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A STUDY ON RATIO ANALYSIS OF TATA MOTORS LTD

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Abstract

This paper analyses the financial position of Tata Motors Ltd through ratio analysis of the company, utilizing four major indicators for analysis including liquidity, solvency, profitability, and efficiency. It employs secondary data sources to evaluate the financial state of the firm over multiple years as well as spotting trends and areas for improvement. Results indicate a slow improvement trend in profitability and operational efficiency metrics, with significant recovery in key indicators like return on equity, gross profit margin, and asset turnover. However, concerns about liquidity fears remain, indicating a need for improved short-term liability management. Tata Motors has exhibited resilience and sustainability in its financial performance, which paves the way for its growth in the competitive automobile market, finds the research.

INTRODUCTION

Finance forms the backbone of every business, playing a pivotal role in its growth and sustainability. A company's success largely hinges on how effectively it manages the funds at its disposal. For this project, the focus is on "a study on the Ratio Analysis of Tata Motors Limited," a critical exercise aimed at evaluating the company's financial performance.

Tata Motors Limited, as a major player in the automobile sector, has a diverse set of stakeholders, including trade creditors, bondholders, investors, employees, and management. Each stakeholder group has its own unique interest in monitoring the company's financial health. Trade creditors, for instance, are keen to assess liquidity to ensure timely payment of dues, while investors look at profitability and growth potential. Similarly, management relies on financial analysis to steer the company toward achieving strategic objectives. Thus, understanding financial performance becomes indispensable for making informed decisions.

Financial performance analysis involves scrutinizing a company's accounting and financial statements to discern its operational efficiency and financial health. This analysis is essential as it aids in identifying strengths, weaknesses, and potential areas for improvement. By analyzing key financial metrics, companies can craft strategies that align with long-term goals and market dynamics. The core objective of financial performance analysis is to evaluate the effectiveness of management's decisions as reflected in the company's financial records.

One of the primary tools used in this study is ratio analysis, which provides quantitative insights into liquidity, solvency, operational efficiency, and profitability. Ratios like the current ratio and quick ratio offer a snapshot of liquidity, showing whether the company can meet its short-term obligations. Solvency ratios, on the other hand, help assess the company's ability to meet long- term commitments, giving stakeholders a sense of financial stability. Profitability ratios, such as the net profit margin and return on equity, reflect the company's ability to generate earnings and provide returns to shareholders.

RESEARCH METHODOLOGY

Objectives of study:

- Analysis of the financial performance of tata motors company.
- Assessing for solvency, liquidity, and profitability. Acquires experiential experience in making conclusions.

Scope of the study:

- Evaluates Tata Motors' financial performance to attract potential investors.
- Provides insights into the company's standing compared to industry standards.
- Helps stakeholders make informed investment and financial decisions.
- Assists Tata Motors' management in assessing and improving business strategies.

METHOD OF COLLECTION:

Type of Data: Secondary data will be used for this analysis (Money control, screener)

- Current Ratio: Measures liquidity; a low current ratio may indicate financial distress, increasing delisting risk.

- Liquid Ratio: Measuring whether the company would be able to pay out its obligations at their incidence.
- Solvency ratios: The reason solvency ratios can determine whether a business has a long-term financial ability to pay its liabilities as they become due is that evaluation of its solvency ratio.
- Turnover ratio: It compares the turnover of a corporation and determines whether the enterprise is managing its assets satisfactorily and whether such an enterprise can meet a liability when due.
- Margin Ratio: Using margin ratios, the company can check whether the company has got enough profit to meet up with all its obligations on maturity.
- Return Ratio: One must establish whether a business is earning sufficient returns to service its obligation as the obligation arises from evaluating its return ratios.

Results and analysis Liquidity Ratio :

when they arise.
It is important to see whether a business can honour its obligations as and

