Course code: ECON F355

Business Evaluation and Analysis



BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI HYDERABAD CAMPUS

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B.A.V Project:

The two companies picked are Tata Steel And Maruti suzuki. The Evaluation is done as shown below

TATASTEEL .Ltd:



Company History and Operations:

Tata Steel was founded in 1907 by Jamsetji Tata, one of the pioneers of industrialization in India. The company started its operations with a single steel plant in Jamshedpur, Jharkhand, which is still the largest integrated steel plant in India.

Over the decades, Tata Steel has expanded its operations both organically and through strategic acquisitions. In 2007, the company acquired the European steel giant Corus Group, which was a major turning point in Tata Steel's global expansion. This acquisition made Tata Steel one of the world's largest steel producers, with a presence in Europe, Asia, and Africa. Today, Tata Steel operates integrated steel plants, processing facilities, and mining operations across several countries, including India, the UK, the Netherlands, and Canada. The company's product portfolio includes a wide range of steel products, such as flat steel, long steel, and specialty steel, catering to various industries like automotive, construction, engineering, and consumer goods.

Structural Changes and Developments

Tata Steel has undergone several structural changes and strategic initiatives over the years to enhance its competitiveness and adapt to the evolving market dynamics.

In 2016, the company announced a major restructuring of its European operations, which involved the sale of its Long Products Europe business and the merger of its European flat steel operations with Thyssenkrupp. This move was aimed at improving the efficiency and profitability of Tata Steel's European business.

In recent years, Tata Steel has also focused on increasing its presence in the high-growth Indian market. The company has invested in capacity expansions, modernization, and diversification of its product portfolio to cater to the increasing demand for steel in India.

The company has also undergone expansion by acquisition of controlling stake or full -on acquisition of companies such as Natsteel in 2004, Millennium steel in 2005, Anglo- dutch company Corus in 2006 and Vinausteel in 2007

ESG Factors

Environmental Factors:

- Tata Steel has set a target to reduce its carbon emissions by 30% by 2030 and achieve net-zero emissions by 2045.
- The company is investing in technologies like electric arc furnaces, pulverized coal injection, and waste heat recovery to improve energy efficiency and reduce its environmental footprint.
- Entry into Steel Recycling Business to create a formal circular economy for steel in India.
 A 0.5 MnTPA scrap processing unit (first shredding unit in India) was commissioned in FY 2020-21 and multiple units across different regions are in the pipeline.
- Tata Steel is also exploring the use of renewable energy sources, such as solar and wind power with 150 MW projects being implemented in a phased manner across our Indian sites, plan to commission 11.8 MW of solar power plants on by FY2022-23 at its Thailand facilities.

Social Factors:

- Tata Steel is known for its strong focus on employee welfare and community development initiatives.
- The company provides various social security benefits, skill development programs, and healthcare facilities for its employees and their families.
- TATA Steel's belief in employee welfare is corroborated in the several 'firsts' in employee welfare measures, these include the 8-hour Work Day at our Jamshedpur plant in 1912, the Leave with Pay scheme in 1936 and the Workers' Provident Fund Scheme in 1920 all of which were subsequently adopted by the International Labour Organisation and enacted by law in India.
- Tata Steel targets to achieve gender diversity with 25% women* and 25% diversity mix (Affirmative Action (AA)/Persons with Disabilities (PWD)/LGBTQ+) in its workforce by FY 2025-26.
- Tata Steel also invests in community development projects, including education, healthcare, and infrastructure development, in the regions where it operates.

Governance Factors:

- Tata Steel has a well-established corporate governance framework, with a board of directors comprising experienced industry professionals and independent members.
- The company has a robust risk management system and internal control mechanisms to ensure transparency and accountability in its operations.
- Tata Steel's executive compensation is linked to the company's financial and non-financial performance, including ESG metrics.

Overall, Tata Steel's commitment to sustainability, social responsibility, and strong corporate governance practices has been a key part of its growth and success story.

The Major competitors for TATA STEEL are:

- 1. JSW Steel
- 2. Jindal Steel and Power Limited (JSPL)
- 3. Steel Authority of India Limited (SAIL)
- 4. Rashtriya Ispat Nigam Limited (RINL)
- 5. Essar Steel (now acquired by ArcelorMittal-Nippon Steel joint venture)

1. JSW Steel:

- JSW Steel is the largest private sector steel producer in India, with a strong presence across the country.
- As the two largest steel companies in India, Tata Steel and JSW Steel directly compete for market share in the domestic market which is shown by their production capacity with JSW having capacity of 23 million metric tonnes and Tata steel having a capacity of 20.6 million metric tonnes
- Both companies have similar product portfolios, including flat steel, long steel, and specialty steel products, catering to a wide range of industries such as construction, automotive, and infrastructure.
- Tata Steel and JSW Steel have been engaged in capacity expansions, technological upgrades, and diversification strategies to strengthen their positions in the growing Indian steel market, intensifying their competitive dynamics.
- 2. Jindal Steel and Power Limited (JSPL):
 - JSPL is a diversified conglomerate with a significant presence in the Indian steel industry with an installed production capacity of 8.1 million metric tonnes which makes it a significant competitor
 - Tata Steel and JSPL compete for market share and customer base in the infrastructure, construction, and industrial sectors, which are crucial end-use markets for long steel products in India.
 - The companies' geographical footprints overlap in several regions of India, leading to direct competition for the same customer base and resources.
- 3. Steel Authority of India Limited (SAIL):
 - SAIL is a state-owned steel company and one of the largest producers of steel in India, with a strong presence in the public sector and government-led infrastructure projects.
 - Tata Steel and SAIL compete for market share, particularly in the supply of steel for large-scale infrastructure, construction, and defense projects, where the government and public sector entities are the primary customers.

- The companies' product portfolios, including a wide range of flat and long steel products, overlap, leading to direct competition in various customer segments.
- Steel Authority of India (SAIL) will begin its next phase of modernisation and capacity expansion to over double its installed crude steel production to 50 million tonne per annum in 2023-24 giving strong competition to TATA steel
- 4. Rashtriya Ispat Nigam Limited (RINL):
 - RINL is a state-owned steel producer with a significant presence in the southern region of India, where Tata Steel also has a strong foothold.
 - The companies' geographical proximity and overlapping customer bases in the southern states of India have led to direct competition for market share and customer relationships.
 - RINL's focus on producing a range of steel products, including TMT bars, wire
 rods, and specialty steel, puts it in direct competition with Tata Steel's offerings in
 these product segments.
 - The companies' proximity and similar product portfolios have intensified their competitive dynamics in the regional steel markets of India.
- 5. Essar Steel (now acquired by ArcelorMittal-Nippon Steel joint venture):
 - Prior to its acquisition, Essar Steel was a major private sector steel producer in India, with a significant presence in the production of flat steel product.
 - Tata Steel and Essar Steel were direct competitors in the Indian flat steel market, catering to similar customer segments in the automotive, consumer durables, and infrastructure industries.
 - Essar Steel's strong position in the western and northern regions of India overlapped with Tata Steel's geographic presence, leading to intense competition for market share and customer relationships.
 - The acquisition of Essar Steel by the ArcelorMittal-Nippon Steel joint venture has further strengthened the combined entity's competitive position against Tata Steel in the Indian steel market, particularly in the flat steel segment.

The 5 financial ratios taken:

- 1. Current ratio
- 2. Interest Coverage Ratio
- 3. Inventory turnover ratio
- 4. Return on Capital Employed
- 5. Receivables Turnover Ratio

Definitions

 Current ratio: The current ratio is a financial ratio that measures a company's ability to pay its short-term liabilities (debt and payables) with its short-term assets (cash, inventory, receivables)

- 2. Interest coverage Ratio:The interest coverage ratio is a debt and profitability ratio used to determine how easily a company can pay interest on its outstanding debt]
- 3. Return on capital employed : A profitability ratio that measures how efficiently a company is using its capital to generate profits
- 4. Receivable turnover ratio: The accounts receivables turnover ratio measures the number of times a company collects its average accounts receivable balance
- 5. Inventory turnover ratio: Inventory Turnover measures how fast the company utilizes its inventory for its products/services within a year.

