

# Profitability and Growth Performance Analysis of Selected Steel Manufacturing Companies in India (with Special Reference to Listed Companies in NSE—National Stock Exchange of India Ltd.)

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## Abstract

*The expansion of the Indian steel sector is essential for the country's economic progress. It is regarded as the foundation of the human empire. The amount of steel used per capita was considered a key indicator of a nation's level of socioeconomic advancement and the citizenry's standard of life. Large and technologically complex industries have strong linkages with steel products in terms of the flow of materials and the generation of income. The hub-position steel industries have improved energy efficiency and backward integration into worldwide raw material sources. Major industrial economies in India are characterized by the survival of strong steel industries. The strength of their steel industries throughout the early phases of development significantly influenced the growth of several of these economies.*

**Keywords:** Citizenry's standard, Country's economic progress, energy efficiency socioeconomic advancement, steel industries

## INTRODUCTION

The Indian steel industry has been the forerunner during the liberalization of the industrial sector and has made quick strides. The newest technology has brought the installation of new greenfield plants. The industry has advanced up the value chain as a result of increasing output. In India, the steel industry is quite significant. A significant amount of steel is needed to build ships, boats, railway rolling stock, bridges, and numerous machines. Important industries like railway engines, ship building, and light machine construction depend on the availability of steel. The well-balanced Indian economy has contributed to the success of several reforms in the steel sector, creating exceptional

prospects for the Indian steel industry to develop and expand rapidly [1].

As the market leader, dreams become an inspiring reality. As a responsible corporate citizen, it has been able to make a meaningful difference in people's lives and bring light into areas of darkness. In developed countries, the steel industry is being designated as a sundown industry in India; it still remains at the core of development [2, 3].

It is the basic or key industry, which lays the foundation of a developed industrial economy, such as substantial revenue for state and central governments through excise and sales taxes. The most important reason for this is that steel is

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perhaps considered the most basic material required for industrialization and plays a crucial role in our country's economic development [4].

### STATEMENT OF THE PROBLEM

The steel industry in India has expanded hastily in recent decades. India's steel producers have made plans to satisfy the anticipated increase in steel demand relative to the size of their country's GDP. The nation's steel industry is picking up speed and recruiting steel giants from all over the world. The robust Indian economy and exceptionally well-built sectors have strengthened the industry. The steel business is seen as cyclical and requiring a lot of money. Its expansion is linked to the expansion of the overall economy and, in particular, the sectors that use steel. The Indian steel industry has a distinguished history. The rise in domestic steel consumption has been maintained at a higher level by demand from the major end-user industries. The liquidity and profitability of the business enterprise have a significant impact on a company's capacity to manage its finances. By managing the many components of operational capital, such as accounts receivable management, cash management, and an effective debt collection plan, liquidity may be attained. The combination of inputs with several components, including labour, material, capital, land, and organization, can result in an output [5]. The financial health and liquidity of an organization are of importance to all stakeholders. Profitability is important to a shareholder. Productivity and operational effectiveness will be of relevance to management in any firm. Therefore, for various stakeholders of business enterprises, like management, investors, bankers, economic institutions, creditors, workers, administration, continuous technological upgradation and incorporation of the latest technology is essential. The initiation of advanced technology has helped the steel industry extremely to conserve energy and fuel and to save materials to a larger extent. Therefore, steel industries require finance. Finance is the key to their economic activity. It is vitally important to the survival and expansion of the steel industry [6–8]. As a result, the researcher has concentrated on examining the financial results of a few Indian steel manufacturing firms. The researcher has done more studies in this area to address the given questions:

1. What difficulties does India's steel production industry face?
2. What are the factors that influenced the steel manufacturing companies in India to take a financial verdict?

### NEED FOR THE STUDY

Growth of the manufacturing industry as evaluated by the financial recital has grown to be factual in the case of steel industry as well. A company's financial success is impacted by a number of variables, including capital structure, cost, revenue cost of debt, and a sizable profit margin. In all businesses, including the steel industry, financial performance analysis is crucial. In terms of employment and investment, the steel sector is sufficiently important for the nation's socioeconomic growth. In contrast to other businesses, the steel industry has a different sales and profitability structure. Future scholars would be more interested in the current work. Understanding the structure and pattern of financial and profitability variables is greatly aided by this study. Additionally, it has revealed how businesses are financially related to the industries in which they operate. Changes in the government's economic strategy would undoubtedly affect how well a few Indian steel manufacturing enterprises do.

