p value is .000. Therefore, null hypothesis is rejected hence it is concluded that there is mean difference in Liquid Ratio of the select Automobile companies.

4.3 ABSOLUTE LIQUID RATIO

Absolute Liquid Ratio is also called as cash ratio. It is calculated by dividing Absolute Liquid assets by current Liabilities. Absolute Liquid Assets include cash in hand and at bank and marketable securities or temporary investments. The acceptable norm for this ratio is 50%.

$$\text{Absolute Liquid Ratio} = \text{Absolute Liquid Assets} / \text{Current Liabilities}$$

Table 4.3.1
Table Showing Absolute Liquid Ratio of Select Automobile Companies

YEAR	MARUTI SUZUKI INDIA LTD	TATA MOTORS LTD	MAHINDRA & MAHINDRA LTD	HYUNDAI MOTORS INDIA LTD	HERO MOTOCORP LTD	BAJAJ AUTO LTD
2011-12	0.556	0.199	0.300	0.432	0.774	0.594
2012-13	0.433	0.104	0.370	0.176	0.763	0.791
2013-14	0.684	0.017	0.514	0.141	0.765	0.589
2014-15	0.169	0.046	0.424	0.090	0.629	1.427
2015-16	0.099	0.131	0.472	0.413	1.040	0.784
2016-17	0.166	0.124	0.546	0.677	1.136	1.975
2017-18	0.083	0.105	0.510	1.077	1.311	1.592
2018-19	0.368	0.104	0.470	1.310	0.796	0.513
2019-20	0.109	0.194	0.577	1.208	1.220	0.726
2020-21	0.710	0.255	0.699	1.249	1.036	1.516
MIN	0.083	0.017	0.300	0.090	0.629	0.513
MAX	0.710	0.255	0.699	1.310	1.311	1.975
AVERAGE	0.338	0.128	0.488	0.677	0.947	1.051
S.D	0.247	0.072	0.111	0.492	0.231	0.523
CV	0.730	0.560	0.227	0.727	0.244	0.498
CAGR	2.461	2.531	8.810	11.202	2.955	9.818

INTERPRETATION

The Absolute Liquid ratio of automobile companies was explained in the table 4.3.1, the maximum average found is 1.051 in Bajaj Auto Ltd and the least value was found is 0.128 in Tata Motors Ltd. CAGR maximum value found in Hyundai Motors India Ltd is 11.202 and last value found is 2.461 in Maruti Suzuki India Ltd.

4.3.1.1 ANOVA

Ho: There is no mean difference between Absolute liquid ratio and select automobile companies

Table 4.1.3.2 Analysis of Variance Test for Absolute Liquid Ratio

		Sum of Squares	df	Mean Square	F	Sig.
ABSOLUTE LIQUID RATIO	Between Groups	6.336	5	1.267	11.740	0.000
	Within Groups	5.828	54	0.108		
	Total	12.164	59			

INTERPRETATION:

The above table indicates that the calculated value of F is 11.740, while the 5% level of significance, the p value is .000. Therefore, null hypothesis is rejected hence it is concluded that there is mean difference in Absolute Liquid Ratio of the select Automobile companies.

4.4 RETURN ON INVESTMENT

Return on Investment (ROI) is a performance measure used to evaluate the efficiency of an investment or compare the efficiency of a number of different investments. To calculate ROI, the benefit (or return) of an investment is divided by the cost of the investment. The result is expressed as a percentage or a ratio

$$\text{Return Investment Ratio} = \text{Operating Profit} / \text{Capital Employed} * 100$$

Table 4.4.1						
Table Showing Return on Investment Ratio of Select Automobile Companies						
YEAR	MARUTI SUZUKI INDIA LTD	TATA MOTORS LTD	MAHINDRA & MAHINDRA LTD	HYUNDAI MOTORS INDIA LTD	HERO MOTOCORP LTD	BAJAJ AUTO LTD
2011-12	16.007	9.971	22.642	18.020	52.079	64.061
2012-13	17.848	6.451	23.734	21.307	38.849	52.141
2013-14	17.392	3.914	20.350	21.589	50.743	47.378
2014-15	21.286	-4.489	18.063	18.814	52.623	36.962
2015-16	25.277	4.615	17.105	21.129	43.800	40.107
2016-17	26.970	-0.830	15.287	26.533	39.867	30.022
2017-18	26.743	4.462	17.489	25.263	37.819	29.034
2018-19	22.968	10.978	18.357	25.557	33.098	29.667
2019-20	14.567	-10.244	16.219	21.539	29.138	31.861
2020-21	10.179	0.840	12.772	15.321	23.268	23.008
MIN	10.179	-10.244	12.772	15.321	23.268	23.008
MAX	26.970	10.978	23.734	26.533	52.623	64.061
AVERAGE	19.924	2.567	18.202	21.507	40.129	38.424
S.D	5.634	6.487	3.310	3.553	9.925	12.679
CV	0.283	2.527	0.182	0.165	0.247	0.330
CAGR	-4.426	-21.916	-5.565	-1.609	-7.741	-9.733

INTERPRETATION

The Return-on-Investment Ratio of automobile companies was explained in the table 4.4.1, the maximum average found is 40.129 in Hero MotoCorp Ltd and the least value was found is 2.567 in Tata Motors Ltd. CAGR maximum value found in Hyundai Motors India Ltd is -1.609 and last value found is -21.916 in Tata Motors Ltd.

