

Analysis of Long-Term Financial Position of Selected Steel Companies in India

¹Dr. M. Anandan and ²Dr. P.Ashok

¹Assistant Professor, Department of Commerce, Karpagam Academy of Higher Education (Deemed to be University), Coimbatore

²Assistant Professor, Department of Management, KG College of Arts and Science, Coimbatore

Abstract

India was the world's second largest steel producer in 2019. In the year 2019 the steel production was standing at 111.2 million tonnes. The growth of Indian steel sector is based on domestic availability of raw materials such as iron ore and cost-effective labour. Consequently, the steel sector has been major contributor to India's manufacturing output. This study tries to find out the long-term financial position of selected steel companies in India. Five steel companies have been selected for the study. The period of study is taken from 2015 – 16 to 2019 – 2020. Various tools used like Mean, Standard Deviation, Coefficient of Variation, ANOVA and Correlation were used for this study.


Keywords: Financial Position, Steel Companies, labour, output.


Article Publication

 Published Online: 31-Sep-2021

*Author's Correspondence

 Dr. M. Anandan

 Assistant Professor, Department of Commerce, Karpagam Academy of Higher Education (Deemed to be University), Coimbatore

 drkpa2020@gmail.com

© 2021 The Authors. Published by International Journal of Management and Development Studies

This is an open access article under the

CC BY-NC-ND license 
 (https://creativecommons.org/licenses/by-nc-nd/4.0/)

Introduction

India is the second largest steel producing country in the world in 2019. In the year 2019 the steel production was standing at 111.2 million tonnes. Stainless steel consumption is more in our day to day life. It also plays a vital role in our countries economic development. Without steel it is highly difficult to maintain our standard of living. The Growth of all the industries in India helps to improve the economy out of which steel is one main Industry. Without steel it is highly difficult to establish industries like fertilizers, construction, transportation, power generation, housing etc. The production of steel is increased because of modernization, energy efficiency, establishment of world class steel plants, qualities etc.

Statement of the problem

India is the second largest steel producing country in the world; it is facing lot of problems. One of the main problems which are faced by steel companies is finance. Finance is considered to be the life blood and nerve center of business. Every company measures its short term and long term financial position. The short term financial position of a company can be met only when there are sufficient liquid assets. If the company would not be maintained short term financial position, they will consequence to meet out it short term financial obligation. The long term indebtedness of a company includes debenture holders, financial institutions providing long term loans and other creditors selling goods on instalment basis. The study examines short term and long term financial position of selected steel companies in India.

Objectives of the study

To study about the long term financial strength of selected steel companies in India.

Methodology to study

All data collected for this study is secondary in nature. It is collected from C.M.I.E, for a period of 5 years ranging from 2015–2016 to 2019–2020. Based on the following Criteria, 5 Companies were selected.

- Availability of data (Minimum 5 Years)
- Total Assets value more than 13,000 crores

Companies that meet above conditions are

- SAIL
- JSW Steel
- TATA Steel
- BHUSHAN Steel
- Jindal Steel and Power

Tools used for analysis

Statistical Tools

- Mean
- Standard Deviation
- Coefficient of variation
- ANOVA
- Correlation

Accounting Tools

- Long term Ratios

limitations of the study

- Only secondary data is used
- Data is collected for 5 years (2015 – 2016 to 2019 – 2020)
- Selected ratios and tools used for evaluation
- Rounding of values may lead to minor variation in the values

Review of Literature

Takeh&Navaprabha (2015) analyze of Capital Framework on financial performance of Indian steel companies selected from 2007 to 2012. Multiple regression model, correlation matrix, ANOVA and evocative statistics were used for data analysis. As a result, the capital system appreciably exaggerated the financial performance of the Indian steel industry. Correlation results contain ensured a unenthusiastic relationship stuck between capital structure and financial performance [1]

THENMOZHI and TAMILSELVI (2015) in this study, and attempt are complete to determine the financial reliability of the selected steel companies. For this purpose, ten years data be composed with the help of secondary sources of information. This paper uses the Altman's Z-score model to forecast the financial condition of selected steel companies in India. The result undoubtedly point to that the liquidity, working capital turnover efficiency and solvency position of the companies is that the financial health of Jsw, Tata Steel and Mahindra ugin were fine and there is no scope of insolvency, whereas the financial health of other particular companies were not in healthy Zone in many years [2]