Therefore, it is thought that a study of the effects of such modifications on the financial performance of a few Indian steel manufacturing enterprises is currently necessary. The financial performance of these companies can be analyzed from many perspectives, like financial ratios, financial strength, and utilization of assets. It is influenced by the operational and financial competence of the companies that are related to cost and revenue. Policy choices for its future growth can be based on the findings of this inquiry. As a result, it is anticipated that the study will assist company management, financiers, investors, and the general government in making wise judgments on their own.

## **OBJECTIVES OF THE STUDY**

1. To study the overview of selected steel manufacturing companies in India.
2. To examine the financial health and profitability of a few Indian steel manufacturing firms.
3. To evaluate the financial setup of a few Indian steel production firms.
4. To study analysis of the impact of government policies towards encouraging the selected steel manufacturing companies in India.

## **PERIOD OF THE STUDY**

The researcher selected a study period from 2015–2016 to 2021–2022.

## **RESEARCH METHODOLOGY**

The strength of a researcher depends on the systematic method of collecting data and analyzing them in a sequential order. It is related to a systematic method that consists of enunciating the problem, formulating a hypothesis, and collecting and analyzing the data. It helps the researcher to reach certain conclusions. The researcher has made the decision to investigate the financial standing of a few Indian steel manufacturing firms. This study is descriptive in nature.

### **Data Collection**

The gathering of data is only incidental. The necessary information was gathered from the CMIE database and the published and unpublished financial records of certain Indian steel manufacturing enterprises. The seven-year span of this research project is from 2015–2016 to 2021–2022.

The research also acquired additional material from a variety of publications, books, journals, and unpublished theses.

### **Selection of Sample**

The Indian steel industry is made up of fifteen steel-producing businesses. Based on the annual turnover, availability of completed data and researchers' convenience, five steel manufacturing companies in India were selected for the study. Accordingly, TATA, JSW, SAIL, ESSAR, and RAISNL are the selected steel manufacturing companies in India chosen for the study. Under this, the probability sampling systematic method has been applied.

### **Framework of Analysis**

The secondary data has been compiled, arranged, and presented in tables that include different financial ratios and statistics. This is interpreted with the help of the following statistical tools and techniques.

### **Ratio Analysis**

Ratio analysis is a mathematical technique for analysing a company's financial documents, such as the balance sheet and income statement, to gather knowledge about its liquidity, operational effectiveness, and profitability. Fundamental equity research is built on ratio analysis.

### **Descriptive Statistics**

Inferential statistics and descriptive statistics are often distinct from one another. When using descriptive statistics, you are only explaining what the data is or what it reveals. You attempt to draw inferences using inferential statistics that go beyond the immediate facts alone.

*Mean:* It is the average of the given numbers

*Standard deviation:* It is a statistic that gauges a dataset's dispersion from its mean, and it is calculated as the variance's square root.

### Coefficient of Variation

The coefficient of variation represents the standard deviation from the mean. Even when the means are vastly different from one another, it is regarded as a very helpful statistic for assessing the degree of variance from one data series to another.

### ANOVA

This process is known as analysis of variance. A collection of statistical models is used to determine whether there is a significant difference between the means. It helps to test the hypothesis that the means of two or more populations are equal.

### Multiple Correlation

It is a metric for measuring judgement for a certain variable that may be predicted using a linear function of a number of other factors. This asserts that the predictive variables may be used to compute linearly the correlation between the variable's values and the best predictions.

### Multiple Regression

Understanding the link between a dependent or criterion variable and a number of independent predictor factors is beneficial.

### HYPOTHESES OF THE STUDY

1. The selected Indian steel manufacturing businesses' profitability ratios do not differ much from one another.
2. There is no significant difference between performances of the selected steel manufacturing companies in India.
3. There is no significant difference between earnings ratios on the selected steel manufacturing companies in India.
4. There is no significant difference between valuation ratios on the selected steel manufacturing companies in India.

### LIMITATIONS OF THE STUDY

The researcher took all possible efforts and care to avoid shortcomings and errors in the collection of data. This research study is subject to the under mentioned limitations.

1. The data collected was secondary in nature. It has been collected from the annual published reports of the selected steel manufacturing companies in India.
2. The results are companies specific and therefore the conclusions drawn may not be applicable to other manufacturing companies in India.

Table 1 indicates that the analysis explained the ability of the companies to convert investment into profits. The position of TATA and JSW found decreasing and positive, whereas SAIL, Essar Steel, and RAISNL are decreasing and negative and recorded an improved position. As of the analysis, it was also found that the reasons for negative trend of SAIL, Essar Steel, and RAISNL may be the failures of investing in profit-oriented products and also the mismanagement of funds.