Two simple measures for the same are
1) Current ratio
2) Quick ratio

YEAR	CURRENT RATIO
2020	0.85
2021	0.93
2022	0.98
2023	0.98
2024	0.97

Table-1

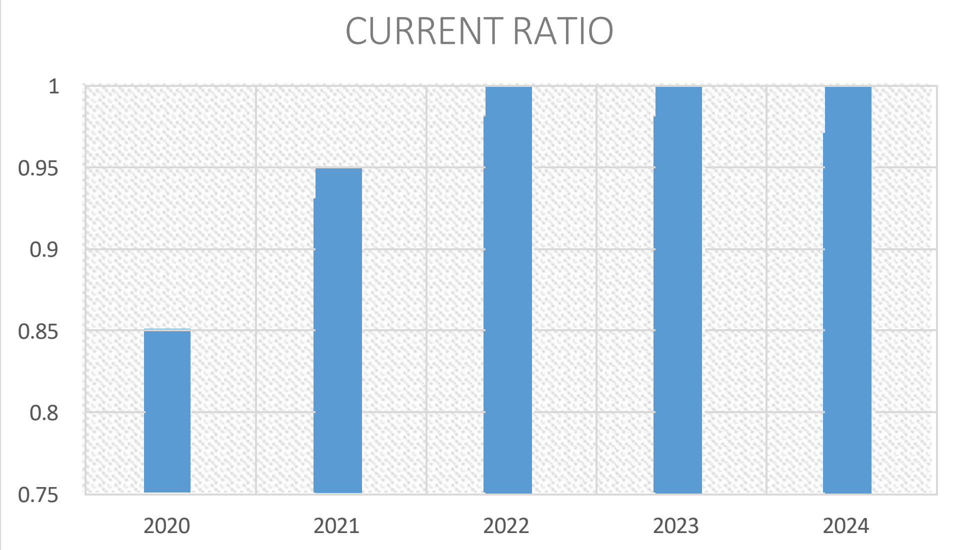

Fig-1
Interpretation:

The Current Ratio calculated for Tata Motors in the above table in 2020 was 0.85 which indicates that company's current liabilities are more than the current assets showing the vulnerability of liquidity problem. Currently in 2021, Current Ratio slightly rises to 0.93 and thus, although, there has been a slight improvement in the organization ability in paying current liabilities in the shortest possible time, the Current Ratio is still below the desirable The Current Ratio in 2022 slightly rises to 0.98 this is show that the company is nearer to paying the current liabilities as they incorporate current asset. This modicum of stability was extended into 2023 where the ratio also stands at 0.98. Nonetheless, in 2024, the Current Ratio was down to 0.97, though it lowered only slightly suggesting that the liquidity situation is similarly positioned.

YEAR	QUICK RATIO
2020	0.58
2021	0.7
2022	0.74
2023	0.71
2024	0.69

Table.2

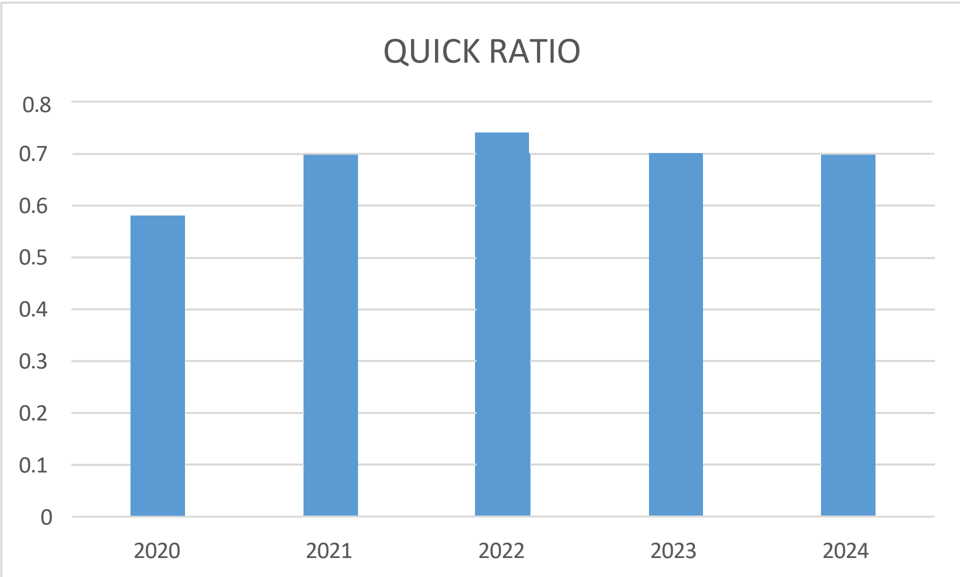

Fig.2
Interpretation:

