

An Empirical Analysis on the Performance of Select Automobile Companies Using the Ratio and 12 Check Techniques

**Dr M.R.Senapathy
Miss M Madhuha**

Associate Professor Siva Sivani Insitute of Management- Secunderabad-17
PGDM student - B11-36, Sivani Insitute of Management- Secunderabad-17

Abstract

The Indian auto industry has been on a growth trajectory over the years. Being the 7th largest manufacturer of commercial vehicles, with the production volume growth registering at CAGR of 4.43 percent and exports growth at 6.86 per cent CAGR for the period 12-17, the Industry holds promising future in the India economy. The vast middle class and a young population, the growing interest of the companies in exploring the rural markets aided the growth of the sector. In this scenario, it was felt that analyzing the financial performance of selected Indian automobile giants namely Maruti Suzuki, Tata Motors and Mahindra & Mahindra can provide a vivid picture of the future of the Industry. A comparative analysis was undertaken in two phases using the twelve checks method (six for health and six for past performance) for each company the article provides a comprehensive picture of the performance of these three companies and can motivate other scholars to take up similar exercise on other industries as well.

Key Words: Liquidity, Solvency and Profitability Ratios

Brief History

The automobile was first invented and perfected in Germany and France and later the Americans dominate the automotive industry in 20th century. Henry Ford innovated mass-production techniques. Ford, General Motors and Chrysler emerged as the “Big Three” auto companies by the 1920s. In the 1960s, the auto industry focused on making safer vehicles. In the 1970s, a major oil crisis forced automakers to create vehicles that were more fuel-efficient. Later carmakers concentrated on producing fast, powerful vehicles. By 2005, 80 percent of global production came from 11 countries, representing a significant growth in global competition. The car companies are now concentrating on consumers who expect powerful vehicles such as sport utility vehicle (SUV). With finance available from institutions comfortable, consumers are going in for these expensive automobiles.

Automobile Industry in India:

The Indian Automobile Industry includes two-wheelers, trucks, cars, buses and three-wheelers play a crucial role in the growth of the Indian economy. The Two Wheelers segment dominates the market in terms of volume owing to a growing middle class and a young population in Metro, Urban and rural markets.

India is also a prominent auto exporter registering a growth at 6.86 per cent CAGR between FY13-18. Several initiatives by the Government and the major automobile players in the Indian market are expected to make India a leader in the two wheeler and four wheeler market by 2020. Indian automotive industry (including component manufacturing) is expected to reach \$282.8 billion by 2026 industry.

The government aims to develop India as a global manufacturing center and an R&D hub.

Under NATRIP, National Automotive Testing and R&D Infrastructure Project, the Government of India is planning to set up R&D centers at a total cost of US\$ 388.5 million to enable the industry to be on par with global standards. The Ministry of Heavy

Industries, Government of India has shortlisted 11 cities in the country for introduction of electric vehicles (EVs) in their public transport systems under the FAME (Faster Adoption and Manufacturing of (Hybrid) and Electric Vehicles in India) scheme. The government will also set up incubation center for start-ups working in electric vehicles space.

In this conducive scenario, auto industry is set to witness major changes in the form of electric vehicles (EVs), shared mobility, Bharat Stage-VI emission and safety norms. Electric cars in India are expected to get new green number plates and may also get free parking for three years along with toll waivers. Sales of electric two-wheelers are estimated to have crossed 55,000 vehicles in 2017-18. Premium motorbike sales in India crossed one million units in FY18.

India is now the 7th largest manufacturer of commercial vehicles.

“FINTECH 100 – Leading Global Fintech Innovators Report 2015” is the report presented by KPMG and H2 ventures. The Fintech 100 are those companies using technology to the best advantage and driving disruption within the financial services industry. These companies have a commitment to excellence, superior customer experience and a demonstrated ability to do one thing in market better than anyone else. Fintech 100 companies include the leading 50 Fintech companies across the globe and the most intriguing 50 ‘emerging stars’.

Simply Wall Street is one among the companies listed in the report. Simply Wall Street app is used by 500,000 investors across the world covering 41 exchanges across 27 markets. National Australia Bank has signed a commercial arrangement with Simply Wall Street which is aiming to make it easier for people to invest in share markets, and will use it to entice back dormant customers.

Analysis:

The Simply Wall Street (SWS) app is designed to help make a retail investor by allowing him to make non-emotional long term investment decisions. The SWS app is an analysis platform which provides information and analytics allowing investors to identify and assess stocks which meet their investment parameters and objectives - for example high quality consistent performers, income oriented stocks or growth oriented stocks.