Syed Jaffer and DrBadiuddin Ahmed (2017) this paper attempts to look into the financial health of select steel companies in India with special reference to Tata Steel Ltd., and Steel Authority of India Limited. It can be concluded from the study that both the companies are in misery zone [3]

Shrabanti Pal (2018) investigates the performance of the steel industry in terms of production, consumption and foreign trade and to shows the trend of the industry for a period of twenty years since 1991-92 to 2010-11. Result of the study found that India has all possible to become top producer of steel in near future. The steady swelling of production and consumption point out that India has set a higher swelling path by the end of the decade. The CAGR of production, consumption and foreign trade shows an imposing picture of the evolution of the industry for the study period. All the major steel producers in world like Arcelor and Mittal, POSCO come to India to initiate the steel plants which facilitate the growth of Indian steel industry [4]

Long Term Ratios

To measures companies' long term financial position, the following ratios can be calculated.

- Proprietary Ratio
- Total Debt Ratio
- Debt Equity Ratio
- Current Assets to Shareholder's Fund Ratio

Proprietary Ratio

This ratio establishes the relationship between shareholder's funds and total assets of the company. The ratio of proprietary funds to total funds is an important ratio for determining long-term solvency of a business.

$$\text{Proprietary Ratio} = \frac{\text{Share holder's funds}}{\text{Total Assets}}$$

TABLE 1 PROPRIETARY RATIO					
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP
2015 – 16	0.35	1.56	0.57	0.12	0.38
2016 – 17	0.30	1.35	0.45	0.06	0.36
2017 – 18	0.28	1.45	0.49	-0.65	0.38
2018 – 19	0.29	1.24	0.51	0.03	0.39
2019 – 20	0.28	1.31	0.50	0.45	0.40
MEAN	0.30	1.38	0.50	0.0001	0.38
SD	0.03	0.11	0.04	0.36	0.01
CV	0.09	0.08	0.08	3088.31	0.04
Source: Computed from annual report of respective companies					

Interpretation

The above table 1 shows that the Mean, SD and CV of Proprietary Ratio of selected steel companies in India, the higher mean value 1.8 for JSW Steel and the lowest mean value 0.0001 for Bhushan Steel. SD value is high 0.36 for Bhushan Steel and low 0.01 for Jindal steel and power. CV value is high 3088.31 for Bhushan Steel and low 0.04 for Jindal Steel and Power.

To find whether there is any difference in the Proprietary ratio between the companies and between the years during the study period, the following hypothesis is framed and tested with „F“test.

H1: There is no significant difference in the Proprietary ratio between the companies and between years.

Details of the calculations have been shown in Table 1(A)

TABLE 1(A) TWO – WAY ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Years	0.14366	4	0.03591	0.98036	0.44579	3.00692
Between Companies	5.40097	4	1.35024	36.8574	6.9E-08	3.00692
Residual	0.58615	16	0.03663			
Total	6.13077	24				

Note: P Value 0.05 – Significant at 5% Level.

The 1(A) Shows that the calculated value of F (0.98036) is less than the table value of F (3.00692) which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Proprietary ratio between the years. On the other hand, the calculated value of F (36.8574) is more than the critical value of F (3.00692) which indicates null hypothesis is rejected and thereby it is concluded that there is a significant difference in the Proprietary ratio between the companies.

Total Debt Ratio

Total Debt Ratio indicates what proportion of debt a company has relative to its assets.

$$\text{Total Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

TABLE 2 TOTAL DEBT RATIO					
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP
2015 - 16	0.22	2.28	0.24	0.57	0.35
2016 - 17	0.23	1.73	0.33	0.53	0.40
2017 - 18	0.31	1.68	0.29	0.02	0.36
2018 - 19	0.32	1.27	0.28	0.43	0.33
2019 - 20	0.32	1.64	0.28	0.43	0.33
MEAN	0.28	1.72	0.28	0.40	0.35
SD	0.04	0.32	0.03	0.20	0.03
CV	0.16	0.19	0.10	0.49	0.07
Source: Computed from annual report of respective companies					

Interpretation

The above table 2 shows that the Mean, SD and CV of Total Debt Ratio of selected steel companies in India, the higher mean value 1.72 for JSW Steel and the lowest mean value 0.28 for SAIL and Tata Steel. SD value is high 0.32 for JSW Steel and low 0.03 for TATA and Jindal steel and power. CV value is high 0.49 for Bhushan Steel and low 0.07 for Jindal Steel and Power.