Quick ratio of the Tata Motors declined to 0.58 in 2020 meaning the company has a poor liquidity position and may struggle to meet short terms claims. But it is also noticeable a slight enhancement in quick ratio in the year 2021 with the ratio of 0.7 as well for the company which evidence better handling in liquidity aspect expending. This trend of expansion was also recorded in the year 2022 where we realized a Quick ratio of 0.74 signifying solager's dwindling ability to meet near-co Dryden other demands. Still, it has been slightly reduced in 2023 to 0.71 in a Quick Ratio indicating a slight deterioration in liquidity. The Quick Ratio was down to 0.69 by 2024 while remaining constant, which was a clear indication that the firm needed to continue paying adequate attention to the short-term assets to maintain adequate liquidity.
Solvency ratios: The firm's solvency ratio must be checked to see whether it has long-term financial ability to meet the obligation arising because of the passage of time.
Two simple ways for the same are: 1) Debt to Equity

2). Interest Coverage Ratios

Year	Debt to Equity
2020	1.58
2021	2.08
2022	3.13
2023	2.77
2024	1.16

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Table -3

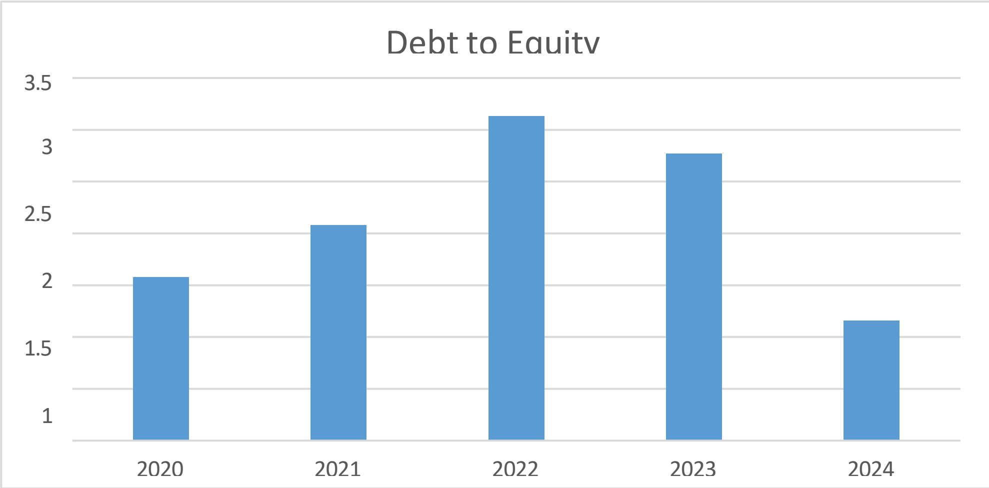

Fig.3

Interpretation:

Debt to equity ratio was 1.58 in case of Tata Motors which show that company had a significantly higher leverage by comparing debt and equity. This ratio was at 1.67 in 2020 which rose slightly to reach 2.08 in 2021 meaning that the company used more of debt financing at this period probably to deal with cash flow issues caused by the pandemic. The D/E ratio has further risen to 3.13 in 2022 meaning the company was highly leveraged and was mostly financed through debts as opposed to equity. But in fiscal 2023 it came down to 2.77, although this shows that the company was in the process of worrying less about debts. Last is the D/E ratio, which fell to 1.16 in 2024, testifying to the lower extent of the company's debt in relation to equity and improved financial stability.

YEAR	Interest Coverage Ratios
2020	2.89
2021	4.31
2022	2.98
2023	3.57
2024	6.56

Table.4

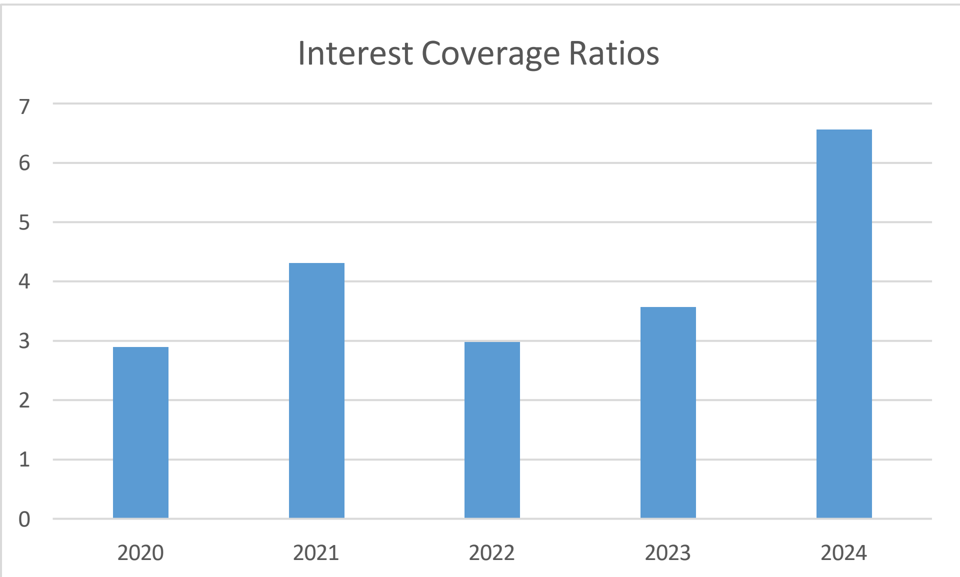

Fig.4

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Interpretation :