To assess stocks, the SWS app performs a number of quantitative "checks" across a range of assessment criteria. The checks performed are based on widely accepted and tested investment criteria, and used by demonstrably successful investors and investment firms.

The Ratio analysis

Current ratio

Current ratio is one of the most important and frequently used ratios by analysts in Financial analysis. It compares current assets to current liabilities. It compares assets that should be converted into cash to pay current liabilities. A higher ratio indicates more assets are available to satisfy current obligations and therefore greater liquidity.

Current ratio= Current Assets / Current liabilities

Quick ratio

While the current ratio is an excellent measure of liquidity, it has a limitation that not all current assets can be converted into cash immediately to pay off the liabilities that are due within the current year. Current assets less inventories and prepaid expenses give quick assets. Quick ratio compares a company's cash and near cash assets to its current liabilities. This is also called as acid-test ratio measuring the degree to which a company could pay off its current liabilities immediately. Like Current ratio, a higher quick ratio indicates greater liquidity.

Quick Ratio= $\frac{\text{Current Assets} - \text{Inventories} - \text{Prepaid Expenses}}{\text{Current liabilities}}$

Inventory Turnover ratio

Inventory turnover ratio compares a company's sales during a period to its average inventory balance during that year. This ratio reveals how many times a company is able to sell its inventory balance in a period. A higher ratio indicates that the company sold more inventory while maintaining less inventory on hand which means company generated more sales revenue while reducing the costs of stocking inventory on the shelves.

Inventory Turnover ratio= $\frac{\text{Net Sales}}{\text{Average Inventory}}$

Debt-Equity ratio

The Debt to Equity ratio measures a company's total debt relative to its total book value of shareholders' equity (i.e. net worth or shareholders' funds). This ratio illustrates the level of leverage a company has. If the ratio is high, this indicates that the company is holding a high level of debt compared to its net worth, and in the event of financial stress, may experience difficulty meeting debt or interest obligations.

Debt- equity ratio = $\frac{\text{Total Debt}}{\text{Shareholders' Equity}}$

Debt-to-assets ratio

The debt to asset ratio is a leverage ratio that measures the amount of total assets that are financed by creditors in the form of debt instead of equity investors. Analysts, investors, and creditors use this measurement to evaluate the overall risk posed by the company. Companies with a higher figure are considered risky to invest in and loan to because they are more leveraged. This means that a company with a higher measurement will have to pay out a greater percentage of its profits in principle and interest payments than a company of the same size with a lower ratio.

Debt-to-assets ratio= $\frac{\text{total liabilities}}{\text{total assets}}$

Return on assets ratio

Return on assets ratio calculates the profitability of a company in terms of the total Assets held by the company. It is a broad measure of the efficiency of asset usage by the company and is often used to compare the returns of companies in capital intensive industries such as manufacturing or raw materials production.

Return on assets ratio = $\frac{\text{Net earnings}}{\text{Total assets}}$.

Return on Equity

Return on equity ratio compares net income to the balance in the stockholders' equity during the year. The ratio represents how effectively a company uses its equity provided by the stockholders during the year to generate additional equity for its owners. Stockholders want this ratio to be as high as possible.

Return on Equity= $\frac{\text{Net Earnings}}{\text{Shareholders' Equity}}$

Net Profit Margin

Net Profit margin ratio is the percentage of net profit to total revenue. It shows what percentage of revenue is created for the shareholders out of the total revenue generated through sales. *Net profit margin* is one of the most closely followed numbers in finance. Shareholders look at net profit margin closely because it shows how good a company is at converting revenue into profits available for shareholders.

Net Profit Margin = $\frac{\text{Net profit}}{\text{Sales}}$

The 12 check technique (6 past performance and 6 health)

Past performance check - 6

The Past Performance section provides an analysis of a company's historical performance over the past 5 financial years.

CHECK 1: Is the Earnings Per Share (EPS) growth increasing over the years?

The EPS figure is used to measure the absolute profit that a company earns on a per share basis. If the EPS growth of the company is increasing, then the stock scored one point.

CHECK 2: Has Earnings Per Share (EPS) increased in past 5 years?

If the EPS for the current year is $>$ the EPS from 5 years ago, the stock scored one point.

CHECK 3: Is the current EPS growth higher than the average annual growth over the past 5 years?

If current year growth in EPS is $>$ the average annual growth in EPS over the past 5 years, the stock scored one point.

CHECK 4: Is the Return on Equity (ROE) higher than 20%?

The main advantage of ROE is that it takes into account movements in equity issued by the company which may distort other measures of profitability. The main disadvantage is that ROE is not affected by the level of debt (or additional debt) held by a company. The higher the ROE, the higher the return generated by the company, and vice versa. An ROE of 20% or greater is considered to be indicative of a company which is highly profitable / efficient.