Data of above Ratios for tata steel is given below

| | March 23 | March 22 | March 21 | March 20 | March 19 |
|----------------------|----------|----------|----------|----------|----------|
| Current Ratio (X) | 0.89 | 1.02 | 0.85 | 0.95 | 0.97 |
| Inventory Turnover I | 1.97 | 1.85 | 0.95 | 4.79 | 4.98 |
| Interest Coverage Ra | 5.29 | 11.77 | 4.13 | 1.44 | 3.06 |
| Price/Net Operating | 0.52 | 0.65 | 0.62 | 0.21 | 0.38 |

Account Receivable Turnover Ratio 23.74 19.92 14.36 14.80 13.11

Reason behind the variations in these ratios:

Inventory Turnover Ratio: The inventory turnover ratio has decreased from 4.98 in FY2019 to 1.97 in FY2023, suggesting that Tata Steel is managing its inventory more efficiently and converting it into sales faster. A decreasing turnover ratio indicates that a company is taking longer to pay off its suppliers than in previous periods. The rate at which a company pays its debts could provide an indication of the company's financial condition

Interest Coverage Ratio: The interest coverage ratio has improved from 3.06 in FY2019 to 5.29 in FY2023, suggesting that Tata Steel has a stronger ability to meet its interest payment obligations. Interest Coverage Ratio of Tata Steel Ltd. with value of 5.29 indicates the company does have sufficient profit to service its debt. Interest Coverage Ratio of TATASTEEL drastically fell by -60.27 % this year. Latest Interest Coverage Ratio with value of 5.29 is greater than Average Interest Coverage of 5.1 in last five years.

Current Ratio: Latest Current Ratio with value of 0.891 is lower than Average Current Ratio of 0.936 in last five years. Current Ratio of Tata Steel Ltd. with value of 0.891 indicates the company has insufficient current assets to pay off short-term debt obligations. This is mainly because of the bad situation of the company's ability to acquire assets due to macroeconomic conditions of the steel industry.

ROCE: Latest ROCE Ratio with value of 13.22 is lower than Average ROCE of 14.06 in last five years.ROCE Ratio of TATASTEEL drastically fell by -53.19 % this year. This is mainly due to the large debt obligations of the company

Receivable turnover ratio: The receivable turnover ratio has improved throughout the past 5 years in an ascending order, Latest being 23.74 in FY23 this showing the company's has a good management of their credit line from their customers and thus are able to liquidate their receivables much more quickly.

The Return on Equity for TATASTEEL:

Using Dupont analysis we can get our company's required return on equity, thereby for it we require the following data:

1. Net Profit Margin:

| FY - Historical Net Profit Margin of Tata Steel Ltd. | | | | | | | |
|--|----------|----------|----------|----------|----------|--|--|
| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 | | |
| NPM | 3.60 | 16.46 | 4.79 | 1.04 | 6.48 | | |
| Change | -78.13 % | 243.85 % | 358.13 % | -83.88 % | -36.25 % | | |
| Price | 104.50 | 130.72 | 81.19 | 26.96 | 52.10 | | |

Net profit margin was unusually low in the financial year ending march 2020 which would be caused due to slowdown in demand for the companies projects as heavy industry and construction has slowed down due to lockdowns that were imposed during the majority duration of the year

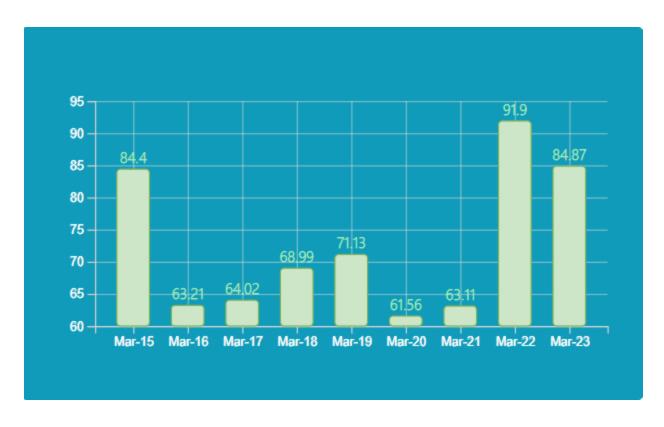


2. Asset turnover ratio:

in%

| FY - Historical Asset Turnover of Tata Steel Ltd. | | | | | | | | |
|---|---------|---------|--------|----------|--------|--|--|--|
| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 | | | |
| Asset Turnover | 84.87 | 91.90 | 63.11 | 61.56 | 71.13 | | | |
| Change | -7.65 % | 45.62 % | 2.52 % | -13.45 % | 3.09 % | | | |

The asset turnover ratio was the lowest in the financial year ending March 2020 ,which is expected since capacity utilisation would have dipped due to a slow down in the construction and mining sectors as this waas the year covid lockdowns has adversely affected construction activitites



3. Financial Leverage Ratio:

| FY - Historical Asset to Shareholders | Equity of Tata Steel L | td. | | | | | |
|---------------------------------------|------------------------|----------|---------|---------|---------|----------|---------|
| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 | Mar-18 | Mar-17 |
| Asset to Shareholders Equity | 2.79 | 2.49 | 3.34 | 3.51 | 3.50 | 3.58 | 4.88 |
| Change | 12.02 % | -25.36 % | -4.85 % | 0.215 % | -2.10 % | -26.59 % | 13.89 % |

Asset to shareholders equity ratio has decreased consistently over our 5 -year study period which suggests that the company is deleveraging to improve the health of its balance sheet and that the company believes that cost of debt will reduce giving opportunity to refinance the debt or take on new debt later on at lower interest rates



So using du-pont analysis we get ROE as:

| DuPont Analysis = | : Analysis = Net Profit Margin | | Asset Turnover | Financial | Leverage |
|-----------------------|--------------------------------|------------|----------------|-----------|----------|
| FY - Historical Retur | n On Equity of Tata | Steel Ltd. | | | |
| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 |
| ROE | 8.50 | 35.09 | 10.20 | 2.18 | 15.33 |
| Change | -75.78 % | 244.11 % | 367.07 % | -85.76 % | -33.13 % |



The decline in ROE by 75.78% shows that the company is not able to effectively utilize its Shareholders Fund in order to generate a profit in latest Quarter ending on Dec-23. The negative net profit in margin shows tata's failure in its recent ventures and the decrease in its asset turnover ratio represents the under utilization of the company's assets that are put into manufacturing of its products.

Part-B

The global economy including the steel industry faced significant volatility in 2022 due to multiple issues including the Russia-Ukraine conflict-induced global energy crisis, supply chain tightness and inflationary pressures, semiconductor shortage related issues, subsequent interest rate hikes by central banks globally, and moderated economic activity in China due to its zero-Covid policy. All these together impacted the steel demand-supply balance and resulted in significant contraction in steel price to raw material spreads through the year. Indian Steel makers were further impacted by the introduction of a 15% export duty from May 2022 till November 2022 which created supply imbalance compared to historical trends. Tata Steel has

maintained best profit margins amongst integrated steel players domestically. However, the high debt due to the Corus acquisition, high dependence on European operations and fluctuating macro-economic factors are reasons of high concerns for the company.

According to TV Narenderan(The CEO&MD of tatasteel), In an article it has been stated that Tata Steel will be back on track for reducing debt and is planning to use a major portion of its projected earnings to reduce debt, so it can maintain its modest position in the current market condition.

| | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 | AVERAGE GROWTH RATES | |
|------------------|----------|----------------|---------------|----------------|----------------|----------------------|----------|
| | | | | | | | Mar-23 |
| Total Revenue | 243352 | 243959 | 156477 | 148971 | 157668 | | |
| | | -0.00248812300 | 0.5590725794 | 0.05038564553 | -0.05516021006 | 0.137952473 | 243352 |
| Total Operating | 226686 | 195032 | 142813 | 147432 | 143287 | | |
| | | 0.162301571 | 0.3656459846 | -0.03132969776 | 0.02892795578 | 0.1313864534 | 226686 |
| Operating Incom | 23047.23 | 48926.88 | 13663.91 | 1539.18 | 14381.41 | | |
| | | -0.5289454386 | 2.580737871 | 7.877395756 | -0.8929743328 | 2.259053464 | 23047.23 |
| EBITDA | 34554.07 | 64140.78 | 30356.7 | 14719.98 | 30682.95 | | |
| | | -0.5289454386 | 2.580737871 | 7.877395756 | -0.8929743328 | 2.259053464 | 34554.07 |
| Depreciation And | 9335.2 | 9100.87 | 9233.64 | 8707.67 | 7579.32 | | |
| | | 0.02574808782 | -0.0143789448 | 0.06040306994 | 0.1488721943 | 0.05516110182 | 9335.2 |
| EBIT | 25218.87 | 55039.91 | 21123.06 | 6012.31 | 23341.12 | | |
| | | -0.541807572 | 1.605678817 | 2.513301876 | -0.742415531 | 0.7086893975 | 25218.87 |
| Interest Expense | 6298.7 | 5462.2 | 7606.71 | 7580.72 | 7660.1 | | |
| | | 0.1531434221 | -0.2819234597 | 0.00342843423 | -0.010362789 | -0.03392859809 | 6298.7 |
| Income/Profit B | 17817 | 49577.71 | 13516.35 | -1568.41 | 15681.02 | | |
| | | -0.6406247888 | 2.667980631 | 9.617867777 | -1.100019642 | 2.636300994 | 17817 |
| Tax Provision | 10159.77 | 8477.55 | 5653.9 | -2568.41 | 6718.43 | | |
| | | 0.1984323301 | 0.4994163321 | 3.201322997 | -1.382293185 | 0.6292196188 | 10159.77 |
| Net Income | 8760.4 | 40153.93 | 7490.22 | 1556.54 | 10218.33 | | |
| | | -0.7818295743 | 4.360847879 | 3.812096059 | -0.847671782 | 1.635860645 | 8760.4 |
| | | | | | | | |
| | | | | | | | |

