

## A CRITICAL ANALYSIS OF THE STEEL INDUSTRY WITH SPECIAL REFERENCE TO FINANCIAL PERFORMANCE

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### ABSTRACT

*This research paper examines the financial performance of identified units in the steel industry in India in terms of financial ratios such as Liquidity, Solvency, Activity and Profitability position. A group companies listed in the stock exchanges in India namely, Tata Steel Ltd., Jindal Steel & Power Ltd., J S W Steel Ltd., and Steel Authority of India Ltd. are selected for this study. To evaluate the impact of selected variables on the financial performance of identified units in the steel industry, ANOVA-Test analysis is used.*

**Key words:** Financial Performance, Steel Industry, Financial Ratio

### INTRODUCTION

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. It is a product of a large and technologically complex industry having strong forward and backward linkages in terms of material flows and income generation.

Steel industry is the backbone of the country's growth and development as the rate of consumption of steel indicates the level of socio economic development in the country and the standard of living of the people of the country. The demand for steel is mainly driven by automobile, infrastructure and construction industries, accounting for over 75 per cent of the total steel consumed in the country. It has a pivotal role in making 'Make in India' vision of the Government of India to a mission. Thus steel has a phenomenal presence in the growth agenda of the country and also in the day to day life of the people.

Indian Steel industry contributes nearly 2 percent to the country's gross domestic product (GDP) and forms 16 percent of the Indian manufacturing sector. It employs nearly 25 lakhs people in the steel/allied sector. Currently India is the

world's third largest crude steel producer and is the largest producer of direct reduced iron (DRI) or sponge iron in the world. Crude steel production rose at a compounded annual growth rate (CAGR) of 5.71% annually from 78.415 million tonnes in 2014-15 to 97.936 million tonnes in 2018-19. During January-December 2019, the country's crude steel production crossed the 100 million tonnes (MT) mark for the first time in history, reaching 101.371MT (provisional; source: JPC), a growth of 6.18% over same period of 2018. India's finished steel exports 8.24 MT, while imports dipped by 36.6 per cent to 7.42 MT in 2018-19. Finished steel exports increased 52.9 per cent in April-December 2019 to 7.606 MT, while imports rose 10.9 per cent to 6.096 MT during the same period. Total consumption of finished steel increased by 5.2 per cent year-on-year at 64.867 MT during April-December 2019.

The operational performance and consumption of total finished steel (alloy + non alloy) and production of crude steel for the last five years and April-December 2019-20 (provisional) are shown in the table below:

**Table-1: Production of Finished Steel (alloy/stainless +non-alloy) and Crude Steel(in million tones)**

Item	2014-15	2015-16	2016-17	2017-18	2018-19	April-December 2019-20
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**Finished Steel**

Production	89.621	95.577	100.681	102.904	115.91	86.699 (1.4)
Imports	7.925	5.45	9.32	11.712	7.227	6.097 (11.0)
Exports	5.368	5.985	5.596	4.079	8.243	7.606 (52.9)
Consumption	73.483	74.096	76.992	81.525	84.042	64.868 (5.2)

**Crude Steel**

Production	78.415	81.694	88.98	89.791	97.936	75.642 (4.8)
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**Source: JPC; \* Provisional; Figures in bracket () indicate % change over same period of last year**

The steel industry showed a stellar performance between 2003-04 and 2007-08. During this period the production and consumption grew at a compounded annual growth rate (CAGR) of 8.3 per cent and 12 per cent respectively. The phenomenal growth story of the Indian steel industry from 2003-07 is overshadowed by the recent doldrums in the steel sector which is witnessed by the spike in the amount of stressed assets in the iron and steel industry in the last couple of years. During the period of boom in the economy many steel companies went for expansion projects heavily backed by borrowed capital from banks. The highly leveraged capital structure made it difficult for the steel companies to meet their debt service obligations due to falling

profits coupled with rising interest rates by RBI to combat inflation. The profit after tax (PAT) of all leading steel players have declined in nominal terms from 2016-17 onwards which is witnessed from the Table:2 given below:

**Table-2 : PAT of leading players (Rs. Crores)**

Company	Profit/Loss After Tax		
	206-17	2017-18	2018-19
<b>TATA STEEL</b>	3925.52	3049.32	<b>4168.57</b>
<b>JSW STEEL</b>	1719.70	850.76	<b>3454.05</b>
<b>JSPL</b>	1454.59	1998.63	<b>2540.22</b>
<b>SAIL</b>	<b>2093</b>	<b>4021</b>	<b>2833</b>

**Source: PAT figures are taken from Consolidated financial results from Bombay Stock Exchange (BSE)**

The declining profit margin of the corporate and the rising bad assets in the book of banks also nosedived the credit growth rate of the banks to the iron and steel industry as banks are being overcautious while lending to this sector. Steel sector is the largest defaulter both in terms of corporate and amount outstanding as evident from the recent report released by Insolvency and Bankruptcy Board of India (IBBI).

**REVIEW OF LITERATURE**

Rooh Ollah Arab, Seyed Saadat Masoumi and Azadeh Barati (2015) analysed the performance of the iron and steel companies in respect of liquidity, solvency, profitability and activity over the period starting from 2003-04 to 2012-13. Five companies were selected for the study : Steel Authority of India Ltd., Tata Steel Ltd., J S W Steel Ltd, Jindal Steel & Alloy Ltd. and Bhushan Steel Ltd. To test the hypothesis One way ANOVA test was conducted on sixteen different ratios selected from different segment like liquidity, solvency, activity and profitability such as current ratio, quick ratio, absolute cash ratio, financial institutions and creditors selling goods on debt-equity ratio, total assets to debts ratio, proprietary ratio, interest coverage ratio, total asset turnover, inventory or stock turnover ratio, debtors turnover ratio, creditor turnover ratio, gross profit margin, net profit margin, operating ratio, return on investment and earning per

share .The analysis revealed that there exists substantial difference in the financial performance of the identified units studied under the iron and steel industry. Dr. C. Balakrishnan (2016) evaluated the financial performance of the steel industry on the parameters like profitability, asset utilization , growth of performance, financial strength and financial health over the period from 2003-04 to 2012-13. Ten companies were selected for the study: Steel Authority of India Limited (SAIL) Tata Steel Limited (TSL) Uttam Galva Steels Limited (UGSL) JSW Steel Limited (JSW) Jindal Stainless Limited (JSL) Essar Steel Company Bhushan Steel Ltd (BSL) Rhastrya Steel Company Sunflag Iron & Steel Company Limited Surya Roshni Limited .Multiple Regression model and One –way ANOVA tests were employed for analysis and interpretation of data. The major findings were that the assets of the selected companies increased over the time period of study but the asset turnover ratio declined over the period. The current ratio, quick ratio and the inventory turnover ratio positively influenced the return on equity. Thus in order to compete globally continuous monitoring of financial performance of the steel companies and rational financial decision making is required.

Shipra Bhatia (2017) provided a holistic view of the iron and steel industry with special emphasis on the issues and challenges faced by the steel industry of India. Areas focused were production, capacity utilization, import and export, price movements and impact of international demand and supply conditions on the Indian steel industry. The conclusion of the study was that a special turnaround plan is required to be formulated by Government of India for meeting the future targets set aside by Government of India.

#### **OBJECTIVES OF THE STUDY**

The overall objective is to analyze the financial performance of the steel industry of India by selecting few identified units with regard to profitability, liquidity, solvency and efficiency.

#### **RESEARCH METHODOLOGY**

##### **Source of Data:**

The study is mainly based on the secondary data collected from the Annual reports of steel companies and articles from the journals and websites. The period of study is 5 years, starting from 2014-15 to 2019-20.

#### **Sampling:**

For the study of financial performance of steel industry of India, following large sector steel entities listed in BSE are selected: Tata Steel, JSW Steel, Jindal Steel and Power Ltd, Steel Authority of India Ltd, are chosen

#### **Data Analysis:**

Anova-Test analysis is conducted on sixteen financial ratios (variables) selected from the aforementioned segments like liquidity, solvency, activity and profitability term indebtedness of a firm includes debenture holders, such as current ratio, quick ratio, absolute cash ratio, debt-equity ratio, total assets to debts ratio, proprietary ratio, interest coverage ratio, total asset turnover, inventory turnover ratio, debtors turnover ratio, creditor turnover ratio, gross profit margin, net profit margin, operating ratio, return on investment and earning per share.