If the ROE of the company for the current year is $>$ 20%, the stock scored one point.

CHECK 5: Has the Return on Capital Employed (ROCE) increased from 3 years ago?

If the current year ROCE is $>$ the ROCE from 3 years ago, then the stock scored one point.

CHECK 6: Is the Return on Assets (ROA) between 12-15% which is the industry average?

Return on Assets (ROA) calculates the profitability of a company in terms of the total Assets held by the company. It is a broad measure of the efficiency of asset usage by the company and is often used to compare the returns of companies in capital intensive industries such as manufacturing or automobile industries. If the current year ROA is between 12-15% the stock scored one point.

Health Check – 6

The Health section provides an analysis of a company's financial position, primarily in terms of the company's Balance Sheet, and in particular the amount of debt held by the company.

CHECK 1: Are short term assets greater than short term liabilities?

This check measures whether, on a short term basis ($<$ 12 months), the company has a net positive financial position. In the event of financial stress, this check indicates whether the company could liquidate short term assets to meet its short term liabilities.

As the company's short term assets are $>$ short term liabilities the stock scored one point.

CHECK 2: Are short term assets greater than long term liabilities?

This check measures whether the company holds short term assets which are greater than its long term ($>$ 12 months) liabilities. In the event of financial stress, this check

indicates whether the company could realize short term assets to meet its long term liabilities.

If the company's short term assets are > long term liabilities the stock scored one point.

CHECK 3: Has the debt to equity ratio increased in the past 5 years?

The Debt to Equity ratio for the current year is compared to the debt to equity ratio 5 years ago. If the ratio has not increased, or has fallen, the stock scored one point.

CHECK 4: Is the debt to equity ratio over 40%?

If Debt to Equity ratio is < 40% the stock scored one point.

CHECK 5: Is debt covered by operating cash flows?

This check indicates whether, in the event of financial stress, the company is able to meet its debt obligations using purely its cash flow for the year from its operational activities. Debt held by the company is compared to Operating Cash Flows. If Operating Cash Flows are > Total Debt the stock scored one point.

CHECK 6: Are earnings greater than 5 times the interest on debt (if company pays interest at all)?

This check indicates whether the company's interest obligations are met through earnings before interest and tax (EBIT). A ratio of 5 times earnings indicates a strong level of coverage. If EBIT is > 5 times interest on debt the stock scored one point.

Based on these 12 checks, selected automobile companies are scored out of 12 points.

Literature Review

1. International Journal of Applied Research. Financial Analysis of Automobile Industries This article gives the importance of ratio analysis in analyzing the financial position of the company. With the help of ratio analysis conclusion can be drawn regarding several aspects such as financial health, profitability and operational efficiency of the undertaking. Ratio points out the operating efficiency of the firm i.e. whether the management has utilized the firm's assets correctly, to increase the investor's wealth. A comparative study was made between Maruti Suzuki and Tata Motors- both inter firm and intra firm.

2. International Journal of Scientific Research. A Study on fundamental Analysis of Indian Automobile industry with reference of the selected companies – This article covers industry analysis, SWOT analysis of Indian Automobile Industry and company analysis of select companies using EPS, return on Capital Employed and Current ratio. The present study reveals that the automobile sector is shining as there is continuous increase in the production of total no of vehicles in the Industry. SWOT analysis presents that major strength of Indian automobile industry is large domestic market and availability of cheap labor and raising demand from rural areas of India is acting as the opportunity in expansion of the market.

3. Chandra Pankaj, 2004, “Technological change in the Indian passenger industry”, The substantial deepening of technological capabilities in the Indian automobile industry augurs well for the future. Many of the players increasingly see India as their global manufacturing hub for small cars, and the government's new Auto Policy intends to build on, and promote, such developments. The government also anticipates undertaking policies that will reduce the environmental impact of automobiles, an issue that will be of escalating importance as the vehicle population in the cities and rest of the country continues to grow.

4. Patel Vivek, 2010, “Financial performance of Tata motors”, The Company has issued equity capital rather than going for preference share which means the company's

dividend will not be fixed but the company has provided a good amount of dividend to shareholders. Despite of having large reserves, company has opted for loan funds. The company had a good operating income which shows that the company has a sustainable growth.

5. Zafar Tariq, 2012 “A comparative evaluation of financial performance of Maruti and Tata company”, Financial ratios are an excellent and scientific way to analyze firm’s financial position. They are important indicators and are widely used to summarize the information in a company’s financial statements in assessing and evaluating its financial health. Indian automobile industry moving on cyclical growth and showing the reflection of economic dynamics has been playing an imperative role in this radical phase and thus invite investigative analysis for smooth future. With regard to automobile industry there are various factors which affect the performance of the company as well as shareholders return.

