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Ratio Analysis of Tata Motors

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ABSTRACT

Purpose: The study of Ratio analysis of Tata Motors, will show what does the different types of ratios mean in different heads and the analysis of tata motors by the ratios shows the financial condition of tata motors in the current financial period as compared with the previous financial year, that is a comparison of company's status of assets and liabilities in the current year which is 2022 and previous year which is 2021.

Design and Methodology: The paper makes use of theoretical data to explain various types of ratios under different subheads like liquidity ratio. It also uses mathematical data like figures and decimal values for explaining company conditions and changes since the last year as compared with march 2022.

Finding and Results: Tata Motors company has shown a significant improvement in its stock as well as sales which can also be reflected in its ratios analysis. Tata Motors is an ever time flourishing company and always adapting to difficult situations as well.

Keywords: *Tata Motors analysis, Ratio Analysis, Financial stability of Tata Motors.*

I. WHAT IS RATIO ANALYSIS?

The financial statement of the company, in this case Tata Motors, is studied by looking at the assets and liabilities of the company as well as other resources balance sheet, cash flow statement, and other income statement. Ratio analysis is a quantitative method for learning about a company's liquidity, efficiency, and profitability. The financial relationships between many company elements are studied in this statement.

The mathematical expression "ratio" establishes the link between two distinct or connected terms. It aids in assessing the business's short- and long-term stability and assists in analysing its profitability using a variety of profitability ratios.

II. WHAT DOES RATIO ANALYSIS TELLS?

By analysing the previous condition and current financial statement, investors and business analysts utilise ratio analysis to assess the financial health of the company. The performance of the company as compared to past years can be determined by comparing its financial statements; this comparison can also assist estimate the company's future stability.

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Further ratios serve as benchmarks for assessing a company's stock value, and as is well known, doing so can be aided by contrasting the company's past performance with its present state. This demonstrates how ratios control every aspect of a company's state and market stability. Ratios also evaluate the financial health of the company and whether it will continue to operate. The comparison of ratios between the business in the current year and the business in prior years reveals the business's progress and areas for improvement.

(A) Research Question

- What is ratio analysis and what is the meaning and formulas of different ratios?
- What are Tata motors financial condition in 2022 as compared with 2021, on the basis financial ratios?
- the research paper also answers what are the view of different industrialist or public on tata motors growth by the means of ratios?

(B) Research Objective

- To understand the term Ratio analysis, its meaning, nature and different categories of Ratio’s with its sub-parts.
- To learn and measure the rate of improvement in Tata Motors as compared to previous years, financial stability of the company.
- The paper also focuses on what are the general public opinion on the company Tata Motors

(C) Research Methodology

The research paper will use athematic and as well as theoretical data to understand and interpret what is ratio analysis and what are different categories of ratios and their further sub divisions. The paper also describes the financial comparison of tata motors from the current year as compared with the previous year, on the grounds of ratios, and lastly there are also views on the financial condition of the company by the public.

(D) Literature review

The company Tata motors, as per experts have made huge improvements. Tata motors have reported an almost 10% rise in its net sales from June 2021 to June 2022. At the same time there was a hike in the current as well as long term liabilities of the company, there borrowing were increased with comparison to previous year. However, the total liabilities of the company were slightly more then the total assets, affecting a slight decrease in the current ratio of the company.

All the financial statements, overall show that Tata motors is displaying a decent situation in market with increase in its brand value by cooperate social responsibility towards benefit of Indians and a huge sum of profit is spent in this objective. Some reviews by investors the investors of tata motors also say that the investment in tata motors has been a huge profit for them as compared with the investment made by them in 2021, there are very nice returns on the same even if the profit has declined the return on investment are very nice and has been worth on investing.

III. INTRODUCTION TO ALL THE DIFFERENT RATIOS

(A) Types of ratios

Ratios are classified in four aspects: -

i. Liquidity ratio

ii. Solvency ratio

iii. Activity/Turnover ratio

iv. Profitability ratio

1. Liquid ratio

Using the company's current or quick assets, liquidity ratios gauge a company's capacity to settle its short-term loans when they become due. The current ratio, quick ratio, and working capital ratio are all examples of liquidity ratios. These ratios do not have any unit to express themselves, instead they are denoted in times. The two different types of liquidity ratios are: -

1) Current ratio
2) Quick ratio

Current ratio is a ratio which formulates the relationship between current asset and current liability

The formula of the current ratio is: Current Asset/ Current Liability. A 2:1 current ratio is considered desirable; while a greater ratio improves liquidity, a too-high current ratio lowers operational effectiveness.

Quick ratio or also known as acid test ratio determines the relationship between quick or liquid assets and current liability.

The formula of Liquid or Quick Ratio =

Liquid or Quick Assets/Current Liabilities.

The ideal quick ratio is 1:1. In the formula liquid assets are the assets that are either in the form of cash and cash equivalents or that can be easily converted in cash or cash equivalents in short period of time.

