

# An Analysis of the Financial Strength of Steel Industry in India

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## Abstract

*The present paper examines the Financial Strength of the identified units in the steel industry in India in terms of short-term solvency and long-term solvency. Companies are selected for the study from the 'A group of steel companies' listed in the stock exchanges in India. Data have been collected for a period of ten years ranging from 2003-04 to 2012-2013. The important variables used in the study includes current ratio, quick ratio, absolute liquid ratio, debt-equity ratio, total assets to debts ratio, long-term debt to net working capital, proprietary ratio, fixed assets to net worth ratio, and interest coverage ratio. To evaluate the impact of these selected variables on the Financial Strength of the steel industry, ANOVA-Test is used.*

**Keywords:** Financial Strength, Short-Term Solvency, Long-Term Solvency, Steel Industry.

## INTRODUCTION

Steel, as a material, is critical to the infrastructure and economic development every nations. As an industry, nations have used steel manufacturing as an instrument of economic, social, and regional development and the steel industry has helped to define the character and identity of great cities. Steel is crucial to the development of any modern economy and is considered to be the backbone of human civilization. The level of per capita consumption of steel is treated as an important index of the level of socioeconomic development and living

standards of the people in any country. The current global steel industry is in its best position in comparing to last decades. The price has been rising continuously. The demand expectations for steel products are rapidly growing for coming years. The shares of steel industries are also in a high pace. The steel industry is enjoying its 6th consecutive years of growth in supply and demand. And there is many more merger and acquisitions which overall buoyed the industry and showed some good results. The supreme crisis has led to the recession in economy of different countries, which may lead to have a negative effect on whole steel industry in coming years. However steel production and consumption will be supported by continuous economic growth.

Indian steel industry is one of the fastest growing industries and contributes a significant amount to the country's Gross Domestic Product (GDP). India is the fourth largest steel producer in the world after China, Japan and USA. At the time of independence, India had a small Iron and Steel industry with production of about a million tonnes (mt). In due course, the government was mainly focusing on developing basic steel industry, where crude steel constituted a major part of the total

steel production. Many public sector units were established and thus public sector had a dominant share in the steel production till early 1990s. Mostly private players were in downstream production, which was mainly producing finished steel using crude steel products. Basically, the steel industry was developing under a controlled regime, which established more public sector steel companies in various segments.

Moreover, India is expected to become second largest producer of steel in the world by the year 2015-16. That the industry has started to mark its presence world-wide is also evident from the fact that its share in world production of crude steel has been constantly on a rise since the industry's liberalization, at a healthy compound annual growth rate (CAGR) of 2.86 per cent between the periods 1991 to 2007.

### **OBJECTIVES OF STUDY**

The objective of this research paper is to analyze the financial strength of the identified units in the steel industry in India in terms of short-term and long-term solvency.

### **HYPOTHESIS OF STUDY**

H0 1: There is no significant difference in the financial strength of the identified units

in the steel industry in India with regard to short-term solvency.

H0 2: There is no significant difference in the long term solvency position of the identified units in the steel industry in India.

## RESEARCH METHODOLOGY

### Source of Data:

The study is mainly based on the data collected from secondary source which is gathered from the Annual Reports of different steel companies, published materials in the form of books and reports, articles from journals, and from the websites. The study of steel industry covers a period of 10 years, commencing from 2003-04 to 2012-13.

### Sampling:

The sample units have been selected by considering following factors: (1) The companies, which are engaged in production of steel Industry and data is available at least from 2003-04, and (2) The company should be listed in Stock exchanges of India as A group companies. There are five companies which satisfy these two condition and all these five companies are selected for the purpose of study. Thus the companies selected for the study are Steel Authority of

India Ltd., Tata Steel Ltd., J S W Steel Ltd., Jindal Steel & power Ltd. and Bhushan Steel Ltd.

### Data Analysis:

Anova-Test is conducted on nine financial ratios (variables) selected from the segments of short-term and long-term solvency. The ratios calculated are current ratio, quick ratio, absolute liquid ratio, debt-equity ratio, total assets to debts ratio, long-term debt to net working capital, proprietary ratio, fixed assets to net worth ratio and interest coverage ratio.