6. Rana Vishal. S., 2013, “Performance Evaluation of Maruti Suzuki India Limited”, Maruti Suzuki India Limited is India’s leading & largest Passenger car manufacturer which accounting for nearly 50 percent of the total industry sales. With a view to cater the demand of all types of customer the company has variety of brands in its basket. The company has received ample awards and achievements due to its continuous innovations and technological up gradations. The company today is very conscious about safeguarding the environment from vehicle pollution which resulted in launching of its advanced K-Series engines.

7. Azhagaiah Dr.R Sankaran P., 2014, “Financial performance of automobile industry in India”, The automobile industry development of the nation and contribute to the considerable portion of gross domestic product (GDP). The automobile industry has grown a reasonable capture in four wheeler companies in India play a vital role in economic segments in both passenger cars and commercial vehicles in rural and urban areas.

OBJECTIVES

- To understand the Indian Automobile Industry
- To Analyze the Financial performance of selected automobile companies using ratio analysis.
- Scoring the companies based on their 6 health checks and 6 past performance checks and analyzing them.

METHODOLOGY

The study is based on the secondary data extracted from the annual reports of select automobile companies as well as from publicly available data sources. In total 3 companies are chosen. The study covers a period of 5 financial years i.e. from 2013 to 2017.

DATA ANALYSIS

Analyzing the financial performance of selected automobile companies under categories of production of commercial vehicles, passenger cars is essential. Three companies namely Maruti Suzuki, Tata Motors and Mahindra & Mahindra are selected. A three stage analysis is undertaken

- In the first phase, liquidity, profitability and capital structure ratios are calculated for 5-year period for the selected companies.
- The second phase of the study deals with comparison of various ratios (both year wise and company wise) and then composite ranking is assigned to all the select companies.
- The final phase is the 12 points check analysis is undertaken (6 each in health and

past performance) using certain predominant parameters taken from Simply Wall Street Company’s analysis.

Period of Study:

The study covers a period of five year from 2013-2017.

Sample for study

The study examined the performance of select automobile companies i.e., a sample of 3 namely Maruti Suzuki, Tata Motors and Mahindra & Mahindra.

DATA FINDINGS

Current ratio

Current Ratio	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	1.63	1.77	0.97	0.72	0.66
Tata Motors	0.86	1.04	1.01	1.03	1.01
Mahindra & Mahindra	1.31	1.44	1.18	1.20	1.23

Table 1: Current ratio Values

Maruti Suzuki’s current ratio was 1.63 in the year 2013 and in the year 2017 it came down to 0.66. Earlier it had more assets than the liabilities, exceeding the ideal ratio of 1:1, so it is clear that the company has started investing the excess assets over liabilities into productive investments that would yield more return for the shareholders initially. The auto-maker maintained 0.97, close to one, in the year 2015. Current assets have decreased by 21.27% over the past 5 years and current liabilities have increased by 92.6% over the years. This has led to the decrease in current ratio where short term assets are less than short-term liabilities. Tata Motors initially had current ratio less than 1 which means that the current assets are less than current liabilities. But, over the years the company has been successful in maintaining a current ratio equal to the ideal ratio of 1:1. Current assets have increased by rate of 57.8% whereas the current liabilities of Tata Motors increased by 34%. Mahindra & Mahindra is having better liquidity position compared to all three companies. It has consistently maintained current ratio greater than one. Current assets have grown by 43% and liabilities have grown by 53%.

Quick ratio

Quick ratio	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	1.35	1.55	0.67	0.44	0.42
Tata Motors	0.61	0.74	0.72	0.72	0.71
Mahindra & Mahindra	0.99	1.13	0.93	0.95	1.00

Table 2: Quick Ratio Values

Maruti Suzuki’s quick ratio has been decreasing over the years from 1.35 in 2013 to 0.42 in the year 2017. So a ratio of 0.42 indicates that the company has 0.42 rupees in cash and near cash assets for every rupee for current liabilities. This is not a good sign for the company inefficient to manage its current liabilities. Tata Motors was successful in maintaining a constant quick ratio of around 0.72 over the years. This implies that Tata Motors is a more liquid company than Maruti Suzuki. Mahindra & Mahindra has got good quick ratio compared to other two which is around one. It can meet its current liabilities with its quick assets.