Cash flow statenet for tata steel Ltd

| | | PROJECTIONS FOR NEX | T 5 YEARS | | | |
|-----------------|----------|---------------------|-----------------|-------------|-------------|-------------|
| | | Mai | 24 Mar 25 | Mar 26 | Mar 27 | Mar 28 |
| | Mar-23 | | | | | |
| Total Revenu | 243352 | 276923.0 | 102 315125.0933 | 358597.2302 | 408066.4353 | 464360.0162 |
| Total Hovella | 2.0002 | 210925.0 | 102 313123.0933 | 330391.2302 | 400000.4333 | 404300.0102 |
| Total Operating | 226686 | 256469.4 | 696 291849.9458 | 332111.2296 | 377926.6379 | 430062.3735 |
| Operating Incor | 23047.23 | 75112.15 | 477 169678.3576 | 383303.4099 | 865882.4029 | 1956028.348 |
| EBITDA | 34554.07 | 112613.50 | 367013.6178 | 1196117.002 | 3898209.26 | 12704472.39 |
| Depreciation Ar | 9335.2 | 9850.139 | 918 10393.48449 | 10966.80054 | 11571.74135 | 12210.05135 |
| EBIT | 25218.87 | 43091.21 | 73629.50354 | 125809.952 | 214970.1311 | 367317.1839 |
| Interest Expens | 6298.7 | 6084.993 | 939 5878.538625 | 5679.088051 | 5486.404555 | 5300.25854 |
| Income/Profit E | 17817 | 64787.97 | 482 235588.5772 | 856670.9777 | 3115113.528 | 11327490.42 |
| Tax Provision | 10159.77 | 16552.49 | 26967.65221 | 43936.22805 | 71581.76472 | 116622.4154 |
| Net Income | 8760.4 | 23091.19 | 936 60865.16846 | 160432.1022 | 422876.6645 | 1114643.958 |

Projections for next 5 years

PART 3- VALUATION

FCFE Valuation

| In Millions of INR | In Millions of INR exce | In Millions of INR | In Millions of IN | In Millions of | In Millions of INR | In Millions of IN | In Millions of INF | In Millions of IN |
|--------------------------|-------------------------|--------------------|-------------------|----------------|--------------------|-------------------|--------------------|-------------------|
| 12 Months Ending | 9 | 03/31/2017 | 03/31/2018 | 03/31/2019 | 03/31/2020 | 03/31/2021 | 03/31/2022 | 03/31/2023 |
| Net Income/Net Pr | NET_INCOME | -42,408.0 | 1,34,543.1 | 1,01,944.9 | 15,565.4 | 74,902.2 | 4,01,539.3 | 87,604.0 |
| Depreciation Expe | IS_DEPR_EXP | 54,161.5 | 57,129.0 | 72,800.8 | 76,808.3 | 80,185.4 | 79,982.4 | 89,086.0 |
| Capital Expenditur | CAPITAL_EXPEND | -77,156.4 | -74,785.0 | -90,910.0 | -1,03,980.0 | -69,785.9 | -1,05,222.0 | -1,41,424.9 |
| Net Working Capit | NET_WORKING_CAPIT | 48,897.7 | -2,651.4 | 38,372.3 | -47,556.6 | -2,08,489.9 | 1,56,866.2 | -26,273.5 |
| Net Debt | NET_DEBT | 7,24,203.1 | 6,93,002.3 | 9,49,499.9 | 10,48,416.1 | 7,00,234.8 | 5,11,380.0 | 6,79,057.3 |
| change in debt(np- | -p) | | -31,200.8 | 2,56,497.6 | 98,916.2 | -3,48,181.3 | -1,88,854.8 | 1,67,677.3 |
| change in nwc | | | -51,549.1 | 41,023.7 | -85,928.9 | -1,60,933.3 | 3,65,356.1 | -1,83,139.7 |
| FCFE | | | 2,86,805.4 | 4,81,129.6 | 3,81,198.8 | 37,625.5 | 32,532.8 | 6,68,931.9 |

Free Cash Flow to Equity (FCFE)

projections-

| 3,65,356.1 | -1,83,139.7 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | terminal va | lue |
|---------------|---------------|-------------|------------|-------------|-------------|-------------|----------|----------|----------|----------|----------|----------|-------------|-----|
| 32,532.8 | 6,68,931.9 | 7,92,393.3 | 9,38,641.4 | 11,11,881.7 | 13,17,096.2 | 15,60,186.0 | 1669399 | 1786257 | 1911295 | 2045086 | 2188242 | 2388955 | 35405262 | |
| present value | present value | 679944.1522 | 691137.693 | 702515.5068 | 714080.6272 | 725836.1377 | 666430.4 | 611886.7 | 561807.1 | 515826.3 | 473608.7 | 443674.8 | 5642312 | |

Growth rate for period 1(2024-2028)- calculated based on compound annual growth rate of fcfe over a period of 5 years(from 2018-2023)

| CADC IN ECEE | 0.184565055 =((M13/H13)^0.2)-1 | |
|--------------|----------------------------------|--|
| CARG IN FCFE | 0.184363033 -((1113/1113) 0.2)-1 | |

Growth rate for period 2(2023-2028)- taken as expected growth rate for the steel industry

News

India's Steel Demand To Touch 190 MT-Mark In 2030; Production To Reach 210 MT: SteelMint

India's crude steel production is expected to be at 210 MT by 2030, 45 per cent higher from production levels of 2023

Published on: 26 Nov 2023, 11:21 am

India's steel demand is expected to grow at a CAGR of 7 per cent to touch 190 Million tonnes (MT) level by 2030, according to a report by SteelMint India.

Corporate

Personal Finance

Growth rate for period 3(2033 and beyond)- The long term growth rate in stock price Steel authority of india limited(SAIL) was taken as a proxy for calculating FCFE Values for 2033 and beyond and to calculate terminal value .SAIL india was chosen as it is a mature company that has been in existence for over 50 years(established in 1973)

| SAIL india long term growth rate | 2014 stock price 2024 stock price | | | | |
|----------------------------------|-----------------------------------|-----|--|--|--|
| 0.09172348 | 55 | 133 | | | |

=((P20/020)^0.1)-1

Hurdle rate calculation for equity holders-hurdle rate was calculated by applying CAPM model and finding beta using daily stock price return over the period of last 10 years-

| Dep. | Return_TAT | | | | | |
|--|--|---|--|-------------------------|--------|---------------------|
| Variable: | ASTEEL | R-squared: | 0.347 | | | |
| Model: | OLS | Adj. R-squared: | 0.341 | | | |
| | Least | | | | | |
| Method: | Squares | F-statistic: | 62.06 | | | |
| | Sun, 21 Apr | Prob | | | | |
| Date: | 2024 | (F-statistic): | 1.90E-12 | | | |
| Time: | 04:58:19 | Log-Likelihood: | 121.37 | | | |
| No. | | | | | | |
| Observations | | | | | | |
| : | 119 | AIC: | -238.7 | | | |
| Df Residuals: | 117 | BIC: | -233.2 | | | |
| Df Model: | 1 | | | | | |
| Covariance | | | | | | |
| Type: | nonrobust | | | | | |
| | | | | | | |
| | coef | 314 311 | t | P> t | | 0.975] |
| const | coef 0.0003 | | t 0.038 | P> t 0.97 | | 0.975] 0. |
| Return_NIFT | 0.0003 | 0.008 | 0.038 | 0.97 | -0.016 | _ |
| Return_NIFT Y | 0.0003 | 0.008 | 0.038 7.878 | | -0.016 | _ |
| Return_NIFT Y Omnibus: | 0.0003 1.343 0.877 | 0.008 0.17 Durbin-Watson : | 0.038 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu | 0.0003 1.343 0.877 | 0.008 0.17 Durbin-Watson: Jarque-Bera | 0.038 7.878 1.86 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): | 0.0003 1.343 0.877 0.645 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): | 0.038 7.878 1.86 0.567 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): Skew: | 0.0003 1.343 0.877 0.645 0.157 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): Prob(JB): | 0.038 7.878 1.86 0.567 0.753 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): | 0.0003 1.343 0.877 0.645 0.157 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): | 0.038 7.878 1.86 0.567 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): Skew: | 0.0003 1.343 0.877 0.645 0.157 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): Prob(JB): | 0.038 7.878 1.86 0.567 0.753 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): Skew: Kurtosis: | 0.0003 1.343 0.877 0.645 0.157 3.124 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): Prob(JB): Cond. No. | 0.038 7.878 1.86 0.567 0.753 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): Skew: Kurtosis: | 0.0003 1.343 0.877 0.645 0.157 3.124 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): Prob(JB): Cond. No. 0.16538705 | 0.038 7.878 1.86 0.567 0.753 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): Skew: Kurtosis: cost of equity (corisk free rate | 0.0003 1.343 0.877 0.645 0.157 3.124 apm model) 0.07225 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): Prob(JB): Cond. No. 0.16538705 | 0.038 7.878 1.86 0.567 0.753 | 0.97 | -0.016 | _ |
| Return_NIFT Y Omnibus: Prob(Omnibu s): Skew: Kurtosis: | 0.0003 1.343 0.877 0.645 0.157 3.124 | 0.008 0.17 Durbin-Watson: Jarque-Bera (JB): Prob(JB): Cond. No. 0.16538705 | 0.038 7.878 1.86 0.567 0.753 | 0.97 | -0.016 | _ |

Risk free rate was taken as 10 year G-Sec rate .Market return was taken as 10 -year CAGR for NIFTY 50.

