

PROJECT 2

Ratio Analysis for Tata Motors Ltd.

Objective:

The goal of this project was to conduct an in-depth ratio analysis of Tata Motors Ltd using the financial statements created in the previous project, in order to evaluate the company's profitability, efficiency, liquidity, and solvency. This project gives a detailed assessment of the company's financial health, which may help influence decision-making.

Ratios Calculated:

1. **Profitability Ratios:**

Sales Growth, EBITDA Growth, EBIT Growth, Net Profit Growth, Dividend Growth, Gross Margin, EBITDA Margin, EBIT Margin, EBT Margin, and Net Profit Margin.

2. **Efficiency Ratios:**

Sales Expense % Sales, Depreciation % Sales, Operating Income % Sales, Debtor Turnover Ratio, Creditor Turnover Ratio, Inventory Turnover, Fixed Asset Turnover, Capital Turnover Ratio, Debtor Days.

3. **Liquidity Ratios:**

Cash Conversion Cycle, Payable Days, and Inventory Days.

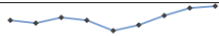








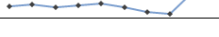


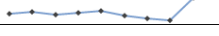
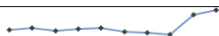



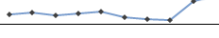
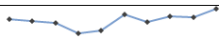




4. **Solvency Ratios:**

Return on Capital Employed, Return on Equity, Self-Sustained Growth Rate, Interest Coverage Ratio, CFO/Sales, CFO/Total Assets, and CFO/Total Debt, Retained Earning %.

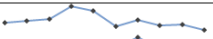





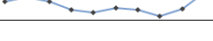
Results:

The company's financial performance has been very erratic in recent years. In terms of profitability, the company's EBITDA and EBIT growth rates have varied dramatically. However, it has shown an improved trend since 2021, with EBITDA and EBIT margins above 30%. However, net profit margins continue to be unpredictable, indicating difficulty in maintaining bottom-line profitability. In terms of efficiency, while the firm has seen good trends with increased inventory turnover and a falling cash conversion cycle since 2022, the cash conversion cycle has previously shown inconsistent patterns, ranging from -81.9x in 2018 to 589.9x in 2022. In terms of liquidity, while the company's CFO/Sales ratio is not very high, it did reach 17.18% in 2024, indicating that it can easily turn sales into cash. However, it just hit its lowest point in 2021, with a ratio of 1.27%. Finally, in terms of solvency, the firm showed a favourable trend in 2024, with the CFO/Total Debt ratio reaching 70.15%, suggesting greater debt coverage from operating cash flows. This represents a significant improvement from 2.41% in 2021. Overall, the company's financial condition has been quite erratic in previous years, but there have been hints of progress in recent years.