Inventory Turnover ratio

Inventory Turnover Ratio	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	23.48	25.21	19.00	20.78	23.69
Tata Motors	9.00	8.54	8.98	8.50	7.82
Mahindra & Mahindra	8.2	8.9	8.5	8.3	9.4

Table 3: Inventory Turnover Ratio Values

Inventory turnover ratio reveals how many times a company is able to sell its inventory balance in a period. A higher ratio indicates that the company sold more inventory while maintaining less inventory on hand which means company generated more sales revenue while reducing the costs of stocking inventory on the shelves. It is usually considered a warning sign for auto sales if auto dealerships begin carrying substantially more than about 60-daysworth of inventory on their lots. It is generally considered a good measure of how efficiently a company manages ordering and inventory.

Maruti Suzuki has an inventory turnover ratio of 23.69 in the year 2017 which had some downfalls in the years 2015 and 2016. A ratio of 7.82 of Tata Motors indicates that it has sold Rs 7.82 of inventory for every rupee of inventory it had on its shelves. Mahindra & Mahindra has shown higher inventory turnover ratio than Tata Motors in the current year 2017. And among other two companies, Maruti Suzuki shows greater ability in selling off its inventory.

Composite Liquidity ratios

Company	Avg. Current ratio	Avg. Quick ratio	Avg. Inventory turnover ratio	Composite Liquid ratio	Scoring
Maruti Suzuki	1.15	0.89	22.43	8.16	1
Tata Motors	0.99	0.70	8.57	3.42	3
Mahindra & Mahindra	1.27	1.00	8.64	3.64	2

Table 4: Composite Liquidity ratios

Debt- Equity ratio

This ratio illustrates the level of leverage a company has. If the ratio is high, this indicates that the company is holding a high level of debt compared to its net worth, and in the event of financial stress, may experience difficulty meeting debt or interest obligations. A ratio of 40% or less is considered acceptable in the Automobile Industry.

D-E ratio	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	0.45	0.46	0.42	0.39	0.40
Tata Motors	0.84	0.69	0.99	0.64	1.04
Mahindra & Mahindra	2.03	2.04	1.99	2.10	2.18

Table 5: Debt-Equity Ratio Values

Maruti Suzuki's D-E ratio has been decreasing over the years from 0.45 to 0.40 which means that level of debt involved in its capital structure is less than its equity. Total debt has increased from 84,786 million to 148,700 million with a growth rate of 75.38% and the equity has increased from 190,384 million to 370,905 million with growth rate of 94.81%. As the growth in equity is more than growth in debt, D-E ratio has fallen.

Tata Motors has more debt than its equity in the current year 2017 with a ratio of 1.04 showing variations in its value as there were ups and downs in the values of debt and equity over the years. The third company, M&M has a lot of debt than equity. Company uses 787,307 million debt compared to 360,949 million equity.

Debt-to-assets ratio

Companies with a higher figure are considered risky to invest in and loan to because they are more leveraged. This means that a company with a higher measurement will have to pay out a greater percentage of its profits in principle and interest payments than a company of the same size with a lower ratio. Thus, lower is always better.

Debt to assets ratio	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	0.308	0.315	0.294	0.283	0.286
Tata Motors	0.776	0.700	0.762	0.703	0.786
Mahindra & Mahindra	0.67	0.67	0.67	0.68	0.69

Table 6: Debt-assets ratio Values

Tata Motors comparatively has higher Debt to assets ratio over the years compared to Maruti Suzuki and Mahindra & Mahindra. Maruti Suzuki's Debt-Assets ratio is decreasing as the growth in debt is 75% for five-year period which is less compared to growth in total assets is 89%. While, Mahindra & Mahindra company's assets have shown growth of 50% while debt showed only 54% thus maintaining slightly higher Debt-assets ratio. Whereas in case of Tata Motors, liabilities have increased by 63% and assets by 61% thus pushing the overall ratio higher than 0.5 which indicates risk.

Composite Leverage Ratios

Company	Avg. D-E ratio	Avg. Debt to Assets ratio	Composite Solvency ratio	Scoring
Maruti Suzuki	0.42	0.30	0.36	1
Tata Motors	0.84	0.75	0.79	2
Mahindra & Mahindra	2.07	0.67	1.37	3

Table 7: Composite Leverage ratios

Return on assets ratio

It is a broad measure of the efficiency of asset usage by the company and is often used to compare the returns of companies in capital intensive industries such as manufacturing or raw materials production.

Return on assets	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	8.97%	9.08%	11.04%	12.87%	14.46%
Tata Motors	5.8%	6.4%	5.9%	4.4%	2.8%
Mahindra & Mahindra	5.4%	5.3%	3.3%	3.5%	3.5%

Table 8: Return on assets ratio Values

Technically, ROA ratio between 12-15% is favorable towards the growth of the company. As Maruti Suzuki has current year ratio 14.5%, it can be concluded that it was effective in using its resources to generate profits.