Interest Coverage Ratio was 2.89 in 2020 which shows that the company was capable to earn enough to cover the interest expenses to nearly 3 times. This ratio also improved in 2021 to a figure of 4.31, meaning that the company was in a better position to provide interest for its debts, and more probably because of higher earnings 2022 saw Interest Coverage Ratio reduce to 2.98 meaning that the company was less capable of providing for its interest expenses probably because of high debts or low earnings. But in the year 2023 it again shifted and became 3.57 which makes us to believe that Tata Motors improved its earnings as well as its financial power.

Turnover ratio: This is an essential step that helps evaluate the turnover ratios of a company to find out whether the business operates its assets effectively and meets the obligations as they fall due.

Two obvious ways for this are

1) Asset Turnover Ratio (%) 2)Inventory Turnover Ratio (X)

YEAR	**Asset Turnover Ratio (%)**
2020	0.83
2021	0.16
2022	0.23
2023	1.04
2024	1.24

Table.5

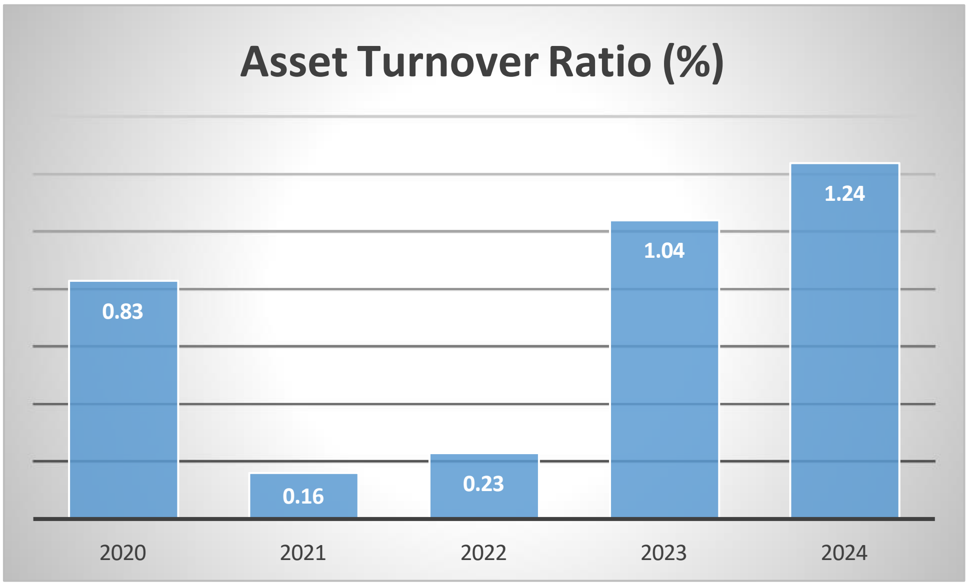

Fig.5

Interpretation :

as 2021 revealed the ratio decreased to 0.16 thus showing inefficiency or the company making little sales in relation to its asset. This could be driven by volumes reduced or underutilization during the period of industry downturn. In 2022, the Asset Turnover Ratio marginally increased to 0.23 indicating that Tata Motors was recovering and began to use the assets more efficiently though the rate was still low. Thus, the condition is that by the end of 2023, the ratio increased to 1.04, which testifies to a kind of reboot by the company as it created higher sales revenue than the assets used efficiently. Then, in 2024, the fixed Asset Turnover Ratio improved slightly and got to 1.23, which shove that the company maintained high efficiency to use its assets.