4.4.1.1 ANOVA

Ho: There is no mean difference between Return on Investment and select automobile companies

Table 4.4.5.2 Analysis of Variance Test for Return on Investment Ratio

		Sum of Squares	df	Mean Square	F	Sig.
RETURN ON INVESTMENT	Between Groups	9822.532	5	1964.506	33.049	0.000
	Within Groups	3209.908	54	59.443		
	Total	13032.440	59			

INTERPRETATION:

The above table indicates that the calculated value of F is 33.049, while the 5% level of significance, the p value is .000. Therefore, null hypothesis is rejected hence it is concluded that there is mean difference in Return on Investment Ratio of the select Automobile companies.

4.5 IMPACT OF LIQUIDITY ON PROFITABILITY

The multi regression model is used to identify the relationship between on dependent variable and one or more dependent variables. In this study the multiple regression model is applied to determine the profitability of select automobile companies

4.5.1 Table Showing Impact of Liquidity Ratio on Return on Investment of Select Automobile companies

Coefficients					
Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	12.081	5.745		2.103	0.04
Current ratio	-7.68	9.616	-0.293	0.799	0.428
Liquid ratio	32.855	14.674	1.186	2.239	0.029
Absolute liquid ratio	-13.58	15.054	-0.415	0.902	0.371
Multiple R	.528^a	Standard error	12.95448		
R SQUARE	0.279	f- value	7.219		
Adjusted R²	0.240	sig. F	0.000		

a. Predictors: (constant), Current Ratio, Liquid Ratio, Absolute Liquid Ratio

b. Dependent Variable: Return on investment

INTERPRETATION:

From the above table 4.5.1 suggest that empirical evidence regarding the Impact of Liquid ratio on Return on Investment (ROI) of select automobile companies in India. The P value indicates that Liquid Ratio have statistically significant impact on Return on Investment as p value is < 0.05. Current ratio and Absolute Liquid ratio have insignificant effect on Profitability because its p value is >0.05. Negative value of β indicates a negative relationship with Current ratio and Absolute Liquid Ratio with Return on Investment over the period of study. R square shows that the independent variable explains 27.9% of the variations in the profitability of select automobile companies. Significant F value 0.000 indicates that there is a significant impact of Liquidity ratios on Profitability of select Automobile companies.

5.1 FINDINGS

- The maximum average found in the liquidity ratio is Bajaj Auto ltd, the least was found in Tata Motors ltd. The highest growth rate was found in Bajaj Auto ltd and the lowest was found in Maruti Suzuki India Ltd and Tata Motors Ltd.
- The maximum average found in Solvency ratio is in Tata Motors ltd, the least was found in Bajaj Auto ltd so it indicates Bajaj Auto ltd maintains their debt values in the correct manner. The highest growth rate was found in Tata Motors ltd and least was found in Bajaj Auto ltd.
- The maximum average found in profitability ratio is in Bajaj Auto ltd in the profitability position ie., their expenses and debt are maintained in the proper way, the least was found in Tata Motors ltd. The highest growth rate was found in Maruti Suzuki India Ltd and the least was found in Tata Motors ltd
- There is a mean difference between the liquidity, solvency, efficiency, and profitability ratios of select Automobile company.
- Liquid Ratio has a Positive relationship on Profitability but Current Ratio and Absolute Liquid Ratio has a negative relationship on profitability. Only Liquid ratio have a significant effect on profitability. The R square shows that independent variables explains that 27.9% of variations on Profitability.

5.2 SUGGESTION

- From the liquid ratio, Tata Motors Ltd has very low in liquidity position where as Bajaj Auto Ltd has high in all the liquidity. Therefore, higher the liquidity indicates that the company is in good financial health and is less likely to face financial hardships. But low liquidity indicates a company's short-term assets are not enough to meet is current debt obligations.
- From the profitability ratio Bajaj Auto Ltd earned a maximum profit in comparing with other companies, the other companies should increase in sales, cost structure, operations, pricing strategies etc., to increase the profitability position of the company.
- A high ROI means that the company is successful at using the investment to generate high return. Except Hero MotoCorp Ltd other company should increase their ROI to generate high return.
- Lower rate of expenses ratio the better because it means that an investor is receiving higher returns on their invested capital or higher profitability. Whereas a higher rate indicates the lower profit or the investor return may be lower on their invested capital. Bajaj Auto Ltd has lower rate but other companies have to reduce the rate so that they can earn a higher profit.

5.3 CONCLUSION

The purpose of the study is undertaken to analysis the liquidity and profitability of select Automobile Companies by applying various accounting Ratios. The companies may concentrate on their cost of production, investment in fixed assets and their sales turnovers to improve their profitability position. The management should further try to control over the expenses disbursement cost in order to increase the profit. Profitability shows Bajaj Auto Ltd, Hero MotoCorp Ltd, Maruti Suzuki India Ltd has good performance. On considering Liquidity ratio of Bajaj Auto Ltd, Hero MotoCorp Ltd, Hyundai Motors India Ltd manages their liquidity in a strong and efficient manner. Solvency ratio shows Bajaj Auto Ltd manages good debt level and considering the efficiency position Bajaj Auto Ltd, Hero MotoCorp Ltd has good efficiency level. The regression shows that Liquid ratio have a positive impact of liquidity on profitability and others like current, Absolute, debt to equity, proprietary ratios show a Negative impact of Liquidity on Profitability. After analysing all the aspects, concern with this research, we can say that Bajaj Auto Ltd sustain a good position in the market. Hence Bajaj Auto Ltd places the sixth position in the select companies but their performance and the profitability is more satisfactory with other top companies in the sales. I concluded that compared to other top companies in the sales, Bajaj Auto Ltd places a good and healthy financial position in the market.

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