**Table 1.** Table presentation return on assets' ratio.

| Year      | TATA | JSW  | SAIL  | Essar Steel | RAISNL |
|-----------|------|------|-------|-------------|--------|
| 2015–2016 | 8.50 | 8.34 | 18.00 | 2.75        | 4.81   |
| 2016–2017 | 7.58 | 1.61 | 11.19 | –3.25       | 3.47   |
| 2017–2018 | 6.78 | 6.53 | 9.72  | 2.04        | 4.87   |
| 2018–2019 | 7.66 | 4.83 | 6.44  | 1.76        | 3.97   |
| 2019–2020 | 6.96 | 3.21 | 4.82  | –3.56       | 3.05   |
| 2021–2022 | 4.96 | 3.29 | 2.57  | –2.58       | 2.10   |

**Source:** Computed data from CMIE prowess data base.

It is a ratio that is determined by dividing the total liabilities of the firm by the equity of its stockholders. It is regarded as a debt ratio that assesses the financial leverage of an organization. It shows how much debt, in relation to the value of shareholder equity, a firm is utilizing to fund its assets. It can be fulfilled in the event of liquidation using shareholders' contributions (Table 2).

It was often generated using prior economic data and used to evaluate a firm's financial leverage and soundness. From the perspective of investors, a low debt-equity ratio was advantageous since it was less risky during an era of rising interest rates.

Consequently, it draws in more money for new investments and corporate growth. In the analysis period, the trend was slightly volatile except TATA. The company has been improving its equity position over the depth portion. It shows that the company has gained the investors' assurance during the analysis period compared to other companies. The ESSAR Steel and RAISNL companies' positions were negative, which means that in their capital structure, the debt was surpassing equity.

According to the aforementioned Table 3, a ratio is used to compare a company's sales or revenues to the value of its assets. It may also be used to measure how well a business uses its resources to generate money. From Table 3, it was understood that except TATA and JSW, other companies do not have an ability to generate the sales and it showed a decreased position. While comparing, the status of the companies has improved. TATA and JSW both have improved and are able to generate the sales. It was due to their efforts put forth to increase their sales via diversified products portfolio and improvised technology for production.

Table 4 represents the profit before deduction of income tax margin of a few Indian steel manufacturing businesses. The PBDIT margin of TATA extended between 45.67 in the year 2015–2016 and 31.48 in 2021–2022. The normal ratio was 34.80. For JSW the PBDIT margin during the year 2015–2016 was 32.23 and 15.39 during 2016–2017. The normal ratio was 15.35. For SAIL the PBDIT margin was 32.23 during 2015–2016. The normal ratio was 15.35. For RAISNL, the PBDIT margin during the year 2021–2022 was 31.01 and 17.11 during 2016–2017, with its normal ratio of 24.29. For ESSAR Steel, the PBDIT margin in 2014–2015 was 14.85 and –5.55 in 2021–2022. The average ratio for PBDIT margin was –0.50 for the selected steel manufacturing companies in India.

**Table 2.** Table showing total debt to equity ratio.

| Year      | TATA | JSW  | SAIL | Essar Steel | RAISNL |
|-----------|------|------|------|-------------|--------|
| 2015–2016 | 0.83 | 1.02 | 0.13 | 2.01        | 3.52   |
| 2016–2017 | 1.11 | 1.47 | 0.27 | 3.19        | 3.98   |
| 2017–2018 | 0.68 | 1.23 | 0.50 | 3.63        | 2.88   |
| 2018–2019 | 0.53 | 0.63 | 0.51 | 3.30        | 2.65   |
| 2019–2020 | 0.41 | 0.68 | 0.40 | 5.13        | 2.71   |
| 2021–2022 | 0.43 | 0.84 | 0.52 | 4.25        | 3.01   |

**Source:** Computed data from CMIE prowess data base.

**Table 3.** Table showing asset turnover ratio.

| Year      | TATA  | JSW   | SAIL  | Essar Steel | RAISNL |
|-----------|-------|-------|-------|-------------|--------|
| 2015–2016 | 35.68 | 54.99 | 95.44 | 43.06       | 47.47  |
| 2016–2017 | 35.51 | 49.27 | 79.44 | 50.78       | 41.06  |
| 2017–2018 | 33.51 | 58.65 | 58.47 | 49.79       | 32.43  |
| 2018–2019 | 32.82 | 56.22 | 56.92 | 45.39       | 27.71  |
| 2019–2020 | 35.27 | 63.58 | 60.70 | 40.95       | 29.71  |
| 2021–2022 | 37.49 | 64.98 | 52.95 | 14.66       | 24.83  |