#### **HYPOTHESIS OF STUDY**

The following hypotheses are framed for the study:

- H<sub>1</sub> There is no significant difference in the financial performance of identified units in the steel industry in India with respect to liquidity position.
- H<sub>2</sub> There is no significant difference in the financial performance of identified units in the steel industry in India with respect to solvency position.
- H<sub>3</sub> There is no significant difference in the financial performance of identified units in the steel industry in India with respect to profitability position.
- H<sub>4</sub> There is no significant difference in the financial performance of identified units in the steel industry in India with respect to efficiency position.

#### **LIMITATIONS OF THE STUDY**

The reliability of the study depends on the accuracy of data collected. The present study is based on the published secondary data, hence the limitations of the published financial statement limitations may be applicable to this study as well. Moreover Bhushan Steel, Electrosteel Steels Ltd is ignored in the study even though it is a listed company as it is under resolution process under Insolvency and Bankruptcy Code, 2016 (IBC 2016).

**FINDINGS AND DISCUSSIONS**

**Liquidity Ratios:**

Liquidity refers to the short term solvency position of the firm. In other words it is the ability of the firm to meet its short term obligations having a maturity period of maximum one year. Liquidity is the lifeline of the business as it is necessary for the survival of the business. Any liquidity crunch severely affects the firm as it has adverse effect on the credit worthiness of the business and ultimately puts question mark on the going concern aspect of the firm. This results in loss of creditor’s confidence in the firm. However too much liquidity is not good for the firm as it indicates idle assets in the hands of the firm which are not providing any return to the firm. Hence a proper balance of liquidity is required to positively influence the profitability of the company.

The important liquid ratios are: (i) Current Ratio, (ii) Quick Ratio and (iii) Cash Retention Ratio.

**Table – 3 ANOVA Test of Liquidity Ratios**

Variable s	Source of Variati on	Sum of Square s	df	Mean Squar e	F	Sig.
<b>Current ratio</b>	Between	.283	3	.094	2.74	<b>.077</b>
	Within	.549	6	.034	9	
	<b>Total</b>	<b>.832</b>	<b>9</b>			
<b>Quick ratio</b>	Between	.946	3	.315	9.21	<b>.001</b>
	Within	.547	6	.034	2	
	<b>Total</b>	<b>1.493</b>	<b>9</b>			
<b>Cash Earning Retenti on ratio</b>	Between	2464.1	3	821.3	2.00	<b>.154</b>
	Within	6549.1	6	409.3	7	
	<b>Total</b>	<b>9013.3</b>	<b>9</b>			

H<sub>1</sub>. There is no significant difference in the financial performance of identified units in the steel industry in India with respect to liquidity position.

Table 3 shows the result of One-way ANOVA test of liquidity ratio analysis:

The significance level of one-way ANOVA test for Current ratio is less than 0.10, hence there exists significant difference in the performance in the financial performance of the companies as regards to current ratio.

As the significance level of one-way ANOVA test for Quick ratio is less than 0.05, hence there exists significant difference in the performance in the financial performance of the companies as regards to quick ratio.

In case of Cash Retention Earnings Ratio, there also exists difference in the financial performance of the company.

Therefore the Null Hypothesis that there exists no significant difference in the financial performance of the identified units in the steel industry in India with respect to liquidity position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of the identified units in the steel industry in India with respect to liquidity position.

**Solvency Ratios:**

The term solvency refers to the ability of the firm to honor its long term obligations. Long term obligations refers to the ability of the company to meet the contractual obligations related to the debenture holders, financial institutions and other long term creditors. The contractual obligations arise in form of the regular interest payments and principal repayments on maturity against the funds provided by long term creditors. Hence any failure in interest payments or principal repayments dilutes the security of the loan provided by this creditors. In recent times the solvency position of several steel companies like Bhusan Steel, Essar Steel, Electrosteel Pvt Ltd and several others are experiencing a topsy-turvy situation. The important ratios for analyzing solvency position of identified units are : (i) Debt Equity Ratio, (ii) Interest Coverage Ratio and (iii) Proprietary Ratio.