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YEAR	Inventory Turnover Ratio (X)
2020	3.99
2021	0.91
2022	1.59
2023	3.57
2024	6.56

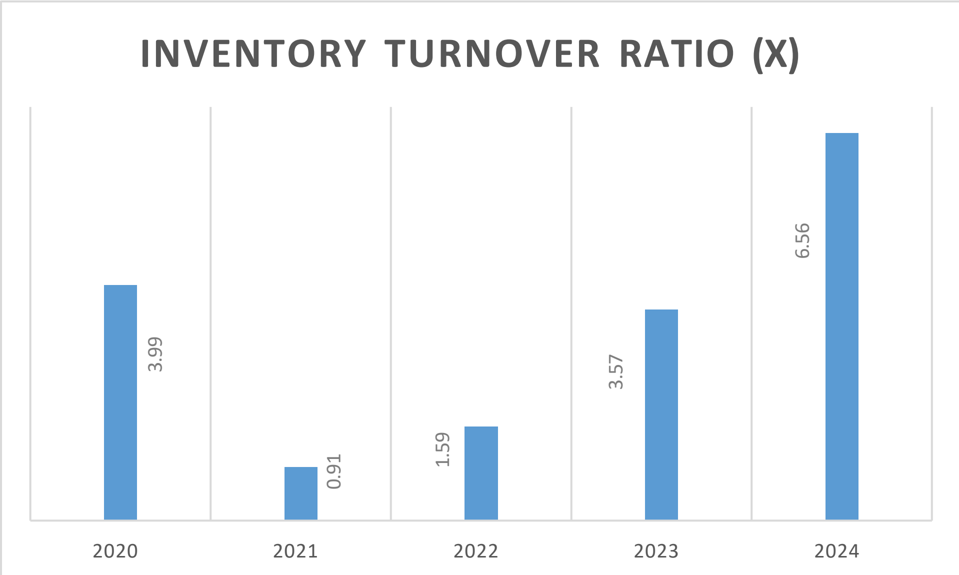

Table.6

Fig.6
Interpretation:

Tata Motors' Inventory Turnover Ratio is 3.99 in 2020, which means that the company sold and brought new Inventory turnover ratio inventories within a year almost four times. Nevertheless, in 2021, the ratio was 0,91, which means that the sales slowed down or there is inventory accumulation that means over production or less demand. In 2022 the Inventory Turnover Ratio was 1,59 much better then in 2021 and pointing out that Tata Motors started to manage the inventory much better but still it is not on the level of 2020. In 2023 the ratio was recorded to be
5.5 which was a good recovery because the company managed to uplift its sales factor tremendously in proportion to its inventory. Last, in 2024, the company's Inventory Turnover Ratio slightly rose to 5.63 proving that the company continues to manage its inventory efficiently and achieve better sales.
Margin Ratio: To judge whether a given company can service its liability on maturity basis, a company's margin ratio is essential.
Three simple ways to the same effect are

1) Gross Margin Percentage

2) Operating Margin (%)

3) Net Profit Margin (%)

YEAR	Gross Profit Margin (%)
2020	8.02
2021	13.98
2022	9.97
2023	10.56
2024	14.95

Table.7

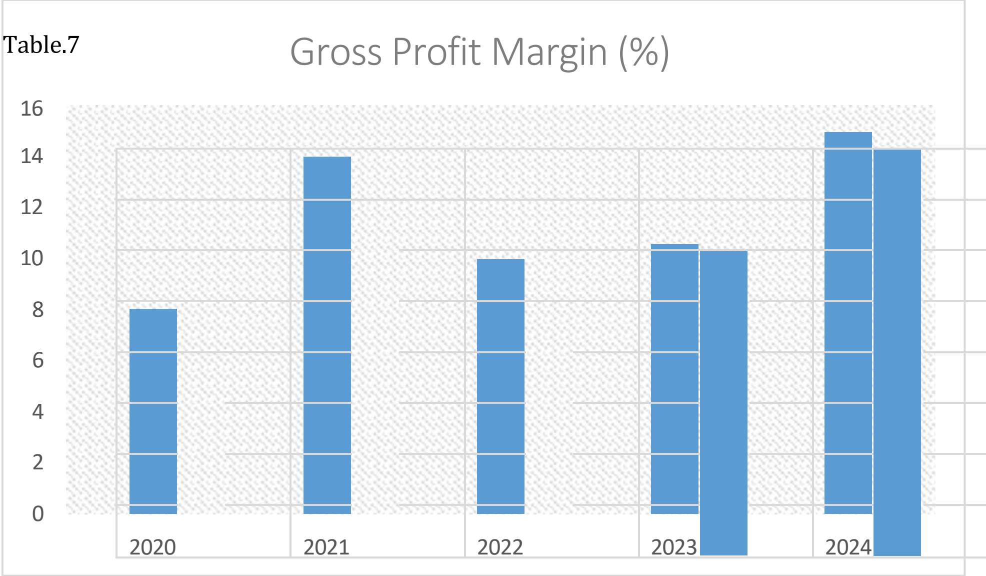

Fig.7

Interpretation :