Dividend Discount Model-

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | terminal va | alue |
|-------------|----------|----------|----------|-------------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|------|
| | 3.6 | 4.012171 | 4.471533 | 4.983487 | 5.554057 | 6.189952 | 6.623249 | 7.086876 | 7.582957 | 8.113764 | 8.681728 | 9.478084 | 140.4916 | |
| Present val | lue | 3.442801 | 3.292466 | 3.148696 | 3.011203 | 2.879715 | 2.644026 | 2.427627 | 2.228939 | 2.046512 | 1.879016 | 1.760262 | 22.38926 | |
| | | | | | | | | | | | | | | |
| stock price | 51.15052 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 1.16538 | | | | cost of equ | 0.16538 | | | | | | | | | |

Growth rate for period 1(2023-2028)- Calculated based on Return on Equity and Retention ratio and an average over the 5 year analysis period(2018-2023) was taken

| Return on Networth/ | 8.49 | 35.08 | 10.19 | 2.18 | 15.33 |
|----------------------|----------|----------|----------|----------|----------|
| retention Ratios (%) | 28.91 | 92.51 | 84.71 | 4.39 | 88.79 |
| growth rate | 0.024545 | 0.324525 | 0.086319 | 0.000957 | 0.136115 |
| | | | | | |
| average growth rate | | 0.114492 | | | |

Growth rate for period 2(2023-2028)- taken as expected growth rate for the steel industry



India's Steel Demand To Touch 190 MT-Mark In 2030; Production To Reach 210 MT: SteelMint

India's crude steel production is expected to be at 210 MT by 2030, 45 per cent higher from production levels of 2023

Published on: 26 Nov 2023, 11:21 am

India's steel demand is expected to grow at a CAGR of 7 per cent to touch 190 Million tonnes (MT) level by 2030, according to a report by SteelMint India.

Growth rate for period 3(2033 and beyond)- The long term growth rate in stock price Steel authority of india limited(SAIL) was taken as a proxy for calculating FCFE Values for 2033 and beyond and to calculate terminal value .SAIL india was chosen as it is a mature company that has been in existence for over 50 years(established in 1973)

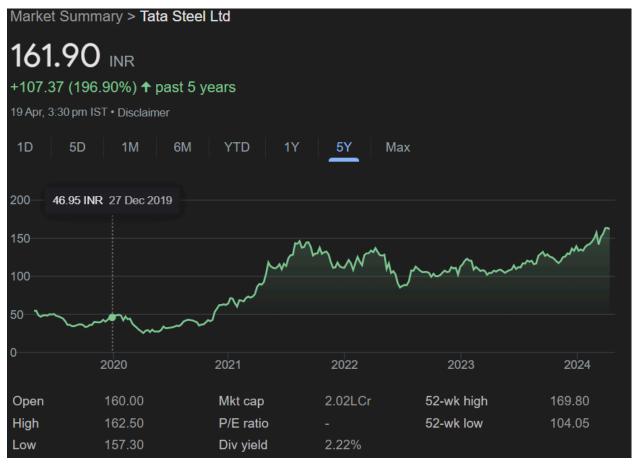
| SAIL india long term growth rate | 2014 stock price 2024 stock price | | | |
|----------------------------------|-----------------------------------|-----|--|--|
| 0.09172348 | 55 | 133 | | |

=((P20/020)^0.1)-1

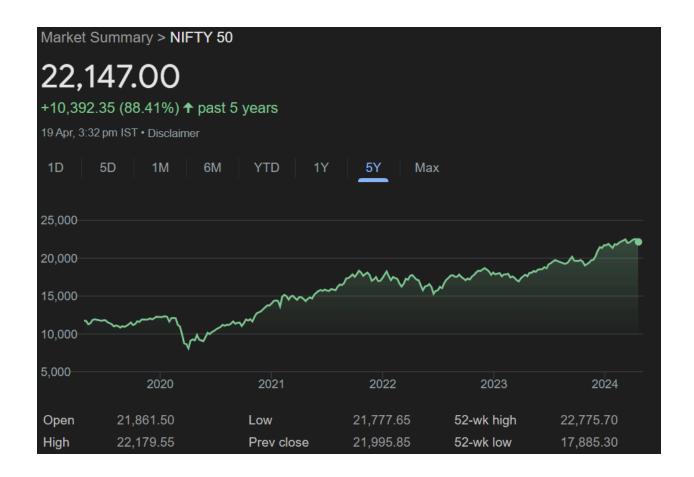
Relative Valuation-

Taking average values for relative valuation ratio of comparative companies reveals that tata steel might be undervalued with respect to price - earnings ratio and fairly valued with respect to other relative valuation ratios

| TATA STEE | L COMPARI | TIVE ANALYSI | S | | |
|-------------|-------------|--------------|------------|------------|-----------|
| | | | | | |
| | | p/e | price/book | ev/revenue | ev/ebitda |
| | JSW steel | 23.05 | 2.9 | 6.86 | 38.55 |
| | SAIL | 15.85 | 0.91 | 3.41 | 31.85 |
| | Jindal stee | 8.07 | 1.84 | 7.18 | 29.18 |
| | | 15.6566667 | 1.883333 | 5.816667 | 35.2 |
| | tata steel | 4.5 | 1.92 | 4.52 | 39.74 |
| relative va | luation | 713821.021 | 1632130 | 14155033 | 5903392 |



Relative performance- TATA steel has underperformed the market with a 10- year CAGR of 12 percent while NIfty has given a 10-year CAGR of 14.16%



1.Does the intrinsic value and relative value are different for two companies? Why do they differ?

Yes, the Intrinsic and the Relative Valuation Vary for the companies as intrinsic valuations are based on Future growth rate estimates and hurdle rates that are taken for discounting the cash flows are company specific and represents the companies unique debt-equity structure. While relative valuation is based on the average valuation multiples of companies that are in the same sector and thus do not reflect company specific characteristics and is just a way to gauge how the market is pricing companies belonging to the same sector

2. How does this difference inform your investment recommendation? What is your investment decision based on your evaluation?

I would give greater importance to intrinsic valuation. My investment decision based on my evaluation would be bullish on Tata steel based on how fundamental economic factors strongly affect the stock and due to high growth rate estimates of the construction Industry.

Maruti Suzuki:



History and Operations:

MSIL was established in 1981 as a joint venture between the Indian government and Suzuki Motor Corporation of Japan, Maruti Suzuki India Ltd (formerly Maruti Udyog Ltd) is India's largest passenger car company, accounting for over 50% of the domestic car market. The Company offers full range of cars from entry level Maruti Alto to stylish hatchback Ritz, A-star, Swift, Wagon R, Estillo and sedans DZire, SX4 and Sports Utility Vehicle, Grand Vitara. The Company became the largest subsidiary of Suzuki Motor Corporation (SMC) of Japan, which currently holds 56.48% of its equity stake.

The Company is the market leader of Passenger Vehicles in India and is largest exporter of Passenger Vehicles in India. It has two state-of-the-art manufacturing facilities located in Gurugram and Manesar in Haryana, capable of producing ~1.5 million units per annum. The Company is engaged in the business of manufacturing, purchase and sale of motor vehicles and spare parts (automobiles). The other activities of the Company include facilitation of pre-owned car sales, fleet management and car financing.

It started operations in 1983 with the launch of the iconic Maruti 800, which was instrumental in making personal mobility affordable for the Indian middle class.

Over the years, MSIL has consistently introduced new models and expanded its product portfolio to cater to evolving customer preferences. Some of the company's popular models include the Alto, WagonR, Swift, Baleno, Dzire, Ertiga, Vitara Brezza, and S-Cross.