**Table – 4 ANOVA Test of Solvency Ratios**

Variab les	Source of Variati on	Sum of Squar es	d f	Mea n Squa re	F	Sig.
<b>Curren t ratio</b>	Betwe en Groups	5.540	3	1.84	11.7	<b>.00 0</b>
	Within Groups	2.515	6	.157	48	
	<b>Total</b>	<b>8.056</b>	<b>1 9</b>			
<b>Quick ratio</b>	Betwe en Groups	.125	3	.042	27.0	<b>.00 0</b>
	Within Groups	.025	6	.002	76	
	<b>Total</b>	<b>.150</b>	<b>1 9</b>			
<b>Cash Earnin gs Retenti on ratio</b>	Betwe en Groups	.565	3	.188	.063	<b>.97 9</b>
	Within Groups	47.95	6	2.99	7	
	<b>Total</b>	<b>48.52 3</b>	<b>1 9</b>			

H<sub>2</sub>. There is no significant difference in the financial performance of identified units in the steel industry in India with respect to solvency position.

Table 4 shows the result of One-way ANOVA test of solvency ratio analysis:

The significance level of one-way ANOVA test for Debt Equity ratio and Proprietary ratio is less than 0.05, hence there exists significant difference in the performance in the financial performance of the companies as regards to debt equity ratio and proprietary ratio.

However as regards to interest coverage ratio there exists no difference in the financial performance of the companies as  $F_{cal} = 0.063$  at level of significance of 0.979.

Therefore the Null Hypothesis that there is no significant difference in the financial performance of the identified units in the steel industry in India with respect to solvency position is rejected and

accepting the Alternative Hypothesis that there exists significant difference in the financial performance of the identified units in the steel industry in India with respect to solvency position except Interest Coverage Ratio.

**Profitability Ratios:**

Profitability refers to the firm’s ability to generate earnings for the growth and survival of the business. Profit is an essential yardstick for measuring financial discipline and profitability. Moreover every stakeholder of the company is interested in the profit of the company as it ensures meeting up of the expectations in the form of reasonable returns expected from the company. For management, profitability is the measure of operational efficiency of the business. Hence close monitoring of the profitability aspect of the business is required to meet both the short term and long term targets in the form of earnings and growth set by the firm. Following ratios are looked upon to measure the aspect of profitability, which are: (i) Gross Profit Ratio, (ii) Net Profit Ratio, (iii) Return on Capital Employed and (iv) Return on Assets.

**Table – 5 ANOVA Test of Profitability Ratios**

Variabl es	Sourc e of Variat ion	Sum of Square s	d f	Mean Squar e	F	Sig .
<b>Gross Profit Margi n</b>	Betwe en Group s	466.37	3	155.4	3.89	<b>.0 29</b>
	Withi n Group s	638.77	6	39.92	4	
	<b>Total</b>	<b>1105.1 47</b>	<b>1 9</b>			
<b>Opera ting Profit Margi n</b>	Betwe en Group s	1075.9	3	358.6	14.9	<b>.0 00</b>
	Withi n Group s	53	6	51	24.07	
	<b>Total</b>	<b>385.11 8</b>	<b>1 9</b>			

	<b>Total</b>	<b>1461.072</b>	<b>19</b>			
<b>Net Profit Margin</b>	Betwe	59.658	3	19.88	.479	<b>.701</b>
	en	664.34	1	6		
	Group	4	6	41.52		
	Withi			1		
	n					
	Group					
	s					
	<b>Total</b>	<b>724.002</b>	<b>19</b>			
<b>Return on Capital Employed</b>	Betwe	75.788	3	25.26	1.37	<b>.286</b>
	en	293.45	1	3	7	
	Group	9	6	18.34		
	Withi			1		
	n					
	Group					
	s					
	<b>Total</b>	<b>369.246</b>	<b>19</b>			
<b>Earnings Per Share</b>	Betwe	9413.804	3	3137.935	4.590	<b>0.17</b>
	en	10939.428	1	683.714		
	Group		6			
	Withi					
	n					
	Group					
	s					
	<b>Total</b>	<b>20353.232</b>	<b>19</b>			

company as  $F_{cal} = 0.479$  at the level of significance is 0.701. In case of Return on Capital Employed, there exists difference in the financial performance of the company as  $F_{cal} = 1.377$  at the level of significance is 0.286.