Gross profit margin shows the percentage of revenue left over from covering the cost of goods sold, which gives a rough measure of how efficiently the firm produces and sells its product. In 2020, it stood at 8.02%, showing relatively poor profitability. But in 2021, this margin improved significantly to 13.98%, signifying better cost control or price strategies. The margin has slightly reduced to 9.97% in the year 2022 but was back up to 10.56% in 2023. In 2024, it stood at 14.95%, showing improved profitability and managing production cost effectively, which reflects higher financial performance.

YEAR	Operating Margin
2020	-0.17
2021	4.55
2022	1.05
2023	3.37
2024	8.72

Table.8

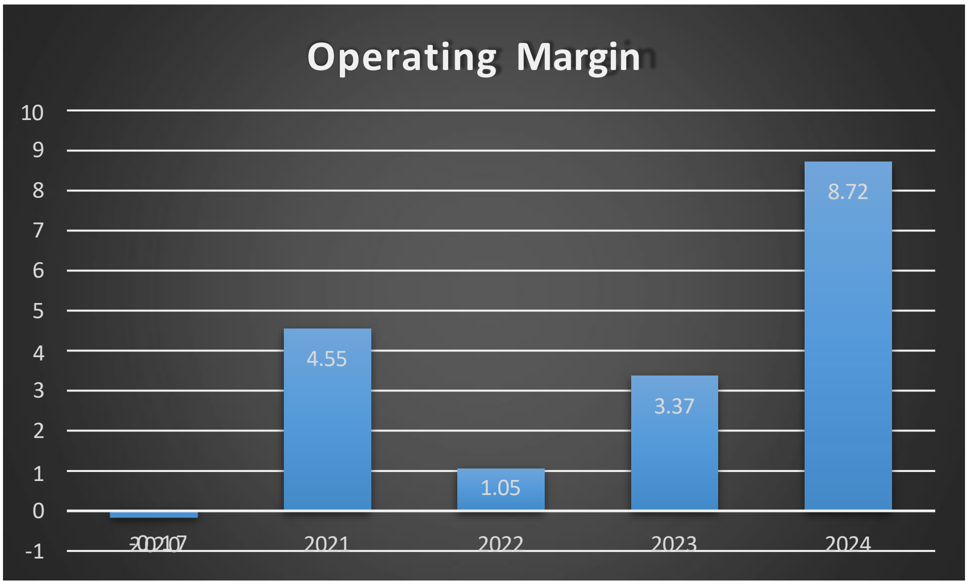

Fig.8

Interpretation :

The operating margin indicates how well a company can manage its operations and control costs. That margin was -0.17 in 2020 a loss from operations and showing substantial operational inefficiencies. Nonetheless, the margin increased to 4.55 in 2021, a significant recovery and operational performance. The margin was somewhat inconsistent in 2022 (1.05) and 2023 (3.37), however both still showed positive operating profit. Then, back in 2024, the margin skyrocketed to 8.72 due to significant operational and profitability enhancements, resulting in a financial health (finance) showing.