## ANALYSIS OF THE FINANCIAL STRENGTH

There are two major aspects of the financial strength of any business; the short-term and long-term. A main concern of investors is also the question of the company's solvency both short-term and long-term. Solvency is the ability of a company to meet its debt obligations when they become due. Short-Term solvency analysis begins with the comparison of total current assets to total current liabilities and it is usually expressed in a ratio. Thus, the short-term financial strength relates to the technical solvency of the business in the near future while the long-term financial strength depends on the structure that has

been imposed on the business in financing more permanent asset requirements. Neither of them is completely independent of the other, a sound long-term financial strength may be jeopardized by a weak one. The vice versa may also be correct but the long-term financial strength of a business in itself is much less subject to sudden changes as a result of seasonal fluctuations than its short-term financial strength of the business. Bankers and current creditors are interested in the current debt paying ability of a business, i.e., the short-term creditor's strength of the business.

### Analysis of Short-Term Solvency

Short-Term Solvency Ratios attempt to measure the ability of a firm to meet its short-term financial obligations. In other words, these ratios seek to determine the ability of a firm to avoid financial distress in the short-run. The important short-term solvency ratios are: (I) Current Ratio, (II) Acid-Test Ratio or Quick Ratio and (III) Absolute Liquid Ratio.

The table below shows the mean value of current ratio, quick ratio and cash ratio of all the companies during the study period.

Table No 1. Mean value of short-term solvency ratios of steel companies

| Company                       | Current Ratio | Quick Ratio | Absolute Liquid Ratio |
|-------------------------------|---------------|-------------|-----------------------|
| Tata Steel Ltd.               | 1.73          | 1.35        | 0.31                  |
| Jindal Steel & Power Ltd.     | 1.48          | 1.06        | 0.07                  |
| J S W Steel Ltd.              | 0.94          | 0.56        | 0.09                  |
| Bhushan Steel Ltd.            | 2             | 1           | 0.06                  |
| Steel Authority of India Ltd. | 1.68          | 1.63        | 0.71                  |
| Mean (Industry)               | 1.57          | 1.12        | 0.25                  |

Source: Computed from the Annual Reports of the steel companies

The industry average of current ratio is 1.57 which is not up to the standard because the selected companies have not maintained the standard of 2:1. On comparing the average current ratio of the companies with the average ratio of steel industry, it can be seen that the performance

of Tata Steel Ltd., Bhushan Steel Ltd. and Steel Authority of India Ltd. was better than other two companies which had the average current ratio below the average ratio of the steel industry.

On the basis of the above analysis and ratio average of steel companies in 1.12 it can be seen that the quick ratio of all companies are high and liquidity position of the companies were good except J S W Steel Ltd. which did not hold a reasonable and satisfactory position of liquidity.

As the above table show the absolute liquid ratio of the companies. The ratio of Jindal Steel & Power Ltd., J S W Steel Ltd. and Bhushan Steel Ltd. showed fluctuating trend throughout the study period with an average ratio of 0.07, 0.09 and 0.06 time

which the average ratio of the companies were below the average of the steel industry. Hence companies not able to maintained the standard norm.

The following hypothesis has been formulated for analyzing the short-term solvency position of the selected companies.

**H0.1.** There is no significant difference in the financial strength of identified units in the steel industry in India with regard to short-term solvency.

Table No 2: ANOVA Test of short-term solvency ratios

| variables             | Source of variation | Sum of Squares | df | Mean Square | F      | Sig.  |
|-----------------------|---------------------|----------------|----|-------------|--------|-------|
| Current Ratio         | Between Groups      | 6.309          | 4  | 1.577       | 2.715  | 0.042 |
|                       | Within Groups       | 26.147         | 45 | 0.581       |        |       |
|                       | Total               | 32.456         | 49 |             |        |       |
| Quick Ratio           | Between Groups      | 6.473          | 4  | 1.618       | 2.597  | 0.049 |
|                       | Within Groups       | 28.034         | 45 | 0.623       |        |       |
|                       | Total               | 34.507         | 49 |             |        |       |
| Absolute liquid Ratio | Between Groups      | 3.113          | 4  | 0.778       | 11.417 | 0.000 |
|                       | Within Groups       | 3.067          | 45 | 0.068       |        |       |
|                       | Total               | 6.179          | 49 |             |        |       |

Source: Computed from the Annual Reports of the steel companies

As the significance level of one-way ANOVA test is less than 0.05 in all the selected variables, there exists significant difference in the financial strength of companies with regard to Current Ratio, Quick Ratio and Absolute liquid Ratio.

So the Null Hypothesis that there is no significant difference in the financial strength of identified units in the steel industry in India with regard to short-term solvency is rejected and accepting the Alternative Hypothesis that there exists

significant difference in the financial strength of identified units in the steel industry in India with regard to short-term solvency.