2. Solvency ratio

These ratios are also called as financial leverages ratio, this ratio is also a relationship or comparison between debts with the company equity, earning and assets, to determine if a company will be able to sustain itself over the long run by paying off both its principal debt and the interest on it. Along with liquidity ratio solvency ratios are also expressed in times. Some of the solvency ratios are:

1) Debt-Equity ratio
2) Debt to Total asset ratio
3) Proprietary ratio
4) Interest coverage ratio

The **debt equity ratio** as the ratio defines it shows the relationship between external equality which are debts, long term as well as short term, and internal equality which are equity (Shareholders fund).

The formula of debt equity ratio is debt/equity

Debt can be calculated in three ways which are:

= Total Debt – Current Liabilities

Or

= Long-term Borrowings + Long-term Provisions

Or

= Capital Employed – Equity

And further equity can be calculated by:

= Non-Current Assets+ Working Capital– Non-Current Liabilities (Long-term Borrowing + Long-term Provision)

Or

Equity = Share Capital + Reserves & Surplus

Or

= Total Assets – Total Debt

The second ratio is **debt to total asset ratio** or **Total asset to debt** which states the relationship between debt and total asset, its reverse is also possible like the formula says:

Debt/total assets or the reverse of it which is Total asset/debt

Another solvency ratio is the **Proprietary ratio** which is the relationship between proprietors' fund or Shareholders fund or Equity and Total Assets. The formula is:

Proprietors' fund or Shareholders fund or Equity/Total Assets.

The fourth and last solvency ratio is the **Interest Coverage ratio** which is the relationship between net profit before tax and interest on Long-term Debt. The formula is:

Net profit before tax/Interest on Long term Debts

3. Activity or Turnover ratio

Efficiency ratios, commonly referred to as activity or turnover ratios, assess how effectively and prudently the business uses its assets and liabilities to optimise sales and profit. Turnover ratios are also denoted in times. Key turnover ratios include the following:

1) Inventory turnover ratio
2) Trade receivable turnover ratio
3) Trade payable turnover ratio, and
4) Working capital turnover ratio

4. Inventory Turnover Ratio: It displays a correlation between the average amount of inventory carried over that time period and the Cost of Revenue from Operations, or Cost of Goods Sold. It ensures that only the necessary quantity is invested in stock and that a solid investment is made. The inventory turnover ratio's formula is:

Cost of Revenue from Operation/Average Inventory.

5. Trade Receivables Turnover ratio: It is the connection between Credit Revenue from Operations (also known as Net Credit Sales) and Average Trade Receivables (that is, Average of debtors and bills receivable of the year). It shows how frequently trade receivables are exchanged in relation to credit sales over the course of a year. The ratio is expressed as follows:

Cost of Revenue from Operation/Average Trade receivables

6. Trade Payables Turnover Ratio: It is a correlation between total or average payables and net credit purchases. It shows how frequently the creditors are changed in connection with credit purchases.

A high ratio shows that the business isn't using the entire credit period, which raises its credit worthiness. An expanded credit period or a low ratio, on the other hand, shows that creditors are not paid on time. The ratio's formula is as follows:

Net credit Purchase/Average Trade Payables

7. Working Capital Turnover Ratio: Working capital and operating revenue are related in this way. It displays how many sales are generated for every unit of rupees used for working capital. It aids in determining whether working capital has been utilised efficiently in producing revenue.

The working capital turnover ratio's formula is:

Revenue from operation/average working capital

8. Profitability ratio

These numbers demonstrate a company's ability to produce profits from its operations. Examples of profitability ratios include gross margin, profit margin, return on assets, return on equity, and return on capital employed. The only ratios that are expressed as percentages are profitability ratios. All the profitability ratios are expressed in percentage, as compared with other categories of ratios which are expressed in times. A few examples of profitability ratios are:

1) Gross profit ratio
2) Operating ratio
3) Operating profit ratio
4) Net profit ratio
5) Return on Investment
6) Earnings per share

9. Gross Profit Ratio: It is a correlation between operating revenue and gross profit. This ratio will be affected by changes to either the Cost of Revenue from Operations, which is the cost of goods sold, or both. It displays the typical gross profit margin.

The formula goes (gross profit/revenue from operation) *100

10. Operating Ratio: The proportion of operating expenses to operating income. It is the ratio of operating expenses and cost of revenue from operations to revenue from operations. It aids in determining how effectively an entity operates. It displays the proportion of operating revenue that is consumed by operating costs and cost of revenue from operations.

The formula for the ratio is (Operating cost/Revenue from Operation) *100

11. Operating Profit Ratio: This metric measures the proportion of operating profit to total revenue, or net sales. It establishes the business's operational effectiveness. An improvement in the ratio indicates that the entity is operating more efficiently.