Tata Motors Return on assets is very low compared to Maruti Suzuki and in the year 2017, it made a profit of only 2.8% over its assets. ROA ratio has not been stable with Tata Motors. Mahindra & Mahindra ROA is also decreasing year-on-year because their assets have shown a growth of 50% over 5 years but Profits have underperformed and shown zero growth.

Return on Equity ratio

The ratio represents how effectively a company uses its equity provided by the stockholders during the year to generate additional equity for its owners. Stockholders want this ratio to be as high as possible.

Return on Equity	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	13%	13.3%	15.6%	17.9%	20.3%
Tata Motors	26%	21.2%	24.7%	14.7%	12.9%
Mahindra & Mahindra	16.23%	16.07%	9.88%	10.97%	11.22%

Table 9: Return on Equity ratio Values

Maruti Suzuki is the only company showing consistently growing return on equity. Net earnings and equity have shown a growth of 204% and 94.81% respectively over the period. Thus, ROE increasing from 13% in 2013 to 20% in the year 2017. Net earnings for Tata Motors has seen a decline of 23.61% in 2017 compared to 2013 and as the value of equity has increased by 53.95% in 2017 over 2013, it is obvious that the ROE has a downward curve.

Mahindra & Mahindra had a good ROE ratio of 16.23% but has fallen since then consistently till 2016 due to low ability to generate greater profits than the infused equity. Nevertheless, it increased in 2017 to 11.22% from 10% in 2016.

Net Profit Margin

Net profit margin is one of the most closely followed numbers in finance. Shareholders look at net profit margin closely because it shows how good a company is at converting revenue into profits available for shareholders.

Net Profit Margin	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17
Maruti Suzuki	5.6%	6.4%	7.5%	8.4%	9.7%
Tata Motors	5.2%	6.0%	5.3%	4.2%	2.8%
Mahindra & Mahindra	5.97%	6.31%	4.39%	4.69%	4.84%

Table 10: Net profit margin

Maruti Suzuki has shown increasing trend in its net profit margins having 9.7 percent in 2017. Tata Motors's net profit is decreasing dramatically over the years. Mahindra & Mahindra also shows a negative slope.

Composite Profitability ratios

Company	Avg. ROE ratio	Avg. ROA ratio	Avg. Net Profit margin ratio	Composite Profitability ratio	Scoring
Maruti Suzuki	16.0%	11.3%	7.5%	11.6%	1
Tata Motors	19.9%	5.0%	4.7%	9.9%	2
Mahindra & Mahindra	12.87%	4.20%	5.24%	7.44%	3

Table 11: Composite Profitability ratios

Scoring

Past performance check

CHECK 1: Has Earnings Per Share (EPS) growth increasing over the years?

The EPS growth of Maruti Suzuki is increasing over the years so one point is scored to it. The number of shares outstanding which is 302.08 million has remained constant and the Net Income has shown a growth of 204% for the period explaining the growth in EPS. Morgan Stanley sees 22 per cent EPS CAGR over FY18-20 for Maruti Suzuki.

The EPS growth of the Tata Motors is decreasing due to its decreasing net income having a percentage change of -23.6 (negative) and increase in number of shares outstanding. Though the net sales have increased by 45.4 percent, total expenses have increased by 52.3 percent, decreasing net profits. So no point is scored.

The EPS growth of Mahindra & Mahindra in 2017 is higher than 2013 but the growth is not consistent. So no point is scored due to fluctuations in its net income.

CHECK 2: Has Earnings Per Share (EPS) increased in past 5 years?

EPS of Maruti Suzuki for the year 2017 stands at 248.64 which has seen a growth of 204% from five years ago thus scoring one point.

Tata Motors EPS has seen a growth of – 28% thus scoring no point.

Mahindra & Mahindra’s Earnings per share for 2017 is 74.76 showing a growth of 7.7% compared to 2013, thus scoring one point.

CHECK 3: Is the current EPS growth higher than the average annual growth over the past 5 years?

Company	EPS growth in year 2017	Average annual growth	Score
Maruti Suzuki	36.6%	32.5%	1
Tata Motors	-35.3%	-4.1%	0
Mahindra & Mahindra	13.7%	3.5%	1

Table 12: EPS Growth rate

CHECK 4: Is the Return on Equity (ROE) higher than 20%?

The Return on equity for Maruti Suzuki for the year 2017 is 20.3% and has been continuously increasing scoring one point.

Return on equity for Tata Motors is 12.9% for the current year and has been decreasing over the 5-year period. Mahindra and Mahindra has ROE ratio of 11.22%. As both Tata Motors and Mahindra & Mahindra have ratio less than 20%, no point is scored to them.