To find whether there is any difference in the Total Debt ratio between the companies and between the years during the study period, the following hypothesis is framed and tested with „F“test.

H1: There is no significant difference in the Total Debt ratio between the companies and between years.

Details of the calculations have been shown in Table 2(A)

TABLE 2(A) TWO – WAY ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Years	0.14422	4	0.03605	0.99039	0.44087	3.00692
Between Companies	7.79169	4	1.94792	53.5078	4.6E-09	3.00692
Residual	0.58247	16	0.0364			
Total	8.51839	24				

Note: P Value 0.05 – Significant at 5% Level.

The 2(A) Shows that the calculated value of F (0.99039) is less than the table value of F (3.00692) which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Total Debt ratio between the years. On the other hand, the calculated value of F (53.5078) is more than the critical value of F (3.00692) which indicates null hypothesis is rejected and thereby it is concluded that there is a significant difference in the Total Debt ratio between the companies.

Debt To Equity Ratio

Debt to Equity Ratio indicates the relationship between the external Equities (or) outsiders funds and the internal equities (or) Shareholder's funds.

$$\text{Debt Equity Ratio} = \frac{\text{External Equities}}{\text{Internal Equities}}$$

TABLE 3 DEBT EQUITY RATIO					
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP
2015 – 16	0.64	1.46	0.42	4.86	0.92
2016 - 17	0.76	1.28	0.73	9.17	1.10
2017 - 18	1.11	1.16	0.58	-0.03	0.95
2018 - 19	1.08	1.03	0.56	16.80	0.84
2019 - 20	1.13	1.25	0.57	0.94	0.83
MEAN	0.94	1.24	0.57	6.35	0.93
SD	0.20	0.14	0.10	6.15	0.10
CV	0.22	0.11	0.18	0.97	0.11
Source: Computed from annual report of respective companies					

Interpretation

The above table 3 shows that the Mean, SD and CV of Debt Equity Ratio of selected steel companies in India, the higher mean value 6.35 for Bhushan Steel and the lowest mean value 0.57 for Tata Steel. SD value is high 6.15 for Bhushan Steel and low 0.10 for Jindal steel and power. CV value is high 0.97 for Bhushan Steel and low 0.11 for JSW Steel and Jindal Steel and Power.

To find whether there is any difference in the Debt Equity ratio between the companies and between the years during the study period, the following hypothesis is framed and tested with „F“test.

H1: There is no significant difference in the Debt Equity ratio between the companies and between years.

Details of the calculations have been shown in Table 3(A)

TABLE 3(A) TWO – WAY ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Years	36.9795	4	9.24486	0.96819	0.45182	3.00692
Between Companies	118.977	4	29.7443	3.11505	0.04493	3.00692
Residual	152.777	16	9.54857			
Total	308.734	24				

Note: P Value 0.05 – Significant at 5% Level.

The 3(A) Shows that the calculated value of F (0.96819) is less than the table value of F (3.00692) which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Debt Equity ratio between the years. On the other hand, the calculated value of F (3.11505) is more than the critical value of F (3.00692) which indicates null hypothesis is rejected and thereby it is concluded that there is a significant difference in the Debt Equity ratio between the companies.

Current Assets to Proprietor's Fund Ratio

$$\text{Current Assets to Proprietary fund ratio} = \frac{\text{Current Assets}}{\text{Shareholder's Funds}}$$

TABLE 4 CURRENT ASSETS TO SHF					
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP
2015 – 16	0.69	0.64	0.20	0.59	0.41
2016 – 17	0.80	0.74	0.40	1.67	0.41
2017 – 18	0.94	0.69	0.56	-0.27	0.43
2018 – 19	0.95	0.81	0.24	7.85	0.42
2019 – 20	1.15	0.77	0.27	0.41	0.49
MEAN	0.91	0.73	0.34	2.05	0.43
SD	0.15	0.06	0.13	2.96	0.03
CV	0.17	0.08	0.39	1.45	0.07
Source: Computed from annual report of respective companies					

Interpretation

The above table 4 shows that the Mean, SD and CV of Current Assets to Proprietary Fund Ratio of selected steel companies in India, the higher mean value 2.05 for Bhushan Steel and the lowest mean value 0.43 for Jindal Steel and Power. SD value is high 2.96 for Bhushan Steel and low 0.03 for Jindal steel and power. CV value is high 1.45 for Bhushan Steel and low 0.07 for Jindal Steel and Power.