**Source:** Computed data from CMIE prowess data base.

**Table 4.** Profitability ratios' table showing descriptive statistics with coefficient of variation.

| Year      | TATA  | JSW   | SAIL  | Essar Steel | RAISNL | Mean  |
|-----------|-------|-------|-------|-------------|--------|-------|
| 2015–2016 | 45.67 | 31.93 | 32.23 | 14.85       | 19.34  | 28.07 |
| 2016–2017 | 40.16 | 15.39 | 24.67 | –2.52       | 17.11  | 17.63 |
| 2017–2018 | 40.68 | 25.81 | 28.93 | 18.10       | 26.66  | 23.83 |
| 2018–2019 | 40.85 | 21.44 | 20.61 | 17.95       | 29.99  | 22.61 |
| 2019–2020 | 36.61 | 18.08 | 16.54 | 7.76        | 30.49  | 17.74 |
| 2021–2022 | 31.48 | 18.51 | 12.5  | –5.55       | 31.01  | 14.49 |
| Mean      | 34.80 | 21.23 | 15.35 | 6.82        | 24.29  | –0.50 |
| SD        | 7.02  | 4.71  | 11.91 | 8.08        | 5.51   |       |
| CV        | 20.19 | 22.20 | 77.57 | 118.46      | 22.70  |       |

*Source:* Computed data from CMIE prowess data base.

### PROFITABILITY POSITIONS (RATIOS) OF SELECTED STEEL MANUFACTURING COMPANIES IN INDIA

A linear relationship between one dependent variable and one or more independent variables is to be found using a linear regression model. A number of independent variables are linearly related to the dependent variable. In this study, regression model was applied to assess the profitability positions of selected steel manufacturing companies in India

The study considered the following regression model.

$$Y = b_0 + b_1.x_1 + b_2.x_2 + b_3.x_3 + b_4.x_4 + b_5.x_5 + b_6.x_6 + b_7.x_7$$

Where; Y is dependent variable-net profit

$b_0$  = Constant

$b_1$  = Regression coefficients

$x_1$  = PBDIT

$x_2$  = PBT

$x_3$  = Return on net worth/equity

$x_4$  = Return on capital employed

$x_5$  = Return on assets

$x_6$  = Total debt/equity

$x_7$  = Asset turnover ratio

To assess the relationship between the net profit and TATA company's financial ratios, net profit has been used as a measurement of profitability. The selected financial ratios of profitability of TATA are PBDIT, PBT, RONW/E, ROCE, ROA, TD/E, and ATR. The Pearson correlation analysis was constructed to assess the financial structure relationship with profitability of the firm.

Table 5 analyses the coefficient of correlation for the variables that are used in the regression model in a correlation matrix. It expressed the bi-variate correlation between the dependent and independent variables. The correlation analysis was used for the data to know the relationship between variables such as PBDIT, PBT, RONW/E, ROCE, ROA, TD/E, ATR, and NP. The variables like PBDIT, PBT, RONW/E, ROCE, and ROA were positively related with TATA during the study period. The research also revealed a bad association between the NP and TD/E, and ATR.

The results of regression model are used in this analysis to indicate the factors that assess financial structure with the profitability ratios of selected steel manufacturing companies in India. It was taken into account that there were several correlation coefficients between the dependent and independent variables. They are found to be 0.968 which revealed that the profitability ratios were highly influenced by all the independent variables (Table 6).

**Table 5.** Table showing multiple correlation analysis for profitability ratios of selected steel manufacturing companies in India.

| Variables | PBDIT | PBT    | RONW/E | ROCE   | ROA    | TD/E   | ATR    | NP     |
|-----------|-------|--------|--------|--------|--------|--------|--------|--------|
| PBDIT     | 1     | .939** | .870** | .900** | .902** | .638*  | -0.421 | 0.148  |
| PBT       |       | 1      | .867** | .988** | .990** | .502   | -0.458 | 0.420  |
| RONW/E    |       |        | 1      | .898** | .896** | .834** | -0.235 | 0.086  |
| ROCE      |       |        |        | 1      | .998** | 0.534  | -0.407 | 0.455  |
| ROA       |       |        |        |        | 1      | 0.535  | -0.427 | 0.448  |
| TD/E      |       |        |        |        |        | 1      | -0.023 | -0.360 |
| ATR       |       |        |        |        |        |        | 1      | -0.447 |
| NP        |       |        |        |        |        |        |        | 1      |

\*Correlation is significant at the 0.05 level. \*\*Correlation is significant at the 0.01 level.