The formula of the ratio is (operating profit/revenue from operation) *100

Operating Profit = Gross Profit + Other Operating Income -Other Operating Expenses

12. Net Profit Ratio: The link between net profit and operating revenue, or net sales, is known as the net profit ratio. It aids in figuring out how effectively the company operates. It reveals the true state of a company; the better the Net Profit Ratio, the better the company. The ratio has increased during the last time, which indicates that operational efficiency has improved. The ratio's recent drop indicates a reduction in operational effectiveness. It makes it easier to compare operational effectiveness to benchmarks set by the industry.

The formula of Net profit ratio is (Net Profit After tax/Revenue from Operation) *100

13. Return on Capital Employed and Investment: These are the objectives and significance of return on capital employed and investment as stated in return on capital employed and investment. It displays the correlation between capital employed and net profit/earnings before interest and tax. It gauges how well the company's resources are being utilised. The performance of various industries can be compared because it is an accurate indicator of the profitability of each company. If the corporation or business is producing sufficient returns, it will be indicated. It evaluates the business's overall performance.

The formula of return on capital employed is (Net profit before interest, tax and dividend/Capital employed) *100

14. Earnings Per Share (EPS): The profitability ratio known as earnings per share, or EPS, gauges a company's level of profit. By dividing the earned net profit by the number of outstanding shares, it is determined.

The formula for calculating EPS is:

Earnings per share = Net Profit ÷ Total no. of shares outstanding

15. Price Earnings Ratio: The P/E Ratio is another name for this. It establishes a connection between a company's stock price and its earnings per share. It is quite beneficial for investors since they are more interested in learning how profitable the company's shares are today and how profitable they will be in the future. The P/E ratio is determined as follows:

P/E Ratio = Market value per share ÷ Earnings per share

It shows if the company's stock is overvalued or undervalued

IV. TATA MOTORS RATIO ANALYSIS OF 2022 AS COMPARED WITH 2021

Some of the major ratio comparison on Tata motors is given below.

Tata motors as we all know is a well reputed company for manufacturing cars, trucks and other transportation devices. We can analyse its progress starting from liquidity ratios which are current ratio and quick or acid test ratio. The current ratio for Tata motors in March 2022 was 0.58 and in March 2021 it was 0.60. This clearly shows that the current ratio has a slight decrease meaning that there is a decrease in current asset of the company or there is an increase in short term debt in the company or both. This shows that Tata motors has lost the ability to generate cash from its shareholders, the company can increase its standards by just paying off some current liabilities. Then the Quick ratio of tata motors in the last year was 0.43 and in 2022 it is 0.44. the quick ratio has increased by 0.01 which means the formula's numerator is higher than denominator or vice versa. The quick ratio is higher that the company is more liquid in generating cash easily in any of the emergencies.

The next set of ratios are solvency ratios, the first of which is Debt Equity ratio which in 2021 was 1.14 which increased to 1.17 in 2022. An increase of 0.03 which is minimal but too large in such a huge industry. This shows that the company is not able to make optimum utilisation of its assets and is dependant on borrowing more capital from the market to fund the firm and its operations. This is not an impressing situation for the company as assets are not utilised in a better manner. Debt to total Asset ratio was in 2021 0.47 and has increased to 0.73 in 2022. This shows that companies debts have increased since a year, the company is at risk of more liabilities than assets.

The next ratio to be compared is Inventory turnover ratio which in 2021 was 4.54 and this year it is 7.66 there is 3.12 increase in the ratio. A higher inventory means that the goods are sold at a faster rate, indicating stronger sales mechanism. This also sometimes means that the company has insufficient inventory in hand. An increase of a significant amount has a huge effect on tata sales and boosted its profit. The basic Earning Per Share ratio in 2021 was -6.59 which increase to -3.63 in 2022, this can be easily seen in the share book value of shares which have increased. A greater earning per share ratio indicates that the investors will pay greater value on per share, they are willing to pay higher as it is a profit-making company. This is a good signal for the company.

The return on capital employed or return on capital employed ratio in 2021 was 0.37 and in 2022 it is 1.07. This means that the company can generate more profit for every single rupee invested in the company by the investor. The higher the return-on-investment ratio means the company have a strong opportunity to generate higher profits. This makes the ratio an important indicator to judge the performance of the tata motors.

The rest ratios are profitability ratios which are in different names like the first is profit before dividend, interest and tax or like the gross profit ratio, which in 2021 was 6.21 which decreased to 4.56 in 2022. This shows that tata motors have profitability problems and is unable to generate a sufficient cash flow, the company profit are depleting. The next is profit before interest and tax or same as operating profit ratio in 2021 was 0.47 and in 2022 it increased to 0.84, meaning operating expenses are lowered and there are more profitable business operations, dividend are high.

The profit before tax ratio in 2021 was -7.53 which increased to -3.47, an increase by 4.06 meaning taxes are controlled and there is a good situation for tata.

V. Conclusion

The ratio analysis of the Tata motors company showed an overwhelming improvement in the profit and returns and all the sectors, clearly displayed in the ratios and their comparison with previous years. The company is a profit-making firm with a clear and guaranteed plan of success.

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