Structural Changes:

Maruti Suzuki, also known as Maruti Suzuki India Limited (MSIL), is one of India's largest car manufacturers and has experienced several structural changes over the years. Here's an overview of its key developments:

- Formation and Joint Venture: Maruti Suzuki was formed in 1981 as a joint venture between the Government of India and Suzuki Motor Corporation, with the aim of producing affordable and fuel-efficient cars for the Indian market.
- 2. Initial Focus on Small Cars: In its early years, Maruti Suzuki focused on producing small cars, particularly the iconic Maruti 800, which became a popular choice among Indian consumers due to its affordability and practicality.
- 3. Transition to Private Ownership: In 2003, the Indian government divested its stake in Maruti Suzuki, making Suzuki Motor Corporation the majority shareholder. This marked a significant shift towards private ownership and allowed the company to operate more independently.
- 4. Expansion of Product Line: Over the years, Maruti Suzuki expanded its product line to include a range of cars such as hatchbacks, sedans, SUVs, and crossover vehicles. This expansion helped the company cater to a broader customer base and respond to changing market demands.
- Manufacturing Capacity and Facilities: Maruti Suzuki increased its manufacturing capacity by setting up multiple plants across India. This expansion helped the company meet growing demand and reduce production costs.
- 6. Research and Development: Maruti Suzuki invested in research and development (R&D) facilities to improve its product offerings, enhance fuel efficiency, and develop new technologies. This focus on innovation helped the company stay competitive in the market.

- 7. Partnerships and Collaborations: Maruti Suzuki has formed partnerships with other companies, including Toyota, for sharing technology and collaborating on new projects. This has allowed the company to access new technologies and expand its product range.
- 8. Digitalization and Online Presence: Maruti Suzuki has embraced digitalization by offering online car booking and sales, virtual showrooms, and other digital services to enhance the customer experience and adapt to changing consumer preferences.
- Sustainability and Electric Vehicles: Maruti Suzuki is actively working on sustainability initiatives, including the development of hybrid and electric vehicles. The company has introduced mild-hybrid technology in some of its models and is exploring more sustainable mobility options.

These structural changes have helped Maruti Suzuki maintain its position as a leading car manufacturer in India and adapt to the evolving automotive industry.

Environmental, Social, and Governance (ESG) Factors:

- Environmental Initiatives: MSIL has implemented various measures to reduce its
 environmental impact, such as rainwater harvesting systems, waste management
 programs, and energy-efficient practices at its manufacturing facilities. The company has
 also introduced more fuel-efficient models and alternative fuel options like CNG and
 hybrid vehicles to reduce emissions.
- Social Responsibility: MSIL has undertaken several social initiatives focused on education, skill development, and community development. The company has established skill development centers, provided scholarships, and supported various social causes through its corporate social responsibility (CSR) programs.
- Corporate Governance: MSIL has a well-established corporate governance framework, with a diverse and independent board of directors. The company adheres to strict ethical standards and has robust policies and procedures in place to promote transparency, accountability, and stakeholder trust.
- 4. Employee Welfare: MSIL places strong emphasis on employee welfare and development. The company offers competitive compensation packages, training and development programs, and initiatives to promote employee well-being and work-life balance.
- 5. Supply Chain Management: MSIL has implemented sustainable procurement practices and works closely with its suppliers to ensure compliance with environmental and social standards. The company also supports the development of local suppliers and encourages inclusive growth.

By continuously adapting to changing market dynamics, investing in research and development, expanding manufacturing capabilities, and focusing on sustainable practices, MSIL has solidified its position as a leading player in the Indian automobile industry.

Industry Analysis

The Indian automobile industry is a significant contributor to the country's economy, accounting for around 7% of the total GDP and employing millions of people directly and indirectly. Industry Structure:

The Indian passenger vehicle market is highly competitive, with both domestic and international players operating in various segments. The industry can be broadly classified into the following segments:

- 1. Hatchbacks: This segment includes compact and premium hatchbacks, which have traditionally been popular in India due to their affordability and fuel efficiency.
- 2. Sedans: This segment comprises entry-level, mid-size, and premium sedans, catering to different consumer preferences and budgets.
- 3. SUVs and Crossovers: The demand for SUVs and crossovers has been growing rapidly in India, driven by changing consumer preferences and the introduction of new models by various automakers.
- 4. Vans and MPVs: This segment includes multi-purpose vehicles (MPVs) and vans, which are popular for commercial and family transportation purposes.

The Major Competitors for maruti suzuki are:

- 1. Hyundai Motor India Limited
- 2. Tata Motors Limited
- 3. Mahindra & Mahindra Limited
- 4. Toyota Kirloskar Motor Pvt. Ltd.
- 5. Honda Cars India Ltd.
- 6. Kia Motors India Pvt. Ltd.
- 7. Renault India Pvt. Ltd.
- 8. Volkswagen India Pvt. Ltd.
- 1. Hyundai Motor India Limited (HMIL):
 - HMIL is the second-largest passenger vehicle manufacturer in India, with a market share of around 17%.
 - The company has a strong presence in the compact and mid-size car segments, with popular models like the Creta, Venue, i20, and Verna.
 - HMIL has two manufacturing plants in Chennai and one in Sriperumbudur, with a combined production capacity of over 800,000 units per annum.
- Tata Motors Limited:
 - Tata Motors is a leading Indian automotive company, known for its diverse product portfolio, including passenger cars, utility vehicles, and commercial vehicles
 - In the passenger vehicle segment, Tata Motors has models like the Tiago, Tigor, Nexon, Harrier, and Safari.

• The company has manufacturing facilities in Pune, Sanand, and Ranjangaon, with a combined production capacity of over 500,000 units per annum.

3. Mahindra & Mahindra Limited:

- Mahindra is primarily known for its utility vehicles and has a strong presence in the compact SUV and pickup truck segments.
- The company's popular models include the Scorpio, XUV300, XUV500, Thar, and Bolero.
- Mahindra has manufacturing facilities in Chakan, Zaheerabad, and Haridwar, with a combined production capacity of over 500,000 units per annum.

4. Toyota Kirloskar Motor Pvt. Ltd.:

- Toyota is a global automotive giant with a presence in the Indian market, offering a range of passenger cars and SUVs.
- The company's popular models in India include the Fortuner, Innova Crysta, Glanza, and Urban Cruiser.
- Toyota has two manufacturing plants in Bidadi, Karnataka, with a combined production capacity of around 310,000 units per annum.

5. Honda Cars India Ltd.:

- Honda is a well-known Japanese automaker with a focus on compact and mid-size cars in the Indian market.
- The company's popular models include the City, Amaze, Jazz, and WR-V.
- Honda has two manufacturing plants in Greater Noida and Tapukara, with a combined production capacity of around 280,000 units per annum.

6. Kia Motors India Pvt. Ltd.:

- Kia is a relatively new entrant in the Indian market but has quickly gained market share with its SUV offerings.
- The company's popular models include the Seltos, Sonet, and Carens.
- Kia has a manufacturing facility in Anantapur, Andhra Pradesh, with a production capacity of around 300,000 units per annum.

7. Renault India Pvt. Ltd.:

- Renault is a French automaker with a presence in the Indian market, focusing on compact cars and SUVs.
- The company's popular models include the Kwid, Triber, and Kiger.
- Renault has a manufacturing facility in Oragadam, Tamil Nadu, with a production capacity of around 480,000 units per annum.

8. Volkswagen India Pvt. Ltd.:

- Volkswagen is a German automaker offering a range of passenger cars and SUVs in the Indian market.
- The company's popular models include the Polo, Vento, and Taigun.
- Volkswagen has a manufacturing facility in Chakan, Maharashtra, with a production capacity of around 200,000 units per annum.

| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 |
|----------------------|--------|--------|--------|--------|--------|
| Interest Coverag | 56.2 | 36.82 | 51.61 | 53.04 | 138.92 |
| Current Ratio | 0.578 | 0.986 | 1.15 | 0.747 | 0.874 |
| Inventory Turno | 22.04 | 20.03 | 17.53 | 17.78 | 20.22 |
| ROCE | 16.3 | 8.09 | 9.52 | 13.61 | 21.17 |
| Account Receiva | 44.07 | 43.42 | 42.46 | 37.71 | 39.6 |

Reason behinds the variations in these ratios:

Inventory turnover ratio :Inventory Turnover Ratio of MARUTI has grown by 10.03 % Compared to previous Financial Year.Latest Inventory Turnover Ratio with value of 22.04 is Greater than Average Inventory Turnover Ratio of 19.52 in last five years.Inventory Turnover Ratio of Maruti Suzuki India Ltd. with value of 22.04 shows the company is selling its goods or service quickly because there is high demand for its products in market.The average being high also shows it has good inventory management practices.

Interest Coverage Ratio: Latest Interest Coverage Ratio with value of 56.20 is lower than Average Interest Coverage of 67.32 in last five years, but still being a very good number interms of the representation of the ratio and thus it indicates with value of 56.20 indicates the company does have sufficient profit to service its debt.

Current Ratio: Latest Current Ratio with value of 0.578 is lower than Average Current Ratio of 0.867 in last five years. Current Ratio of MARUTI drastically fell by -41.44 % this year. Current Ratio of Maruti Suzuki India Ltd. with value of 0.578 indicates the company has insufficient current assets to pay off short-term debt obligations. The marketing & distribution expenses of the company has been increased since past few years which may be one of the reason for declining Current ratio.