### Analysis of Long-Term Solvency

Long-term solvency refers to company's ability to meet the long term liabilities and measure the enterprise's ability to pay the interest regularly and to repay the principal (i.e., capital amount) on maturity or in pre-determined installments at due date. Long-term solvency means the

ability of the enterprise to meet long-term obligations on the due date. Usually the following ratios are calculated to judge the long-term financial solvency of the concern: (I) Debt-Equity Ratio, (II) Total Assets to Debt Ratio, (III) Long-Term Debt to Net Working Capital (IV) Proprietary Ratio, (V) Fixed Assets to Net worth Ratio and (VI) Interest Coverage Ratio.

The table below shows the mean value of debt-equity ratio, total assets to debts ratio, long-term debt to net working capital, proprietary ratio, fixed assets to net worth ratio and interest coverage ratio of all the companies during the study period.

Table No 3. Mean value of long-term solvency ratios of steel companies

| Company                       | DE Ratio | TAD Ratio | P Ratio | FANW Ratio | LTNWC Ratio | IC Ratio |
|-------------------------------|----------|-----------|---------|------------|-------------|----------|
| Tata Steel Ltd.               | 0.58     | 4.01      | 48.41   | 0.77       | 7.62        | 17.64    |
| Jindal Steel & Power Ltd.     | 1.18     | 2.54      | 34.31   | 1.9        | 2.29        | 8.86     |
| J S W Steel Ltd.              | 1.18     | 2.73      | 35.6    | 2.12       | 14.9        | 4.02     |
| Bhushan Steel Ltd.            | 2.67     | 1.71      | 23.16   | 3.13       | 7.06        | 3.74     |
| Steel Authority of India Ltd. | 0.51     | 6.15      | 45.89   | 1.13       | -0.21       | 20.41    |
| Mean(Industry)                | 1.22     | 3.43      | 37.47   | 1.81       | 6.33        | 10.93    |

Source: Computed from the Annual Reports of the steel companies

On the basis of the above analysis and ratio average of steel companies in 1.22 it can be seen that the debt-equity ratio of Tata Steel Ltd. and Steel Authority of India Ltd. were below the average ratio of the steel industry and standard norm so the ratio

was not good because the financial risk is low as increase in owner's capital. Other companies had high ratio than average of steel industry and standard norm so the debt-equity ratio is reasonable and satisfy.

The average of combined total assets to debt ratio of selected steel companies was 3.43. On comparing the average fixed asset to net worth ratio of the companies with the average ratio of steel industry, it can be seen that the average ratio of Tata Steel Ltd. and Steel Authority of India Ltd. was better than. Bhushan Steel Ltd., J S W Steel Ltd. and Jindal Steel & Power Ltd. which had the average ratio below the average ratio of the steel industry. And all the company maintained the standard ratio of 2:1 and solvency position was good.

On the basis of proprietary ratio analysis it can be conclude that the highest ratio of 48.41 percent of Tata Steel Ltd. followed by 45.89 percent of Steel Authority of India Ltd. which are above the average ratio. The other companies of steel under the study were on an average ratio below the total average ratio of the steel industry i.e. J S W Steel Ltd. with average of 35.60 percent and Jindal Steel & Power Ltd. with average of 34.31 percent and at the end Bhushan Steel Ltd. came with the average of 23.16.

The industry average of fixed asset to net worth ratio is 1.81 percent. On comparing the average fixed asset to net worth ratio of the companies with the

average ratio of steel industry, it can be seen that the average ratio of Bhushan Steel Ltd., J S W Steel Ltd. and Jindal Steel & Power Ltd. was better than Tata Steel Ltd. and Steel Authority of India Ltd which had the average ratio below the average ratio of the steel industry. So industry can able maintained the standard ratio of 2:1 and long term solvency position was good.

On the basis of the above analysis and ratio average of steel companies in 1.12 percent it can be seen that the long-term debt to net working capital ratio of Tata Steel Ltd., Bhushan Steel Ltd. and J S W Steel Ltd. were above the average ratio of the industry and long-term debt to net working capital ratio of the Steel Authority of India Ltd. and Jindal Steel & Power Ltd were below the average ratio of the steel industry.

The industry average of interest coverage ratio is 10.93. On comparing the average interest coverage ratio of the companies with the average ratio of steel industry, it can be seen that the average ratio of Tata Steel Ltd. and Steel Authority of India Ltd. was better and earning of the companies were sufficient enough to cover the interest charges.



The following hypothesis has been formulated for analyzing the long-term solvency position of the selected companies.

**H0.2** There is no significant difference in the financial strength of identified units in the steel industry in India with regard to long-term solvency.