CHECK 5: Has the Return on Capital Employed (ROCE) increased from 3 years ago?

Return on capital employed is a good measure to evaluate the longevity of the firm. It gives the overall return generated using the long term capital of the company.

Maruti Suzuki’s ROCE has increased from 49% to 68% showing a growth of 39%. The company gets one point.

Tata Motors ROCE is consistently decreasing evident from falling net profits. It maintained good ROCE of 17% in the year 2015 but has fell to 8 percent.

Mahindra & Mahindra ROCE has increased from 6.8 percent to 8.1 percent. One point is scored.

CHECK 6: Is the Return on Assets (ROA) between 12-15%?

Company	ROA in 2017	Scoring
Maruti Suzuki	14.46%	1
Tata Motors	2.8%	0
Mahindra & Mahindra	3.5%	0

Table 13: Return on assets rate

Health checks

CHECK 1: Are short term assets greater than short term liabilities?

Company	Short Term Assets	Short Term Liabilities	Score
Maruti Suzuki	87,980 mil	132,368 mil	0
Tata Motors	11,68,318.6 mil	11,56,295.2 mil	1
Mahindra & Mahindra	488,863 mil	398,831 mil	1

Table 14: Check Short term assets and short term liabilities

CHECK 2: Are short term assets greater than long term liabilities?

Company	Short Term Assets	Long Term Liabilities	Score
Maruti Suzuki	87,980 mil	16,332 mil	1
Tata Motors	11,68,318.6 mil	9,96,097.8 mil	1
Mahindra & Mahindra	4,88,863 mil	3,88,476 mil	1

Table 15: Check short term assets and long term liabilities

All the three companies maintain current assets greater than the long term borrowings which show their ability to meet long term obligations with their current assets.

CHECK 3: Has the debt to equity ratio increased in the past 5 years?

D-E ratio for Maruti Suzuki has fallen from 0.45 in the year 2013 to 0.40 in 2017 and as this is decreasing one point is scored.

D-E ratio for Tata Motors has increased from 0.84 in year 2013 to 1.04 in 2017 so no point is given.

Mahindra & Mahindra has a high D-E ratio compared to other two companies over the years and it is more than 2, thus no point.

CHECK 4: Is the debt to equity ratio over 40%?

Company	D-E ratio in 2017	Scoring
Maruti Suzuki	40%	1
Tata Motors	104%	0
Mahindra & Mahindra	218%	0

Table 16: D-E ratio

Tata Motors and Mahindra & Mahindra maintain Debt-Equity ratio higher than 40% so zero points are assigned to them.

CHECK 5: Is debt covered by operating cash flows?

Maruti Suzuki has a total Debt of 148,700 million which is greater than operating cash flows of 102,820 million. No point is scored.

Tata Motors has a Total Debt of 21,52,393 million which is less than operating cash flows of 301,993 million. No point is scored.

Mahindra & Mahindra has a total Debt is 787,307.10 million which is much greater than operating cash flows of 658 million. No point is scored.

CHECK 6: Are earnings greater than 5x the interest on debt (if company pays interest at all)?

Maruti Suzuki pays very less portion of interest on debt. One point is scored.

Tata Motors has less earnings. No point is scored.

Mahindra & Mahindra has EBIT less than the five times the interest coverage. No point is given.

The final Scoring on the 12 checks

Parameter	Maruti Suzuki	Tata Motors	Mahindra & Mahindra
Check 1	1	0	0
Check 2	1	0	1
Check 3	1	0	1
Check 4	1	0	0
Check 5	1	0	1
Check 6	1	0	0
Check 7	0	1	1
Check 8	1	1	1
Check 9	1	0	0
Check 10	1	0	0
Check 11	0	0	0
Check 12	1	0	0
Total	10	2	5

Table 17: Final Scoring

CONCLUSION

The company Maruti Suzuki has performed really well for the period considered in the study and stands to be the best company among the three chosen. Company has maintained its liquidity and profitability quite well over the years. Though current and quick ratio have been decreasing, overall liquidity of the company was good due to increasing inventory turnover ratio. Average current ratio and average quick ratio are 1.15 and 0.89 which denote good liquidity position of the company.