Return on capital employed: Latest ROCE Ratio with value of 16.30 is Greater than Average ROCE of 13.74 in last five years. It has significantly increased a compared to last three years. This was majorly due to the sizable increase in profits while efficiently putting its capital into use with lesser investments.

Receivable turnover ratio: Latest Receivables turnover has a value of 44.07 which is has increased gradually throughout the years. This showing that the company's betterment in its management and insurance policies and also shows the credit-worthiness of the customers consuming their products& services.

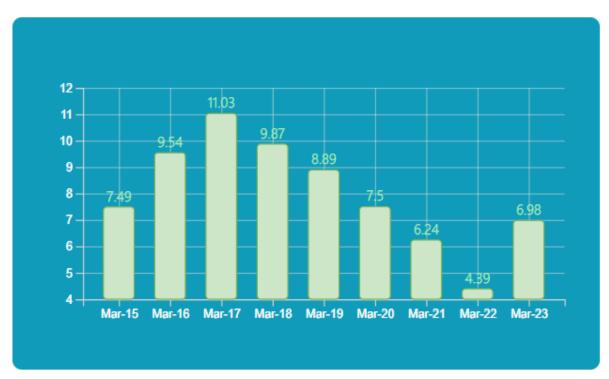
Return on equity for Maruti Suzuki:

Using Dupont analysis we can get our company's required return on equity, thereby for it we require the following data:

1. Net Profit Margin:

FY - Historical Net Profit Margin of Maruti Suzuki India Ltd.

| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 |
|--------|---------|----------|----------|----------|---------|
| NPM | 6.98 | 4.39 | 6.24 | 7.50 | 8.89 |
| Change | 59.01 % | -29.58 % | -16.86 % | -15.59 % | -9.99 % |



Maruthi had low profit margin due to the majority of the money being utilized for interest expense in the FY22 and had started using more money on its capital since the FY2020.

2. Asset turnover ratio:

FY - Historical Asset Turnover of Maruti Suzuki India Ltd.

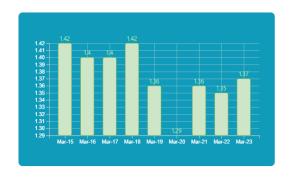
| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 |
|----------------|---------|---------|----------|----------|---------|
| Asset Turnover | 147.65 | 121.05 | 104.32 | 118.59 | 138.58 |
| Change | 21.98 % | 16.03 % | -12.03 % | -14.42 % | -2.58 % |

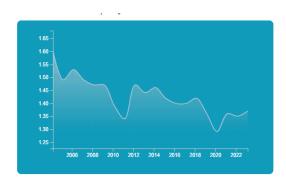


The asset turnover ratio for maruthi suzuki has been very high for the past 5 years and due to the covid years the sales of their products had dropped significantly but they still had maintained good asset turnover ratio and the booming automotive industry has led to increase in the sales in their recent years

3. Financial Leverage Ratio:

| Period | Mar-23 | Mar-22 | Mar-21 | Mar-2 | 20 | Mar-19 |
|------------------------------------|--------|--------|--------|-------|------|--------|
| | | | | | | |
| Asset To Shareholders Equity Ratio | | 1.37 | 1.35 | 1.36 | 1.29 | 1.36 |

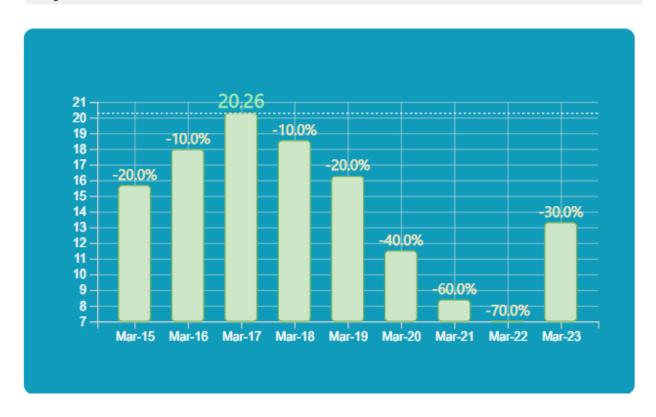




The leverage ratio has nearly been flat for the company throughout the years and this showing the ratio below 2, indicating that maruti suzuki has a good administration of managing their by balancing the issuance of debt and funds from equity properly on their projects.

So using du-pont analysis we get ROE as:

| DuPont Analysis = | nalysis = Net Profit Margin | | Asset Turnover | | cial Leverage | | |
|--|-----------------------------|----------|----------------|----------|---------------|--|--|
| FY - Historical Return On Equity of Maruti Suzuki India Ltd. | | | | | | | |
| Period | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 | | |
| ROE | 13.29 | 7.01 | 8.36 | 11.49 | 16.24 | | |
| Change | 89.53 % | -16.14 % | -27.22 % | -29.28 % | -12.27 % | | |



ROE Ratio of MARUTI rose handsomely by 89.53 % this year.Latest ROE Ratio with value of 13.29 is Greater than Average ROE of 11.28 in last five years.ROE Ratio of Maruti Suzuki India Ltd. with value of 19.48 means its generates profits efficiently by using its Shareholders Fund, with effective fixed asset ratio during its recent projects in the industry and a good operating cycle ratio as well, we can see that the company stock has done well recently despite the poor returns in the previous years.

Part-B

Rising middle-class income and a huge youth population will result in strong demand in the products from the automobile industry.

Automobile sales are expected to see flat growth in 2024 as compared to this year. Therefore, carmakers will try to limit price hikes. For an OEM, 75-77 per cent of the cost of a vehicle is the material cost, and any increase therein impacts the price of the vehicles.But regarding the future of the small car market, one reason for the observed decline is that affordability has decreased due to prices rising more rapidly than income levels in this segment. Looking ahead, if economic growth materializes, the country's demographic trends, with around 45-47% of people being first-time buyers and limited development of public transportation, suggest this segment will hold significant potential moving forward .a turnaround in the small car market could potentially occur within the next couple of years, with expectations pointing towards the second half of 2026. Regarding CNG vehicles, the CNG segment has experienced significant growth, with a 52% increase so far this year. Maruti Suzuki holds approximately 70% market share in the CNG market.

Maruti Suzuki, India's largest carmaker, has swiftly ascended to become the top SUV manufacturer, exceeding its 2022 goal. The company's SUV market share doubled from 10.5% in 2022 to an impressive 23%, with SUV sales constituting over 49% of total demand. Despite facing challenges in the hatchback segment, Maruti Suzuki's diversified SUV portfolio, streamlined supply chain, and reduced waiting periods have contributed to its success.

With respect to the the current scenario. The Maruti Suzuki's earnings have been grow in the FY24 and will continue to growing due to increase in demand for CNG and hybrid electric vehicles and MSIL is planning to utilize its earnings to expand their product lines and expand on their production lines of their newer products such as Brezza and Grand Vitara.

| | MARUTI SUZUK | (I CASH FLOW S | TATEMENTS | | | |
|---------------------|--------------|----------------|----------------|----------------|----------------|----------------------|
| | Mar-23 | Mar-22 | Mar-21 | Mar-20 | Mar-19 | AVERAGE GROWTH RATES |
| total Revenue/In | 117571 | 88329.8 | 70372 | 75660 | 86068.5 | |
| total Neverlae, III | 117071 | 0.3310456947 | | -0.06989162041 | -0.1209327454 | 0.09885130219 |
| Gross Profit | 26397.8 | | 12887.7 | 17550.6 | 20538.4 | 0.00000100210 |
| | | 0.4747127143 | 0.3889444975 | -0.2656832245 | -0.1454738441 | 0.1131250358 |
| Total Operating I | 109566 | 85539.2 | 68156.3 | 72010 | 78162 | |
| | | 0.280886424 | 0.2550446547 | -0.05351617831 | -0.07870832374 | 0.1009266442 |
| Operating Incom | 8192 | 2790.6 | 2215.7 | 3650 | 7906.5 | |
| | | 1.935569412 | 0.2594665343 | -0.3929589041 | -0.5383545184 | 0.3159306308 |
| EBITDA | 13335.8 | 7450.9 | 8287.9 | 10647 | 13564.8 | |
| | | 0.7898240481 | -0.1009906008 | -0.2215741523 | -0.2151008493 | 0.06303961144 |
| D&A | 2825.7 | 2789 | 3034.1 | 3528.4 | 3020.8 | |
| | | 0.01315883829 | -0.08078178043 | 0.1400918263 | 0.1680349576 | 0.06012596045 |
| EBIT | 10510.1 | 4661.9 | 5253.8 | 7118.6 | 10544 | |
| | | 1.254467063 | -0.1126613118 | -0.2619616217 | -0.3248672231 | 0.1387442266 |
| Interest Expense | 187 | 126.6 | 101.8 | 134.2 | 75.9 | |
| | | 0.477093207 | 0.2436149312 | -0.2414307004 | 0.768115942 | 0.3118483449 |
| Income/Profit Be | 10145.7 | 4535.3 | 5152 | 6984.4 | 10468.1 | |
| | | 1.237051573 | -0.119701087 | -0.2623561079 | -0.3327920062 | 0.130550593 |
| Tax Provision | 2112.1 | 817.7 | 931.9 | 1425.2 | 2973.2 | |
| | | 1.582976642 | -0.1225453375 | -0.3461268594 | -0.5206511503 | 0.1484133237 |
| Net Income | 8211 | 3879.5 | 4389.1 | 5676 | 7649.1 | |
| | | 1.11650986 | -0.1161058076 | -0.226726568 | -0.2579519159 | 0.128931392 |

