Middle-East Journal of Scientific Research 23 (6): 1085-1090, 2015
ISSN 1990-9233

DOI: 10.5829/idosi.mejsr.2015.23.06.22197

Financial Performance of the Steel Industry in India: A Critical Analysis

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Abstract: This research present 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., Bhushan 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. All major industrial economies are characterized by the existence of a strong steel industry and the growth of many of these economies has been largely shaped by the strength of their steel industries in their initial stages of development. The world steel production has been increasing from year to year and has already crossed the 1/ one billion tonnes mark for the first time in 2004. During the intervening period, steel production has grown very fast and in 2013, global steel production has exceeded 1.6 billion tonnes. The rapid increase has been led by China accounting for more than 45 per cent of world steel production. China is not only the largest producer of steel (627 million tonnes), it is also the largest consumer of steel (576 million tonnes) followed by the United States and India (World Steel Association, [1]).

The iron and steel industry, which is one of the most important fundamental sectors of the national economy of a country, is one of the significant indicators of the economic power and comprehensive national strength of a country. The iron and steel industry is important in the Indian economy and plays a crucial role therein. The iron and steel industry of India, which is enormous in size, holds an important position in the industrial system of India. Furthermore, given the role of the iron and steel industry in boosting the development of related industrial sectors and sectors oriented to serving the iron and steel industry (such as research and trade sectors), the industry plays a greater part in promoting indirect employment. The iron and steel industry is vital in promoting employment and boosting economic prosperity and serves as the pillar of local economic development and social stability.

Indian steel industry is one of the fastest growing industries and as per official estimates, the Iron and Steel Industry contributes around 2 per cent of the Gross Domestic Product (GDP). India is ranked as the fourth largest producer of crude steel in the world during 2013 after China, Japan and the USA. India was also the largest producer of sponge iron in the world during 2013, accounting for 25 per cent of world production. Global crude steel production reached 1606 MT in 2013 and showed a growth of 3 percent over 2012. During 2013-14 (provisional), India's crude steel production was 81.54 million tones (mt), an increase of 4 per cent over 2012-13 while crude steel capacity utilization stood at 82 per cent. In the last five years, domestic crude steel production grew at a compound annual growth rate (CAGR) of 7.9 per

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cent. Such an increase in production was driven by 9.8 per cent growth in crude steel capacity, high utilization rates and 7.0 per cent growth in domestic steel consumption (GOI, [2], Economic Survey, [3]).

Review of Literature: Kolluru [4] investigated a study on performance of Indian steel companies during 1999-2003. The objective of this study was to measure an overall index of performance across the Indian steel companies based on eleven financial ratios including the profit ratio for each company by using the globally popular method – the Taxonomic Method. The empirical results showed that, overall composite index would serve as a better performance indicator than the conventional stand-alone operating profit margin.

Patra [5] analyzed the impact of liquidity on profitability in his study considering the case Tata Iron & Steel Company Limited. The study of the impact of liquidity ratios on profitability showed both negative and positive association. Out of seven liquidity ratios selected for this study, four ratios namely current ratio, acid test ratio, current assets to total assets ratio and inventory turnover ratio showed negative correlation with profitability ratio. However, these correlation co-efficient were not statistically significant. The remaining three ratios namely working capital turnover ratio, receivable turnover ratio and cash turnover ratio have shown positive association with the profitability ratio, all of which are statistically significant at 5 per cent level of significance. The result of all the correlation co-efficient was as desirable except correlation co-efficient between inventory turnover ratio and ROI. However this undesirable sign between ITR and ROI was not supported by the multiple regression analysis, which showed the positive association between these two variables. There is increasing profitability which depends upon many factors including liquidity.