YEAR	Net Profit Margin (%)
2020	-4.2
2021	-5.21
2022	-4.03
2023	0.68
2024	7.1

Table.9

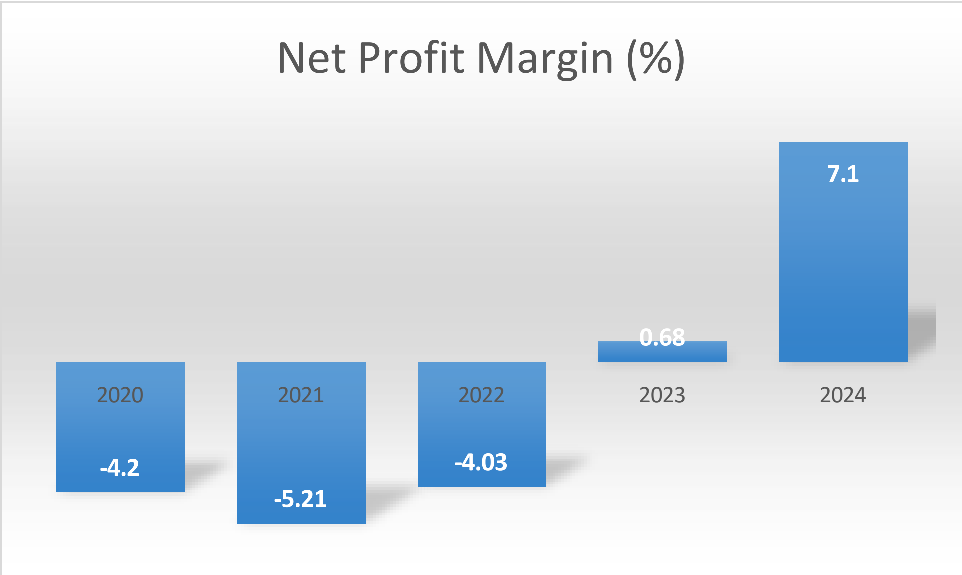

Fig.9

Interpretation :

The net profit margin gives a company its overall profitability after all costs have been accounted for. 2020: -4.2% (loss) In 2021, the margin fell to -5.21%, indicating even greater financial difficulties. But this got better in 2022, with a rate of -4.03%, indicating a moderate bounce back. In 2023, the margin becomes positive by at 0.68%, and then improves to 7.1% in 2024, showing this is a real turnaround in profitability and a much better overall performance. That's great progress on the cost control and profit generation front.

Return Ratio: Among the things that one should research is the return ratios of an enterprise whether it brings enough returns sufficient to meet obligations since they mature. It can be broken into three very simple steps:
1. Return on Net Worth / Equity (%)

2) ROCE % 3) Return on Assets %

YEAR	Return on Net worth / Equity (%)
2020	-19.13
2021	-24.34
2022	-25.67
2023	5.32
2024	36.97

Table.10

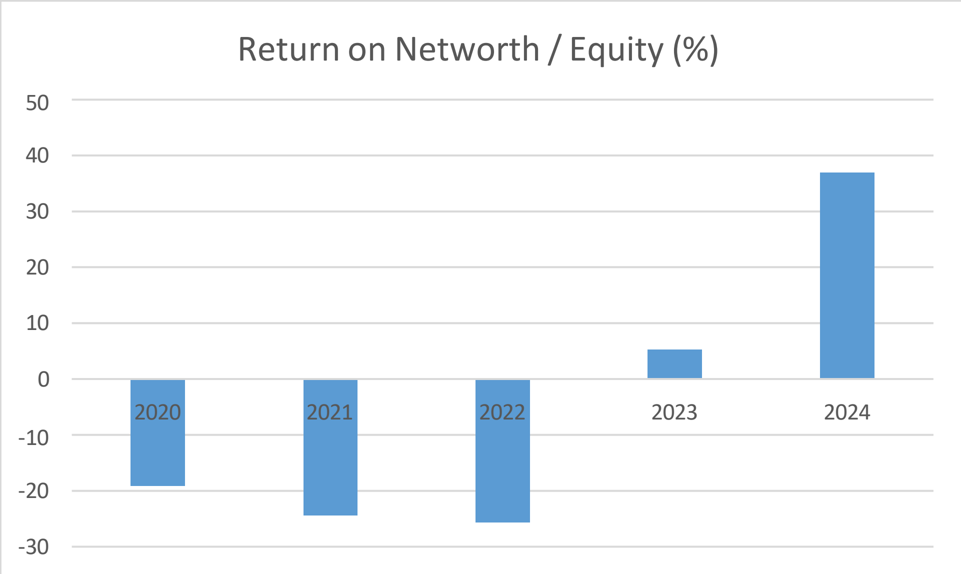

Fig.10

Interpretation:

The Return on Net Worth/Equity indicates the company's profitability in relation to shareholders' equity. In 2020, that ratio was-19.13%, a clear loss for shareholders. In 2021 it dropped to - 24.34% and then -25.67% in 2022 continuing the downward trend. The ratio was negative in 2022, continuing at 5.32% in 2023, indicating a profitability recovery. And in 2024, the metric ballooned to 36.97%, showing phenomenal ROE and a vigorous recovery in financials.