Projection for the next 5 years:

| | | PROJECTIONS FOR NEXT | 5 Y | EARS | | | |
|----------------------------|---------|----------------------|-----|-------------|-------------|-------------|-------------|
| | | Mar | 24 | Mar 25 | Mar 26 | Mar 27 | Mar 28 |
| | Mar-23 | | | | | | |
| | | | | 0 | 0 | 0 | 0 |
| total Revenue/Incor | 117571 | 129193.04 | 65 | 141963.9473 | 155997.2684 | 171417.8015 | 188362.6744 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Gross Profit | 26397.8 | 29384.052 | 07 | 32708.12401 | 36408.23171 | 40526.91423 | 45111.52285 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Total Operating Exp | 109566 | 120624.12 | 87 | 132798.3172 | 146201.2057 | 160956.8028 | 177201.6327 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Operating Income/F | 8192 | 10780.103 | 73 | 14185.8687 | 18667.61915 | 24565.29184 | 32326.21999 |
| | | | 0 | 0 | 0 | 0 | 0 |
| EBITDA | 13335.8 | 14176.483 | 65 | 15070.16367 | 16020.18093 | 17030.08691 | 18103.65698 |
| | | | 0 | 0 | 0 | 0 | 0 |
| D&A | 2825.7 | 2995.5979 | 26 | 3175.711129 | 3366.653811 | 3569.077105 | 3783.671293 |
| | | | 0 | 0 | 0 | 0 | 0 |
| EBIT | 10510.1 | 11968.31 | 57 | 13628.8504 | 15519.77471 | 17673.05385 | 20125.08803 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Interest Expense | 187 | 245.31564 | 05 | 321.816917 | 422.1749899 | 553.8295618 | 726.540394 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Income/Profit Before | 10145.7 | 11470.227 | 15 | 12967.67211 | 14660.60939 | 16574.56064 | 18738.37937 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Tax Provision | 2112.1 | 2425.5637 | 81 | 2785.549763 | 3198.962462 | 3673.731113 | 4218.961758 |
| | | | 0 | 0 | 0 | 0 | 0 |
| Net Income | 8211 | 9269.655 | 66 | 10464.80527 | 11814.04718 | 13337.24873 | 15056.83877 |

Part-C

FCFE based valuation-

| In Millions of INR except Per SI | hare | FY 2017 | FY 2018 | FY 2019 | FY 2020 | FY 2021 | FY 2022 | FY 2023 |
|----------------------------------|-----------------|-----------|-------------|-----------|------------|-------------|-----------|------------|
| 12 Months Ending | 0 | 3/31/2017 | 03/31/2018 | 3/31/2019 | 03/31/2020 | 03/31/2021 | 3/31/2022 | 03/31/2023 |
| Net Income/Net Profit (Losses) | NET_INCOME | 75,099.0 | 78,800.0 | 76,491.0 | 56,760.0 | 43,891.0 | 38,795.0 | 82,110.0 |
| Depreciation Expenses | IS_DEPR_EXP | 25,094.0 | 26,475.0 | 28,930.0 | 33,624.0 | 28,917.0 | 26,282.0 | 26,177.0 |
| Capital Expenditures | CAPITAL_EXPEND | -32,524.0 | -39,116.0 | -47,470.0 | -31,947.0 | -21,320.0 | -32,063.0 | -61,166.0 |
| Net Working Capital Investment | NET_WORKING_CA | -20,703.0 | -25,777.0 | 18,613.0 | 28,147.0 | -51,138.0 | 21,010.0 | -3,311.0 |
| Total Debt Issuance Proceeds | TOT_DEBT_ISSUAN | 4,062.0 | 100.0 | 388.0 | 0.0 | 3,803.0 | 0.0 | 8,312.0 |
| Net Debt | NET_DEBT | -16,265.0 | -11,145.0 | -49,859.0 | -10,370.0 | -1,09,219.0 | -67,168.0 | 12,057.0 |
| change in debt(np-p) | | | 5,120.0 | -38,714.0 | 39,489.0 | -98,849.0 | 42,051.0 | 79,225.0 |
| Change in nwc | | | -5,074.0 | 44,390.0 | 9,534.0 | -79,285.0 | 72,148.0 | -24,321.0 |
| FCFE | | | 1,54,585.0 | 69,787.0 | 1,52,286.0 | 74,564.0 | 67,043.0 | 2,72,999.0 |
| 24 224 0 572024 572025 | DV202C DV2027 | D/2020 | D/2020 D/20 | 1 | | | | |

-24,321.0 FY2024 FY2025 FY2026 FY2027 FY2028 FY2029 FY2030 FY2031 FY2032 FY2033 FY2034 terminal vi lue 2,72,999.0 305886.1 342735 384022.9 430284.6 482119.2 521170.9 563385.7 609020 658350.6 711677 779582.2 15978354 present value 266251.6 259671 253253 246993.7 240889 226660.2 213271.8 200674.3 188820.8 177667.5 169402.4 3022193

Free Cash Flow to Equity (FCFE)

Growth rate for period 1(2024-2028)- calculated based on compound annual growth rate of fcfe over a period of 5 years(from 2018-2023)-

0.120466151 =(K12/F12)^0.2-1 GROWTH RATE IN FCFE

Growth rate for period 2 (2029-2033)-expected growth rate for the auto industry was taken as a proxy for growth rate-

Auto sector to be key driver of India's growth from fifth to third-largest world economy: PM Modi

Yash Sharma / TIMESOFINDIA.COM / Sep 12, 2023, 13:04 IST





During the 63rd SIAM Annual Convention, Prime Minister Narendra Modi's message highlighted the importance of the Indian automobile industry, stating that it will be a key driver of India's growth.



The Auto Inc, having faced growth roadblocks such as semiconductor shortages and rising raw material prices in the post-Covid period, seems to return back to the growth trajectory following a temporary slowdown. The revival is gauged by the fact that many OEMs have recently achieved their highest-ever sales figures in the recent months including Maruti Suzuki, Hyundai, and Mahindra, to name a few.

The Indian automobile industry is expected to grow at a CAGR of 8.1 percent in the coming years to reach a value of \$160 billion in 2027.

Growth rate for period 3 (2034 and beyond)- growth rate of stock price of tata motors over a 10 year period has been taken as a proxy for calculation of growth rate for period 3 -

| tata motors long term growth rate | april 1 2014 | | april 1 202 | 4 |
|-----------------------------------|--------------|--------|-------------|---|
| 0.095415731 | | 398.87 | 992.25 | |

=(E22/D22)^0.1-1

Hurdle rate calculation for equity holders-hurdle rate was calculated by using CAPM model with beta being calculated by running ols regression for past 10 years price action. The risk free rate was taken as 10 year G-sec and Market return was taken as 10 year CAGR for NIFTY 50.