Burange and Yamini [6] studied on the performance of Indian iron and steel industry and competitiveness of the firms. The paper examined the performance of Indian iron and steel industry in the pre and post-liberalization periods in terms of primary indicators such as production, consumption and foreign trade. It also studies growth in capacity utilisation, prices and employment. It is deduced that the industry has grown manifold in all the aspects, especially after the liberalisation of the economy except employment, which showed a substantial fall during post-liberalisation when competition among the Indian manufacturing firms has increased. Therefore, that leads us to investigate the competitiveness of the sample firms in the industry through composite competitiveness indices. On the basis of overall competitiveness, as well as financial and non-financial aspects of competitiveness, the industry was mostly dominated by Tata Steel Ltd., even though SAIL had a greater market share and proved to be superior with respect to non-financial indicators.

Barad [7] in his thesis "A Study on Liquidity Management of Indian Steel Industry" dealt with the Analysis on liquidity of steel industry in India, which were mainly engaged in production of steel Products, The study aimed at exploring analysis of liquidity performance of steel industry in India. The study covered a period of 10 years i.e. from 1999-2000 to 2008-2009. Four companies JSWSL, JS&AL, SAIL and TSL were selected for the study. In order to analyze the liquidity performance six types of ratios were calculated i.e. current ratio, quick ratio and inventory turnover ratio working capital turnover ratio, debtor turnover ratio and average collection period. To test the hypothesis the one way ANOVA was used. The analysis describes that the need for liquidity to run day-to-day business activities can't be over emphasized.

Pal [8] studied a comparative study of financial performance of Indian steel companies under globalization. The purpose of the study was to examine the financial performance of the Indian steel companies and establish the linear relationship between liquidity, leverage, efficiency and profitability of the selected companies. Indian steel companies are selected for the study on the basis of market share in 2008-09 for a period of twenty years ranging from 1991-92 to 2010-2011. The public sector company Steel Authority of India is holding the highest market share followed by Tata Steel Limited, JSW Steel Limited, Essar Steel Limited, JSW Ispat and Steel Limited, Rastriya Ispat Nigam Limited, Jindal Steel and Power Limited, Bhushan Steel Limited, Llyods Steel Industries Limited and National Steel and Agro Industries Limited. To estimate the impact of selected variables on the profitability multiple regression analysis was carried on and the models were predicted for such purpose.

Chavali and Karthika [9] conducted a study on application of Z score analysis in evaluating steel industry in India. The purpose of this paper is an empirical study to understand the financial soundness of steel industry in India. For this purpose twenty large and medium steel units which are listed are taken. A sample period of 2001-2010 was selected for the study. The financial performance of the Steel industry was monitored and measured by using Altman's Z-score model which was extensively used by practitioners and researchers in the past. This study analyses the possibility of business

failure with reasonable accuracy by using the z-score model. The research findings are that the steel industry was in good financial performance in spite of the impact of sluggish demand and global economic slowdown with an exception of two companies in the study period.

Objectives of Study: The broad objective of this research paper is to analysis the financial performance of identified units in the steel industry in India with regard to Liquidity, Solvency, Activity and Profitability.

Hypothesis of Study: The following hypotheses are framed and tested in the study:

H0.1. There is no significant difference in the financial performance of identified units in the steel industry in India with regard to liquidity position.
H0.2. There is no significant difference in the financial performance of identified units in the steel industry in India with regard to solvency position.
H0.3. There is no significant difference in the financial performance of identified units in the steel industry in India with regard to efficiency position.
H0.4. There is no significant difference in the financial performance of identified units in the steel industry in India with regard to profitability position.

MATERIALS AND METHODS

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: There are 206 steel companies listed in stock exchanges of India and out of which 5 companies engaged in production of steel and are included in A group companies. All these 5 companies are selected for this study. Thus the selected companies are: Steel Authority of India Ltd., Tata Steel Ltd., J S W Steel Ltd., Jindal Steel & Alloy Ltd. and Bhushan Steel Ltd.

Data Analysis: Anova-Test analysis is conducted on sixteen financial ratios (variables) selected from different segment like liquidity, solvency, activity and profitability 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 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.