Coming to profitability, the company has shown a positive graph upward with respect to return on assets, return on equity and net profit margin. Maruti Suzuki has return on

assets ratio of 14.5% in the year 2017 emphasizing its effectiveness in using its resources to generate profits. Its Net earnings and equity have shown a growth of 204% and 94.81% respectively over the period and therefore Return on Equity increasing from 13% in 2013 to 20% in the year 2017 and expected to further increase by efficiently using shareholders' funds. EPS of Maruti Suzuki for the year 2017 stands at 248.64 which has seen a growth of 204% from five years. The EPS growth in year 2017 is 36.6% which is higher than the average annual growth rate of 32.5% for a five-year period. That's a real healthy sign of a fundamentally strong company. Another, magnificent point regarding Maruti Suzuki company is that it has less debt company. D-E ratio for Maruti Suzuki has fallen from 0.45 in the year 2013 to 0.40 in 2017, this is decreasing during the period. Interest payments on debt are well covered by earnings though debt is not covered by operating cash flows. Finally, the net profit margin has increased from 5.6% in 2013 to 9.7% in 2017. This is a pre-eminent profit margin for the companies in the automobile industries.

Tata Motors performance has been deteriorating over the period considered and stands to be the last ranked among the three chosen. The Net profit margin of the company has decreased from 5.2% in 2013 to 2.8% in the year 2017 evident from its increasing expenses at a rate of 52.3% that is greater than its increasing sales of 45.4%. This is clearly in sync with the declining market share of Tata Motors in the industry. It used to be a market leader in commercial vehicle segment with over 60% customer share, however, it has now lost its monopoly and profit margin along with it. Both return on equity and return on assets have been degrading for the same period with ROE less than 15% and ROA at 2.8% and so it is not expected to efficiently use its shareholders' funds and assets in the future. Tata Motors' use of capital has not improved over the past 3 years. Further, EPS are also decreasing. It went down from 36.52 in 2013 to 26.16 in 2017. It saw a decrease of 35.3% in 2017 and in February 2017, shares of Tata Motors Ltd fell down by 10.3% which is its biggest fall in nearly five-year period considered.

On the other hand, if we look at the Debt-equity ratio, we find that it's also fluctuating a lot. As a thumb rule, investors prefer companies that have D-E ratio lower than 0.5 and in the year 2017; Tata Motors has debt-equity quite high with 1.04 as its value.

Nevertheless, over the years the company has been successful in maintaining a current ratio equal to the ideal ratio of 1:1. Tata Motors was successful in maintaining a constant quick ratio of around 0.72 over the years. Tata Motor's cash and other short term assets cover its long term commitments. This implies that Tata Motors is a more liquid company than Maruti Suzuki. The competitive position of Tata Motors is a little complex to access because it works in both commercial and passenger vehicle segment. In commercial vehicle segment, the key competitors of Tata Motors are Ashok Leyland, Bharat Benz, Mahindra & Mahindra, Eicher Motors etc., and in the passenger vehicle segments, the key competitors are Maruti Suzuki, Hyndai, Honda, Renault etc.

Third company, Mahindra & Mahindra has a good liquidity position with both current ratio and quick ratio greater than one and equal to one respectively. Inventory turnover ratio of the company is higher than Tata Motors and less than Maruti Suzuki with moderate ability to sell off its inventory. Coming to profitability, Net profit margin of the company has decreased from 5.97% in 2013 to 4.84% in year 2017. Return on Equity is degrading consistently and it stood at 11.22% in the year 2017 showing its inability in using its shareholders' funds inefficiently. Its Return on assets has also fallen from 5.4% to 3.5% showing a decline of 34.19% in the period.

Mahindra and Mahindra is a highly indebted company with a total Debt of Rs 787,307.10 million in the year 2017 and a maintaining D-E ratio of above 2 consistently during the period of study. The ratio was 2.03 in the year 2013 and has increased to 2.18 in 2017. Neither Total debt is covered by operating cash flows nor Interest

payments on debt are covered by operating cash flows. EPS of the company has seen a growth of 7.7% from 69.44 to 74.76.

So according to the scoring parameters, Maruti Suzuki is the best performer with its profitability ratios increasing and it scored the highest 10 points out of the checks made.

Tata Motors is struggling to generate profits and its Net income has decreased by 23.6% due to Tata Nano.

Mahindra & Mahindra maintains good liquidity position but due to its high debt, its Net Income doesn't show much growth.

REFERENCES

Financial Performance of Automobile Industry in India, Azhagaiah Dr. R Sankaran, 2014
Performance Evaluation of Maruti Suzuki India Limited, Rana Vishal S., Asia Pacific Journal of Marketing & Management Review, 2013

Financial Performance of Tata Motors, Patel Vivek, Global Research Journals, 2010.

An Insight into the Performance of Indian Automobile Industry, Ray Dr. Sarbapriya, 2012.

Annual reports of Maruti Suzuki, Tata Motors and Mahindra & Mahindra

www.ibef.org

www.equitymaster.com

SimplyWallStreet/CompanyAnalysis

www.investopedia.com

http://www.agefi.fr/sites/agefi.fr/files/migrate/etudereference/NBYBVVJIGE_kpmg1.pdf