To find whether there is any difference in the Current Assets to Proprietary Fund ratio between the companies and between the years during the study period, the following hypothesis is framed and tested with „F”test.

H1: There is no significant difference in the Current Assets to Proprietary Fund ratio between the companies and between years.

Details of the calculations have been shown in Table 4(A)

TABLE 4(A) TWO – WAY ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Years	8.78945	4	2.19736	0.9937	0.43926	3.00692
Between Companies	9.44478	4	2.3612	1.06779	0.40455	3.00692
Residual	35.3805	16	2.21128			
Total	53.6148	24				

Note: P Value 0.05 – Significant at 5% Level.

The 4(A) Shows that the calculated value of F (0.9937) is less than the table value of F (3.00692) which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Current Assets to Proprietary Fund ratio between the years. On the other hand, the calculated value of F(1.06779) is less than the critical value of F(3.00692), which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Current Assets to Proprietary Fund ratio between the companies.

Return On Assets Ratio

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}}$$

TABLE 5 RETURN ON ASSETS RATIO					
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP
2015 – 16	0.38	2.69	0.31	0.19	0.21
2016 – 17	0.41	2.90	0.42	0.22	0.22
2017 – 18	0.50	3.31	0.47	0.41	0.28
2018 - 19	0.57	2.65	0.50	0.50	0.48
2019 - 20	0.49	2.13	0.39	0.44	0.45
MEAN	0.47	2.74	0.42	0.35	0.33
SD	0.07	0.38	0.07	0.13	0.11
CV	0.14	0.14	0.16	0.35	0.35
Source: Computed from annual report of respective companies					

Interpretation

The above table 5 shows that the Mean, SD and CV of Return on Assets Ratio of selected steel companies in India, the higher mean value 2.74 for JSW Steel and the lowest mean value 0.33 for Jindal Steel and Power and also SD value is high 0.38 for JSW Steel and low 0.07 for SAIL and TATA Steel. CV value is high 0.35 for Bhushan Steel and Jindal steel and Power and low 0.14 for SAIL and JSW Steel.

To find whether there is any difference in the Return on Assets ratio between the companies and between the years during the study period, the following hypothesis is framed and tested with „F”test.

H1: There is no significant difference in the Return on Assets ratio between the companies and between years. Details of the calculations have been shown in Table 5(A)

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Years	0.211089	4	0.052772	1.18424	0.355135	3.006917
Between Companies	22.04072	4	5.51018	123.6518	8.13E-12	3.006917
Residual	0.712993	16	0.044562			
Total	22.9648	24				

Note: P Value 0.05 – Significant at 5% Level.

The 5(A) Shows that the calculated value of F (1.18424) is less than the table value of F (3.006917) which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Return on Assets ratio between the years. On the other hand, the calculated value of F (123.6518) is more than the critical value of F (3.006917) which indicates null hypothesis is rejected and thereby it is concluded that there is a significant difference in the Return on Assets ratio between the companies.

Regression Analysis – Long Term Ratios

The study considered the following regression model.

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3$$

Where Y = Dependent Variable (Return on Assets)

a = constant

$b_1 \dots b_3$ Regression Coefficients

x_1 = Proprietary Ratio

x_2 = Total Debt Ratio

x_3 = Debt Equity Ratio

A details calculation of correlation matrix of Long term Ratios

Correlation Matrix of Long-Term Ratios

TABLE 6

<i>Particulars</i>	PR	TDR	DER	CA TO SHF
PR	1			
TDR	0.91025574	1		
DER	-0.4965726	-0.1140089	1	
CA TO SHF	-0.4711435	-0.0787453	0.9594911	1

For the selected Steel companies, 4 variables are considered for correlation. The table 6 shows the correlation Matrix between Proprietary Ratio, Total Debt Ratio, Debt Equity Ratio and Current Assets to Proprietary Fund Ratio. There is a high correlation between Debt Equity Ratio and Current Assets to Proprietary Fund Ratio. Proprietary Ratio and Debt Equity Ratio, Proprietary Ratio and Current Assets to Proprietary Fund Ratio, Total Debt Ratio and Debt Equity Ratio, Total Debt Ratio and Current Assets to Proprietary Fund Ratio are negatively correlated.