Analysis of Data

Liquidity Ratios: Liquidity ratios are also termed as Short-term Solvency Ratios. Liquidity refers to the ability of a concern to meet its obligations in the short run, usually one year and to test its ability to maintain positive cash flow, while satisfying immediate obligations (Khan & Jain, [10]). In fact, liquidity is a pre-requisite for the very survival of the company. However, liquidity should be neither excessive nor inadequate. The failure of a company to meet current obligations due to lack of sufficient liquidity will result in a poor credit worthiness and loss of creditors' confidence. Again, a very high degree of liquidity indicates idle assets that earn nothing. Thus, it is necessary to strike a proper balance between the two, i.e. high liquidity and lack of liquidity for efficient financial management and to optimize profit (Pandey, [11]).

The important liquidity ratios are: (i) Current Ratio, (ii) Acid-Test Ratio or Quick Ratio and (iii) Absolute Liquidity Ratio.

H0 1: There is no significant difference in the financial performance of identified units in the steel industry in India with regard to Liquidity Position.

The following table 1 shows the result of liquidity ratio analysis.

As the significance level of one-way ANOVA test is less than 0.05, there exists significant difference in the financial performance of companies with regard to Current Ratio, Quick Ratio and Cash Ratio.

So the Null Hypothesis that there is no significant difference in the financial performance of identified units in the steel industry in India with regard to Liquidity Position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of identified units in the steel industry in India with regard to Liquidity Position.

Solvency Ratios: The term "solvency" refers to the capacity of a concern to meet its obligations. The long-term indebtedness of a firm includes debenture holders, financial institutions and creditors selling goods on installment basis. The long-term creditors for a firm are

primarily interested in knowing the firm's ability to pay interest regularly on long-term borrowings, repayment of the principal amount at the maturity and the security of their loan. Accordingly, long-term solvency ratios indicate a firm's ability to meet the fixed interest and costs and to repay its long-term borrowings. In order to measure the long-term solvency position of the paper mills, various financial and statistical analyses are employed in this section (Subramanian, 2009 [12]). 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) Proprietary Ratio and (iv) Interest Coverage Ratio.

H0 2: There is no significant difference in the financial performance of identified units in the steel industry in India with regard to Solvency Position.

Table 2 shows the result of solvency ratio analysis.

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

So the Null Hypothesis that there is no significant difference in the financial performance of identified units in the steel industry in India with regard to Solvency Position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of identified units in the steel industry in India with regard to Solvency Position.

Activity Ratios: Activity Ratios are also known as Turnover Ratios or Efficiency Ratios. As activity ratios are concerned with assessing the efficiency of a company in managing its assets, these are also called efficiency ratios or asset utilization ratios. Usually, greater the rate of turnover or conversion, the more efficient is the utilization of assets, other things remaining the same. For this reason, such ratios are also called as turnover ratios. An activity ratio thus is a measure to test the relationship between sales (or cost of sales) and the various assets of a firm (Khan & Jain, [10]). Further, these ratios indicate whether the firm's investment in current assets and long-term assets are too large or too small. The following turnover ratios are calculated: (i) Total assets Turnover Ratio, (ii) Inventory Turnover Ratio, (iii) Debtors Turnover Ratio and (iv) Creditors Turnover Ratio.

Table 1: ANOVA Test of Liquidity 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			
Cash Ratio	Between Groups	3.113	4	0.778	11.417	0.000
	Within Groups	3.067	45	0.068		
	Total	6.179	49			

Table 2: ANOVA Test of 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			
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			

Table 3: ANOVA Test of Activity Ratios

Variables	Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Total Asset Turnover	Between Groups	0.636	4	0.159	4.207	0.006
	Within Groups	1.7	45	0.038		
	Total	2.335	49			
Inventory Turnover Ratio	Between Groups	3701.748	4	925.437	5.916	0.001
	Within Groups	7039.538	45	156.434		
	Total	10741.29	49			
Debtors Turnover Ratio	Between Groups	5552.269	4	1388.067	14.357	0.000
	Within Groups	4350.835	45	96.685		
	Total	9903.104	49			
Creditor Turnover Ratio	Between Groups	125.707	4	31.427	15.18	0.000
	Within Groups	93.163	45	2.07		
	Total	218.87	49			