**Table 6.** Table showing determinants of profitability ratios multiple regression analysis of selected steel manufacturing companies in India.

| Variables   | Regression co-efficient | Std. error     | t-value | Sig   |
|-------------|-------------------------|----------------|---------|-------|
| (Constant)  | 6,641.424               | 7,016.371      | 0.947   | 0.444 |
| PBDIT       | -189.673                | 360.338        | -0.526  | 0.651 |
| PBT         | 37.242                  | 890.033        | 0.042   | 0.970 |
| RONW/E      | -417.608                | 323.124        | -1.292  | 0.325 |
| ROCE        | 2,925.623               | 2,114.539      | 1.384   | 0.301 |
| ROA         | -1,605.943              | 4,363.704      | -0.368  | 0.748 |
| TD/E        | 2,325.815               | 5,949.226      | 0.391   | 0.734 |
| ATR         | -80.322                 | 76.704         | -1.047  | 0.405 |
| Multiple R  | 0.968                   | Standard error | 577.08  |       |
| R square    | 0.938                   | F-value        | 4.319   |       |
| Adjusted R2 | 0.721                   | Sig. F         | 0.201   |       |

\*Significant at 0.01 level, \*\*Significant at 0.05 level

Adjusted R square was 0.721, suggested that it had 72.1 percent impact on NP. Specifically, the profitability ratios were positively associated with PBT, ROCE, and TD/E and the remaining other variables of PBDIT, RONW/E, ROA, and ATR were negatively associated with profitability. Moreover, the F-value 0.201 was insignificant at ( $p > 0.05$ ) level.

## SUGGESTIONS

Keeping in view the observations and findings of the study, the following points are suggested to improve the financial performance in the selected steel manufacturing companies in India.

The major problem before the selected steel manufacturing companies in India is of mounting trend of cost. All the components of costs are increasing continuously year by year which affects the financial performance of the companies. Therefore, it is the need of the hour that these companies should show better performance by reducing the operating cost. For controlling the cost in these companies, it is suggested to introduce standard costing system to improve their performance.

The study has revealed that the long-term financial strength of the selected steel manufacturing companies is not satisfactory. The commercial operations and financial strength have continued to be weak. To improve the financial position of these companies, it is suggested that the capital of the companies should be restructured by a part of the loan capital into equity capital. This will have the advantage of relieving the burden of interest payment. Thus, the share capital will help the companies to earn a surplus. Conversion of loan into equity capital will not only reduce the interest burden, but also relieve the companies in the matter of repayment of loans to creditors. This will improve the

financial performance, thereby enabling them to raise enough internal sources to finance their expansion programmes.

The short-term financial position in the selected steel manufacturing companies is poor. There are certain difficulties in managing short-term funds for several reasons. The companies should monitor their liquidity positions so as to tradeoff between liquidity and profitability. It is necessary to take the proper steps to strengthen their position in order to increase their liquidity or risk-free position. There should be a proper planning of inventory management to specifically improve large scale selected steel manufacturing companies. It might be accomplished by properly implementing inventory control systems, such as EOQ, JIT, ABC analysis, etc., and improving their sales management to prevent completed items from stacking up in storage.

## CONCLUSION

The country has vast potential in mining and ferrous metallurgy as symbolized by large coal and iron ore mines and the steel plants. The demand for finished steel is expected to reach a level of 100 million tonnes and mining capacity to the level of 250 million tonnes during the next two decades. To meet the domestic demand and also increased steel exports, more finished steel of international quality and price will have to be produced.

For this, new units will have to be set up based on internationally competitive technology, apart from upgrading and modernization of the existing units. The profitability of the steel companies has improved during the last five years mainly due to higher production as well as sales of saleable steel, coupled with improvement in product-mix, productivity and techno-economic parameters as well as higher sales realization, in spite of increase in costs and railway freight on inputs.

Some analysts actually believe that the Indian steel industry would grow at a faster rate than what can be expected from the GDP (the amount of steel required to produce one unit of gross national output) is likely to increase. Since the Indian steel industry has tremendous growth potential and the per capita consumption is bound to grow at a much faster rate, matching capacity additions in relation to domestic demand will be needed. Thus, the financial position and productivity of the selected steel manufacturing companies are in improved phase despite with international pressures like cost, interest rate, and technology upgradation cost. Thus, it is still feasible to realize the aspirations of our planners to spur economic growth in the nation by increasing steel output at a competitive price.

## Scope for Further Research

1. Financial performance analysis of Steel Authority of India Limited (SAIL)
2. Analysis of financial health of Steel Authority of India Limited
3. A comparative study on financial performance of Tata Steel Ltd and JSW Steels Ltd.
4. Liquidity performance evaluation of selected steel companies in India.

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