| Dep. Variable: Return_MARUTI ed: 0.41 Adj. R-squar Model: 0.405 F-statist Method: Least Squares ic: 81.24 Prob (F-statis) Frob Frob Frob (F-statis) Frob Frob Frob (F-statis) Frob Frob Frob (F-statis) Frob Frob Frob Frob (F-statis) Frob | | <u> </u> | | | | | | |
|--|----------------|-------------------|--------------|-----------|-------|--------|--------|--|
| Adj. R-squar | 5 W . III | | R-squar | | | | | |
| Model: OLS ed: 0.405 | Dep. Variable: | Return_MARUTI | | 0.41 | | | | |
| Method: Cast Squares F-statist F-statist Prob (F-statis Prob Prob (F-statis Prob Pr | | | | | | | | |
| Nethod: Least Squares Incomplete Inc | | 01.0 | | 0.405 | | | | |
| Method: Least Squares ic: 81.24 | Model: | OLS | ed: | 0.405 | | | | |
| Method: Least Squares ic: 81.24 | | | E-ctatiet | | | | | |
| Prob (F-statis Date: Sun, 21 Apr 2024 tic): 4.56E-15 | Mathadi | Loant Causes | | 01 24 | | | | |
| CF-statis CF-s | Metilou. | Least Squares | | 01.24 | | | | |
| Date: Sun, 21 Apr 2024 tic): 4.56E-15 Log-Like Log-Like | | | | | | | | |
| Log-Like Time: 05:41:39 Ishood: 160.65 | Data | Cup 21 Apr 2024 | | 4 ECE 1E | | | | |
| Time: 05:41:39 lihood: 160.65 | Date. | 3u11, 21 Apr 2024 | uc). | 4.30E-13 | | | | |
| Time: 05:41:39 lihood: 160.65 | | | Log-Like | | | | | |
| No. Observations: 119 AIC: -317.3 Df Residuals: 117 BIC: -311.7 Df Model: 1 Covariance Type: nonrobust coef std err t P> t [0.025 0.975] const 0.0048 0.006 0.805 0.422 -0.007 0.016 Return_NIFTY 1.1047 0.123 9.013 0 0.862 1.347 Durbin- Omnibus: 2.434 Watson: 1.812 Jarque-Bera Prob(Omnibus): 0.296 (JB): 2.455 Prob(JB Skew: -0.311): 0.293 Cond. | Time: | 05:41:39 | | 160 65 | | | | |
| Df Residuals: 117 BIC: -311.7 Df Model: 1 Covariance Type: nonrobust coef std err t p> t [0.025 0.975] const 0.0048 0.006 0.805 0.422 -0.007 0.016 Return_NIFTY 1.1047 0.123 9.013 0 0.862 1.347 Durbin-Omnibus: 2.434 Watson: 1.812 Jarque-Bera Prob(Omnibus): 0.296 (JB): 2.455 Prob(JB Skew: -0.311): 0.293 Cond. | | | | | | | | |
| Df Model: 1 | | | | | | | | |
| Covariance Type: nonrobust coef std err t P> t [0.025 0.975] const 0.0048 0.006 0.805 0.422 -0.007 0.016 Return_NIFTY 1.1047 0.123 9.013 0 0.862 1.347 Durbin- Durbin- Omnibus: 2.434 Watson: Jarque-Bera 1.812 Jarque-Bera Prob(Omnibus): 0.296 (JB): 2.455 Prob(JB 2.455 Prob(JB Skew: -0.311): 0.293 Cond. 0.293 Cond. | | | | · · · · · | | | | |
| coef std err t P> t [0.025] 0.975] const 0.0048 0.006 0.805 0.422 -0.007 0.016 Return_NIFTY 1.1047 0.123 9.013 0 0.862 1.347 Durbin- Omnibus: 2.434 Watson: 1.812 3.247 | | nonrobust | | | | | | |
| const 0.0048 0.006 0.805 0.422 -0.007 0.016 Return_NIFTY 1.1047 0.123 9.013 0 0.862 1.347 Durbin- Omnibus: 2.434 Watson: 1.812 3.247 | | | std err t | ' | P>ltl | [0.025 | 0.975] | |
| Return_NIFTY 1.1047 0.123 9.013 0 0.862 1.347 Durbin- Omnibus: 2.434 Watson: 1.812 3.81 | const | | | | | | | |
| Durbin- Omnibus: 2.434 Watson: 1.812 Jarque- Bera Prob(Omnibus): 0.296 (JB): 2.455 Prob(JB Skew: -0.311): 0.293 Cond. | Return_NIFTY | 1.1047 | 0.123 | 9.013 | 0 | 0.862 | 1.347 | |
| Jarque- Bera | | | Durbin- | | | | | |
| Bera | Omnibus: | 2.434 | Watson: | 1.812 | | | | |
| Prob(Omnibus): 0.296 (JB): 2.455 Prob(JB Skew: -0.311): 0.293 Cond. | | | Jarque- | | | | | |
| Prob(JB Skew: -0.311): 0.293 Cond. | | | Bera | | | | | |
| Skew: -0.311): 0.293 Cond. | Prob(Omnibus): | 0.296 | (JB): | 2.455 | | | | |
| Cond. | | | Prob(JB | | | | | |
| | Skew: | -0.311 | l) : | 0.293 | | | | |
| Kurtosis: 2.669 No. 21.1 | | | Cond. | | | | | |
| | Kurtosis: | 2.669 | No. | 21.1 | | | | |

| Cost of equity estimation (Capm model) | | | | 0.148861 |
|--|---------|--|--|----------|
| risk free ra | 0.07225 | | | |
| market ret | 0.1416 | | | |
| beta | 1.1047 | | | |

Dividend Discount Model-

| | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 |
|-------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| dividend | 90 | 96.75144 | 104.0093 | 111.8117 | 120.1994 | 129.2163 | 139.6828 | 150.9971 | 163.2278 | 176.4493 | 190.7417 | 208.9423 | 4282.845 |
| present val | lues | 84.2151 | 78.80203 | 73.73689 | 68.99733 | 64.56241 | 60.74883 | 57.16051 | 53.78415 | 50.60723 | 47.61796 | 45.40294 | 810.07 |
| | | | | | | | | | | | | | |
| stock price | | 1495.705 | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Growth rate for period 1(2023-2028)- Calculated based on Return on Equity and Retention ratio and an average over the 5 year analysis period(2018-2023) was taken

| | Return on Networth/Equi | 13.28 | 7.01 | 8.36 | 11.48 | 16.24 |
|-------------|-------------------------|----------|---------|----------|----------|----------|
| | Retention Ratios (%) | 77.92 | 64.95 | 58.7 | 57.42 | 68.4 |
| | growth rates | 0.103478 | 0.04553 | 0.049073 | 0.065918 | 0.111082 |
| | | | | | | |
| average gro | 0.075016134 | | | | | |

Growth rate for period 2 (2029-2033)-expected growth rate for the auto industry was taken as a proxy for growth rate-

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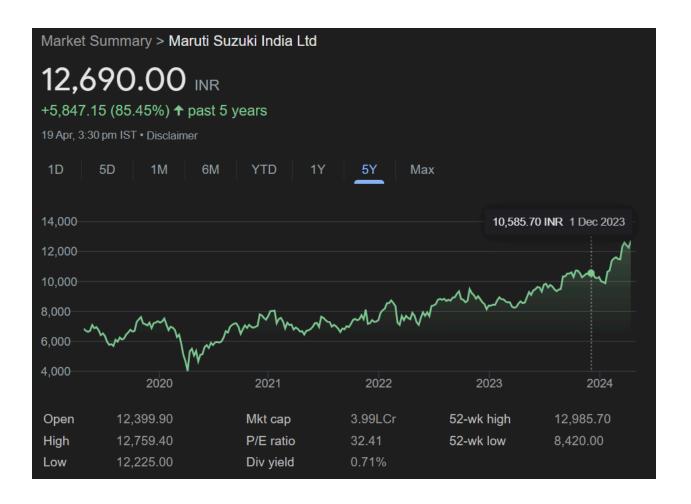
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|-----------------------------------|--------------|--------|-------------|---|
| 0.095415731 | | 398.87 | 992.25 | |

Relative valuation-Analysis of relative valuation ratios for maruti - suzuki reveals that maruti is only not overvalued when price- book ratio is taken and is overvalued by virtue of all other relative valuation techniques

| maruti suz | uki compar | itive analysi | S | | | |
|-------------|---------------|---------------|------------|------------|-----------|--|
| | | | | | | |
| | | p/e | price/book | ev/revenue | ev/ebitda | |
| | tata motor | 19.65 | 5.57 | 3.19 | 20.82 | |
| | mahindra | 23.23 | 3.2 | 1.64 | 10.7 | |
| | tvs | 22.26 | 6.5 | 3.81 | 24.61 | |
| | average | 21.713333 | 5.09 | 2.88 | 18.71 | |
| | maruti suz | 27.41 | 4.92 | 10.08 | 58.44 | |
| | | | | | | |
| | | earnings | book value | revenue | ebitda | |
| | (in rs millio | 93,316 | 643246.4 | 11,25,000 | 133350 | |
| relative va | luation | 1833659.4 | 3582882 | 3588750 | 2776347 | |
| | | | | | | |
| real enterp | rice value | 25,16,160 | | | | |





Relative Performance-maruti suzuki has outperformed the market with a CAGR of 18.7% ,while nifty 50 has a CAGR of 14.16%

1.Does the intrinsic value and relative value are different for two companies? Why do they differ?

Yes, the Intrinsic and the Relative Valuation Vary for the companies as intrinsic valuations are based on Future growth rate estimates and hurdle rates that are taken for discounting the cash flows are company specific and represents the companies unique debt-equity structure. While relative valuation is based on the average valuation multiples of companies that are in the same sector and thus do not reflect company specific characteristics and is just a way to gauge how the market is pricing companies belonging to the same sector

2. How does this difference inform your investment recommendation? What is your investment decision based on your evaluation?

I would give greater importance to intrinsic valuation. My investment decision based on my evaluation would be bullish on Maruti Suzuki based on how fundamental economic factors strongly affect the stock and due to high growth rate estimates of the automotive sector and the high market share of maruti suzuki and also its strong product line for the affordable segment of the market