Table 4: ANOVA Test of Profitability Ratios

Variables	Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Gross Profit Margin	Between Groups	12427.51	4	3106.877	71.963	0.000
	Within Groups	1942.792	45	43.173		
	Total	14370.3	49			
Net Profit Margin	Between Groups	1104.815	4	276.204	13.785	0.000
	Within Groups	901.644	45	20.037		
	Total	2006.459	49			
Operating Ratio	Between Groups	2629.02	4	657.255	19.384	0.000
	Within Groups	1525.843	45	33.908		
	Total	4154.863	49			
Return On Investment	Between Groups	2277.395	4	569.349	4.963	0.002
	Within Groups	5161.931	45	114.71		
	Total	7439.326	49			
Earning per Share	Between Groups	36514.12	4	9128.529	4.619	0.003
	Within Groups	88931.79	45	1976.262		
	Total	125445.9	49			

H0 3: There is no significant difference in the financial performance of identified units in the steel industry in India with regard to Activity Position.

The following table 3 shows the result of activity ratio analysis.

As the significance level of one-way ANOVA test is less than 0.05, there exists significant difference in the financial performance of companies with regard to Total Asset Turnover, Stock Turnover Ratio, Debtors Turnover Ratio and Creditors Turnover Ratio.

So the Null Hypothesis that there is no significant difference in the financial performance of identified units in the steel industry in India with regard to Activity Position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of identified units in the steel industry in India with regard to Activity Position [11].

Profitability Ratios: Profitability is the ability of a firm to earn income and sustain growth during both short-term and long-term. Profit inability refers to the lack of ability of a firm to earn profit and sustain growth in both short-term and long-term perspectives. A company should earn sufficient profits to survive and grow in the long-run. Profits are essential and every stakeholder of a company is interested to see the company's financial soundness and profitability. When management of a company is keen to measure its operating efficiency through profitability, the shareholders invest their funds in the expectation of reasonable returns. Thus, the operating efficiency of a company and its ability to ensure adequate returns to its shareholders depends ultimately on the profits earned by it (Khan & Jain, 2007 [10]). Five profitability ratios calculated for the study are: (i) Gross Profit Ratio, (ii) Net Profit Margin, (iii) Operating Ratio, (iv) Return on Investment and (v) Earning per Share.

Hypothesis: There is no significant difference in the financial performance of identified units in the steel industry in India with regard to Profitability Position [12].

Table 4 shows the result of profitability ratio analysis.

As the significance level of one-way ANOVA test is less than 0.05, there exists significant difference in the financial performance of companies with regard to Gross Profit Margin, Net Profit Margin, Operating Ratio and Return on Investment.

So the Null Hypothesis that there is no significant difference in the financial performance of identified units in the steel industry in India with regard to Profitability Position is rejected and accepting the Alternative Hypothesis that there exists significant difference in the financial performance of identified units in the steel industry in India with regard to Profitability Position.

CONCLUSION

The present study deals with the analysis of the financial performance of selected units in the steel industry in India. In order to evaluate the financial performance, Liquidity, Solvency, Activity and Profitability position of the selected units are considered. The ratios calculated and evaluated in this study include; Current Ratio, Quick Ratio, Absolute Cash Ratio, Debt-Equity Ratio, Total Assets to Debt Ratio, Proprietary Ratio, Interest Coverage Ratio, Total assets Turnover Ratio, Inventory Turnover Ratio, Debtors Turnover Ratio, Creditors Turnover Ratio,Gross Profit Ratio, Net Profit Margin, Operating Ratio, Return on Investment and Earning per Share. One way ANOVA test is used to test the hypotheses. All the null hypotheses are rejected and thus the analysis and testing of hypotheses gave the conclusion that there is significant difference in the financial performance of identified units in the steel industry in India with regard to Liquidity, Solvency, Activity and Profitability Position.

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