Ratio Calculation & Visualization

Years	Ratio Analysis - TATA MOTORS LTD										Trend	Mean	Median
	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24			
Sales Growth		3.76%	-1.23%	8.10%	3.56%	-13.54%	-4.32%	11.47%	24.25%	26.58%		9.85%	3.76%
EBITDA Growth		50.05%	-27.73%	21.60%	40.39%	-53.21%	-56.18%	-104.16%	-29153.72%	38.63%		5756.52%	-27.73%
EBIT Growth		4006.45%	-136.57%	-242.33%	216.58%	-192.34%	98.86%	52.39%	-357.12%	43.04%		804.18%	43.04%
Net Profit Growth		-12845.22%	-152.05%	-143.78%	543.58%	-131.84%	580.32%	43.18%	-341.95%	43.04%		2548.20%	-131.84%
Dividend Growth		0.00%	-100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	199.97%		41.97%	0.00%
Gross Margin	21.89%	24.21%	22.00%	21.60%	21.42%	19.28%	19.40%	15.61%	30.41%	33.31%		3.84%	21.75%
EBITDA Margin	8.73%	12.62%	9.23%	10.38%	14.08%	7.62%	3.49%	-0.13%	30.41%	33.31%		7.78%	9.81%
EBIT Margin	1.92%	4.72%	0.49%	3.04%	6.28%	-1.89%	-6.46%	-9.92%	30.41%	33.31%		10.29%	2.48%
EBT Margin	0.07%	2.93%	-1.09%	1.43%	4.37%	-4.67%	-9.70%	-13.27%	27.46%	31.03%		10.26%	0.75%
Net Profit Margin	-0.03%	3.16%	-1.67%	0.67%	4.19%	-1.54%	-10.98%	-14.10%	27.46%	31.03%		10.24%	0.32%
Sales Expenses % Sales	13.17%	11.60%	12.77%	11.22%	7.35%	11.66%	15.91%	15.74%	0.00%	0.00%		4.50%	11.63%
Depreciation % Sales	6.80%	7.89%	8.75%	7.35%	7.80%	9.51%	9.95%	9.79%	0.00%	0.00%		2.71%	7.85%
Operating Income % Sales	1.92%	4.72%	0.49%	3.04%	6.28%	-1.89%	-6.46%	-9.92%	30.41%	33.31%		10.29%	2.48%
Return on Capital Employed	3.89%	8.70%	0.96%	4.80%	11.40%	-2.63%	-8.18%	-14.47%	58.64%	75.90%		21.35%	4.35%
Retained Earnings %	0.00%	99.21%	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%	99.19%	98.31%		49.67%	49.15%
Return on Equity %	-0.12%	10.93%	-7.74%	2.06%	21.04%	-6.39%	-49.63%	-88.11%	209.60%	160.01%		63.86%	0.97%
Self Sustained Growth Rate	0.00%	10.85%	0.00%	2.06%	21.04%	0.00%	0.00%	0.00%	207.91%	157.30%		57.08%	1.03%
Interest Coverage Ratio	1.04x	2.64x	0.31x	1.89x	3.29x	-0.68x	-1.99x	-2.97x	10.29x	14.61x		3.93x	1.47x
Debtor Turnover Ratio	20.92x	20.12x	19.16x	14.66x	15.89x	23.37x	19.70x	22.38x	21.98x	25.83x		2.50x	20.52x
Creditor Turnover Ratio	2.45x	2.38x	1.98x	2.04x	2.17x	1.97x	1.73x	2.02x	2.23x	2.47x		0.19x	2.10x
Inventory Turnover	-71.28x	-47.54x	-40.73x	-81.90x	145.93x	112.24x	65.49x	589.94x	-61.07x	-60.28x		138.66x	-44.14x
Fixed Asset Turnover	2.97x	2.55x	2.81x	2.40x	2.71x	2.05x	1.80x	2.01x	2.62x	3.61x		0.39x	2.58x
Capital Turnover Ratio	4.68x	3.46x	4.64x	3.06x	5.02x	4.14x	4.52x	6.25x	7.63x	5.16x		0.93x	4.66x

Ratio Calculation & Visualization

Years	Ratio Analysis - TATA MOTORS LTD										Trend	Mean	Median
	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21	Mar-22	Mar-23	Mar-24			
Debtor Days	17	18	19	25	23	16	19	16	17	14		2	18
Payable Days	149	154	184	179	168	185	211	181	164	148		16	174
Inventory Days	-5	-8	-9	-4	3	3	6	1	-6	-6		4	-5
Cash Conversion Cycle (in days)	-137	-143	-174	-158	-143	-166	-187	-164	-153	-140		13	-156
CFO/Sales	12.11%	14.36%	12.40%	5.98%	3.87%	12.14%	11.57%	1.27%	9.32%	17.18%		3.93%	11.84%
CFO/Total Assets	13.43%	14.90%	12.27%	5.33%	3.82%	9.90%	8.46%	1.07%	9.64%	20.36%		4.26%	9.77%
CFO/Total Debt	43.28%	56.53%	42.56%	19.59%	10.99%	25.40%	20.34%	2.41%	24.06%	70.15%		17.28%	24.73%