YEAR	ROCE (%)
2020	-0.25
2021	6.14
2022	1.63
2023	6.45
2024	19.39

Table.11

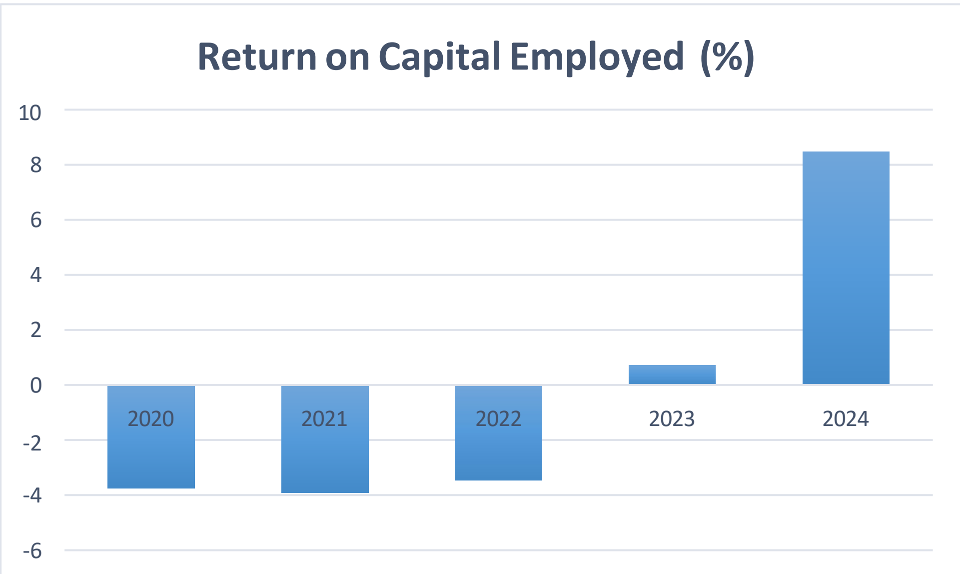

Fig.11

Interpretation:

Return on Capital Employed (ROCE) Return on Capital Employed indicates whether a company is profitable and effectively employed in capital. In 2020, the ROCE was -0.25%, which indicated poor performance with its capital. The company seemed to recover in 2021 with a 6.14% ROCE, which indicated effective and better capital utilization. While it declined to 1.63% in the year 2022, it rebounded strongly in 2023 to 6.45%. By the year 2024, the ROCE had surged to 19.39%. Thus, showing excellent profitability with efficient utilization of capital with a major improvement in the operational efficiency.

FINDINGS

- Tata Motors has been improving since 2020 in liquidity; however, its Current Ratio is still at a level considered less than ideal, indicating that there are major problems with liquidating current obligations.
- Tata Motors' Debt-to-Equity Ratio peaks at 3.13 for the year 2022 on high debt reliance but significantly improved to 1.16 for the year 2024, showing better financial stability with lesser leverage.
- Tata Motors' asset turnover improved from 0.16 in 2021 to 1.23 in 2024, which indicates that it recovered well and used assets to produce strong sales.
- Gross profit margins for Tata Motors have become significantly better from 8.02% in FY2020 to about 14.95% in FY 2024, indicating effective cost management over time, and thus stronger financials.
- Tata Motors has significantly improved its Operating Margin, from -0.17 in 2020 to 8.72 in 2024, indicating considerable operation efficiency gains in addition to strengthened health.
- Tata Motors' return on equity rose from minus 25.67% in 2022 to stellar 36.97% in 2024, truly an unbelievable turnaround and quite strong revival in profitability. Its ROCE has improved from negative 0.25% in 2020 to 19.39% in 2024, which shows phenomenal improvements in profitability and capital efficiency for Tata Motors.

CONCLUSION

TataMotorshas evidenced excellent profitability improvements from FY 2020to FY 2024 with strong returns and good health. As a result, the Return on Capital Employed (ROCE) increased from -0.25% to 19.39%, which was due to efficient capital utilization and operations. The gross profit margins have improved from 8.02% to 14.95% and the net profit margin from (-4.2%) to 7.1%. There is also operational efficiency on the increase, where the operating margin increases from -0.17% to 8.72%, and the inventory turnover goes up to 6.56, showing good stock management. Liquidity still poses a challenge as the current ratio has been maintained between 0.85 and 0.98 and the quick ratio only improved by 0.58 to 0.69, meaning that short-term obligations are still not well covered. On the positive side, there is good debt management. The DTI ratio declined sharply from a peak of 3.13 in 2022 down to 1.16 in 2024, thus reducing dependency on debt. For interest coverage, the ratio has improved from 2.89 to 6.56, meaning that the company is better at meeting its interest obligations than before. Overall, Tata Motors has progressed well in the areas of profitability, efficiency, and debt reduction,
though improvement is still for the liquidity area.

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