Table No 4. ANOVA Test of Long-Term Solvency Ratios

| variables                            | Source of variation | Sum of Squares | df | Mean Square | F      | Sig.  |
|--------------------------------------|---------------------|----------------|----|-------------|--------|-------|
| Debt Equity Ratio                    | Between Groups      | 30.294         | 4  | 7.574       | 31.029 | 0.000 |
|                                      | Within Groups       | 10.984         | 45 | 0.244       |        |       |
|                                      | Total               | 41.278         | 49 |             |        |       |
| Total Assets to Debts Ratio          | Between Groups      | 119.905        | 4  | 29.976      | 12.387 | 0.000 |
|                                      | Within Groups       | 108.899        | 45 | 2.42        |        |       |
|                                      | Total               | 228.805        | 49 |             |        |       |
| Proprietary Ratio                    | Between Groups      | 4087.874       | 4  | 1021.968    | 25.22  | 0.000 |
|                                      | Within Groups       | 1823.526       | 45 | 40.523      |        |       |
|                                      | Total               | 5911.399       | 49 |             |        |       |
| fixed assets to net worth Ratio      | Between Groups      | 33.793         | 4  | 8.448       | 26.420 | 0.000 |
|                                      | Within Groups       | 14.390         | 45 | 0.320       |        |       |
|                                      | Total               | 48.183         | 49 |             |        |       |
| long term debt to networking capital | Between Groups      | 1347.920       | 4  | 336.980     | 1.084  | 0.376 |
|                                      | Within Groups       | 13986.627      | 45 | 310.814     |        |       |
|                                      | Total               | 15334.548      | 49 |             |        |       |
| Interest Coverage Ratio              | Between Groups      | 2386.622       | 4  | 596.656     | 6.804  | 0.000 |
|                                      | Within Groups       | 3945.889       | 45 | 87.686      |        |       |
|                                      | Total               | 6332.511       | 49 |             |        |       |

Source: Computed from the Annual Reports of the steel companies

As the significance level of one-way ANOVA test is less than 0.05, there exists significant difference in the financial strength of companies with regard to Debt Equity Ratio, Total Assets to Debts ratio, Proprietary Ratio and Interest Coverage Ratio except Long-Term Debt to Net

Working Capital which is more than 0.05, there is no significant difference in the financial strength of companies with regard to long-term debt to net working capital ratio.

So the Null Hypothesis that there is no significant difference in the financial



strength of identified units in the steel industry in India with regard to long-term solvency is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial strength of identified units in the steel industry in India with regard to long-term solvency.

## CONCLUSION

The study deals with the analysis of financial strength of selected units in the steel industry in India. The analysis of financial strength was carried out by analyzing their short-term and long-term solvency. In order to study the variation of financial strength of the sample units, one way ANOVA test was used to compare the financial ratios related to their short-term solvency and long-term solvency.

All ratios related to short-term and long-term solvency except Long-Term Debt to Net Working Capital were found to be significantly different among the sample units. Hence the result rejected the first and second hypothesis of the study.

Current Ratio, Quick Ratio, Absolute Cash Ratio were used for analyzing short-

term solvency. On the basis of analysis of the ratios it be seen that the performance of quick ratio was satisfactory but current ratio and absolute liquid ratio was unsatisfactory.

Debt-Equity Ratio, Total Assets to Debt Ratio, Long-Term Debt to Net Working Capital, Proprietary Ratio, Fixed Assets to Net worth Ratio and Interest Coverage Ratio were used for analyzing long term solvency. On the basis of analysis of the ratios it be seen that the performance of all the ratios was satisfactory

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**Appendix: FORMULA OF RATIOS USED IN THE STUDY**

| Category of Ratios         | Name of Ratios                        | Formula of Ratios                                     |
|----------------------------|---------------------------------------|---|
| Short-Term Solvency Ratios | Current Ratio                         | Current Assets / Current Liabilities                  |
|                            | Quick Ratio                           | Quick Assets / Quick Liabilities                      |
|                            | Absolute Liquid Ratio                 | Cash And Bank / Current Liabilities                   |
| Long-Term Solvency Ratios  | Debt-Equity Ratio                     | Total Debt / Net Worth                                |
|                            | Total Assets to Debt Ratio            | Total Assets / Long-Term Debt                         |
|                            | Proprietary Ratio                     | Shareholders Fund / Total Assets                      |
|                            | Fixed Asset to Net worth              | Fixed Asset / Net worth                               |
|                            | Long Term Debt to Net Working Capital | Long Term Debt / Current Assets – Current Liabilities |
|                            | Interest Coverage Ratio               | Earnings Before Interest And Tax / Interest           |