Therefore the Null Hypothesis that there is no significant difference in the financial performance of the identified units in the steel industry in India with respect to profitability position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of the identified units in the steel industry in India with respect to profitability position except Net Profit margin.

**Efficiency Ratios:**

The word ‘Efficiency’ or ‘Activity’ refers to how well the assets of the company are managed. Thus it is also called asset utilization ratios. Higher the turnover, higher will be the efficiency in asset utilization, so it is also called turnover ratios. Moreover turnover ratios reveal the intensity of the use of assets reflected through the volume of sales (or cost of sales). Hence it reflects the effectiveness of the management in relation to sales. The turnover ratios focused upon: (i) Inventory Turnover Ratio, (ii) Debtors Turnover Ratio and (iii) Asset Turnover Ratio.

**Table – 6 ANOVA Test of Efficiency Ratios**

Variabl	Source	Sum	d	Mea	F	Sig.
es	of	of	f	n		
	Variati	Squar		Squa		
	on	es		re		
<b>Invent</b>	Betwe	31.53	3	10.5	1.25	<b>.001</b>
	en	5	1	12	1	
	Groups	16.40	6	1.02		
<b>Turno</b>	Withi	7		5		
	n					
	Groups					
	<b>Total</b>	<b>47.942</b>	<b>19</b>			
<b>Debtor</b>	Betwe	299.8	3	99.9	15.7	<b>.000</b>
	en	72	1	57	83	
	Groups	101.3	6	6.33		
<b>Turno</b>	Withi	33		3		
	n					
	Groups					
	<b>Total</b>	<b>401.204</b>	<b>19</b>			

H<sub>3</sub>. There is no significant difference in the financial performance of identified units in the steel industry in India with respect to profitability position.

Table 5 shows the result of One-way ANOVA test of profitability ratio analysis:

As the significance level of one-way ANOVA test for Gross Profit margin, Operating Profit margin and Earning per share is less than 0.05, hence there exists significant difference in the performance in the financial performance of the companies as regards to the above stated ratio.

In case of Net profit margin, there exists no difference in the financial performance of the

<b>Asset Turnover ratio</b>	Betwe en Groups	2.065 .373	3 1 6	.688 .023	29.4 99	.00 0
	Within Groups					
	<b>Total</b>	2.438	1 9			

and also help the financial companies to get rid of the distressed assets from their balance sheet. Lastly the policies adopted by Government of India under National Steel Policy (2017) and Policy on Preference to Domestically Manufactured Iron and Steel Products is expected to provide the much necessary impetus to the iron and steel sector of the country.

H<sub>4</sub>. There is no significant difference in the financial performance of identified units in the steel industry in India with respect to efficiency position.

Table 6 shows the result of One-way ANOVA test of efficiency ratio analysis:

As the significance level of one-way ANOVA test for Inventory Turnover ratio, Debtors Turnover ratio and Asset Turnover ratio is less than 0.05, hence there exists significant difference in the performance in the financial performance of the companies as regards to such ratios.

Therefore the Null Hypothesis that there is no significant difference in the financial performance of the identified units in the steel industry in India with respect to efficiency position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of the identified units in the steel industry in India with respect to efficiency position.

**CONCLUSION**

The present study of the financial performance of the identified steel companies reveal there exists significant difference in the financial performance of the companies. However a close look will show that each of the company is going through a tough time as liquidity and profitability of the companies has declined over the years. This resulted in several steel companies going bankrupt and referring to National Company Law Tribunal (NCLT) for their sale of assets or restructuring the company with the approval of Committee of Creditors. The imposition of tariff barriers on cheap Chinese imports barriers to the hot rolled and cold rolled flat product dumped in the Indian market and focus of the Government on speedy completion of the large infrastructural projects is expected to put the steel industry on the growth trajectory. Moreover the approval of the resolution plans by Committee of Creditors of the ailing steel companies under IBC 2016 is expected to provide fillip to the steel sector

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