Regression Analysis – Long Term Ratios

<i>Regression Statistics</i>	
Multiple R	1.00
R Square	0.99
Adjusted R Square	0.97
Standard Error	0.20
Observations	5.00

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	4.37	1.46	37.86	0.12
Residual	1	0.04	0.04		
Total	4	4.41			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Constant	-0.11	0.41	-0.26	0.84
PR	0.16	1.54	0.10	0.94
TDR	1.54	1.12	1.38	0.40
DER	-0.02	0.14	-0.17	0.89

Findings from the study

Long Term Ratios - Proprietary Ratio

Among the selected steel companies the highest average value (1.38) was for JSW, 0.50 for TATA, 0.38 for JSP, 0.30 for SAIL and the lowest average value was 0.0001 for Bhushan and also the SD was highest (0.36) for Bhushan and the lowest (0.01) for JSP.

Total Debt Ratio

Among the selected steel companies the highest average value (1.72) was for JSW, 0.40 for Bhushan, 0.35 for JSP and the lowest average value was 0.28 for SAIL and TATA. The SD was highest (0.32) for JSW and the lowest (0.03) for JSP and TATA.

Debt Equity Ratio

Among the selected steel companies the highest average value (6.35) was for Bhushan, 1.24 for JSW, 0.94 for SAIL, 0.93 for JSP and the lowest average value was 0.57 for TATA and also the SD was highest (6.15) for Bhushan and the lowest (0.10) for JSP and TATA.

Current Assets To Proprietary Fund Ratio

Among the selected steel companies the highest average value (2.05) was for Bhushan, 0.91 for SAIL, 0.73 for JSW, 0.43 for JSP and the lowest average value was 0.34 for TATA and also the SD was highest (2.96) for Bhushan and the lowest (0.03) for JSP.

Suggestions Long Term Ratios

Long Term Ratios

Debt to equity ratio of selected steel companies is not satisfactory because the ratio of SAIL and TATA 0.28, Bhushan 0.40, JSP 0.35 which is much below than the accepted standard norm of 1:1 and JSW is much higher than the standard norm of 1:1. A lower debt equity ratio results in low profit to equity share holder, which also affects long term as well as short term solvency position of companies. So companies should increase their borrowing with minimum interest. But a very high ratio may be unfavourable from the business perspective.

Proprietary Ratio seems to have Progressive increase and decrease in all selected steel companies Position. The proprietary ratio shows the contribution of stockholders" in total capital of the company. A high proprietary ratio, therefore, indicates a strong financial position of the company and greater security for creditors. A low ratio indicates that the company is already heavily depending on debts for its operations. A large portion of debts in the total capital may reduce creditor"s interest, increase interest expenses and also the risk of bankruptcy.

Conclusion

JSW Steel has been inSound position in proprietary level from other selected steel companies. Debt equity ratio of Bhushan is more than 2:1 ratio it shows that restriction to borrowing funds and total debt ratio of SAIL, TATA, BHUSHAN and JSP is much lower than the accepted standard norm 1:1 so it clearly indicates that claims of the owners are higher than those of outsiders.

References

- Takeh, A., & Navaprabha, J. (2015), "Capital structure and its impact on financial performance of Indian steel industry", *International Journal of Management (IJM)*. pp. 29-38.
- S.THENMOZHI and Ms.K.TAMILSELVI (2015), "Financial health of selected iron and steel companies in India – z score model", *International Journal in Management and Social Science (Impact Factor- 4.358) IJMSS* Vol.03 Issue-12 (December, 2015) ISSN: 2321-1784 pp. 278 – 289
- Syed Jaffer and Dr Badiuddin Ahmed (2017), "Financial Health Analysis Using Altman's Z Score – A Comparative Study of Select steel companies", *International Journal in Management and Social Science IJMSS*, Vol.05 Issue-05, (May, 2017) ISSN: 2321-1784 pp.276 - 282.
- shrabanti Pal, "A study on performance and prospect of Indian steel industry from national perspective under globalization", *International Journal of Economics, Commerce and Research (IJEER)*, ISSN 2250-0006 Vol. 3, Issue 3, pp. 53-60