



ORIGINAL RESEARCH PAPER

Commerce

CAPITAL STRUCTURE ANALYSIS OF SELECT STEEL COMPANIES IN INDIA

KEY WORDS: Capital Structure, Steel Companies, Tata Steel Limited, JSW Steel Limited

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ABSTRACT

Capital structure is an important decision of the business to fix the mixture of debt and equity capital of the company. This study is on capital structure analysis and its impact on profitability of steel industry in India. Researcher has taken 2 steel companies listed under BSE and NSE. In this research, main aim of the study is to examine the capital structure analysis of selected two steel companies JSW Steel Limited and Tata Steel Limited. For this, past ten years financial statements have been collected from CMIE data base. Statistical tools like Mean, Standard deviation, Co-efficient of Correlation, Annual Growth Rate and 't' test were applied. In this research, the period of study were selected for past 10 years from 2007-08 to 2016-17. Capital structure variables and capital structure ratios were taken and analysed by using the selected statistical tools. The result reveals that when compare to Tata steel limited, JSW steel limited has more consistent in maintaining the performance in its capital structure during the study period.

1.Introduction

India was the world's third-largest steel producer in 2016. The growth in the Indian steel sector has been driven by domestic availability of raw materials such as iron ore and cost-effective labour. Consequently, the steel sector has been a major contributor to India's manufacturing output. The Indian steel industry is very modern with state-of-the-art steel mills. It has always strived for continuous modernisation and up-gradation of older plants and higher energy efficiency levels. Indian steel industries are classified into three categories such as major producers, main producers and secondary producers.

India's crude steel output grew 10.7 per cent year-on-year to 25.76 million tonnes (MT) during January-March 2017. India's crude steel output during April 2017 grew by 5.4 per cent year-on-year to 8.107 MT. India's finished steel exports rose 102.1 per cent to 8.24 MT, while imports fell by 36.6 per cent to 7.42 MT in 2016-17. India's steel exports rose 142 per cent in April 2017 to 747,000 tonnes over April 2016, while imports fell by 23 per cent to 504,000 tonnes in April 2017 over April 2016. Total consumption of finished steel grew by 3.4 per cent year-on-year at 6.015 MT during April 2017.

India is expected to overtake Japan to become the world's second largest steel producer soon, and aims to achieve 300 million tonnes of annual steel production by 2025-30. India is expected to become the second largest steel producer in the world by 2018, based on increased capacity addition in anticipation of upcoming demand, and the new steel policy, that has been approved by the Union Cabinet in May 2017, is expected to boost India's steel production.* Huge scope for growth is offered by India's comparatively low per capita steel consumption and the expected rise in consumption due to increased infrastructure construction and the thriving automobile and railways sectors.

2. Review of Literature

According to Navaneetha, et al., (2017), the influence of capital structure on the performance of the Tata Motors Limited for a period of 5 years from 2012 to 2016. The capital structure was measured through the ratio analysis and leverage. There were a number of determinants that affect the decisions taken while determining the capital structure like cost of capital, control, flexibility, etc. From this study, it was recognized that knowledge about the application of financial tools, its importance and its usefulness in determining the capital structure of Tata Motors Limited. The study concluded that the optimum capital structure of Tata Motors Limited could be ascertained by using various ratios and leverage. From the study it was recommended that the equity and reserves of the firm should be sufficient to meet out the fixed

bearing expenses and it has to lower the degree of financial leverage in order to overcome the financial risk in future. From this, it was known that the capital structure of Tata Motors Limited was in a satisfied position. From the study of Prabalchakraborty and Naresh Gupta (2017), it is observed that the main objective of a business undertaking was to earn profits. Profit earning was considered major for the survival of the business. In this study an attempt has made to measure the profitability performance using linear regression model for fulfillment of the objectives the data collected from the annual report from 2005-06 to 2014-15 the collected data was analyzed and computed to fit for drawing inferences. The study used for the descriptive analysis of Mean, Standard Deviation, co-efficient of variance and compound annual growth rate and Anova. In this investigation correlation and multiple regression analysis were used to find out the production of Semi-finished steel, finished steel and saleable steel & Gross Sales, Total Loans, Current Liabilities and capital employed. The major finding of this study was that profit before tax automatically increase if Steel authority of India will increase saleable steel by keeping finished steel as low as possible.

It is explored from the research conducted from Veerakumar, (2016), who studied in the research that profitability of steel industry in India after liberalization. The aim of the study was profitability and financial structure of the selected TISCO and SAIL companies. The main objectives of the study such as Production, Sales and Profit trend of the TISCO and SAIL, improving profitability and financial efficiency of the TISCO and SAIL. The period 2005-2015 was selected for this study. This ten years period was chosen in order to have a fairly long, cyclically well balanced period, for which reasonably homogeneous, reliable and up-to-date financial data would be available. Statistical measures like mean, co-efficient of variation, compound annual growth rate, indices have been applied. Least square trend of profit has been applied to test the validity of hypothesis. The researcher found that the comparison of profit performance among the two companies revealed that the profit of TISCO was the highest, followed by SAIL. The TISCO has registered positive compound annual growth rate and the SAIL has registered negative compound annual growth rate in profit during the study period. The profit performance of TISCO was better than the SAIL. Further, a study conducted by the authors Simranjeet Singh and Harwinder Kaur (2017), who explored the relationship in the midst of Working Capital Management components and the profitability of steel manufacturing companies in India. The core objective of this study was to scrutinize the relationship between working capital components and profitability of firm by conducting empirical analysis of 40 Indian steel manufacturing companies over a period of 13 years from 2004-2016. The sample units include 40 steel

manufacturing companies operating in Indian market; the companies were selected using convenience random sampling. The variables were collected from 2004 to 2016. The relationship between variables have been established by framing the panel data and checked using descriptive analysis, Pearson correlation and regression line on E-Views 8 statistical software. The study results exhibit that there was a significant relationship between dependent variables (Net Profit and Return on Assets) and independent variables. It was found that receivables collection period, inventory holding period and Cash Conversion Cycle had symbolic impact on the profitability of companies. Working Capital Management was one of the vital areas of management, and has a noteworthy impact on the profitability of company.

3. Objectives of the study

- To study the capital structure variables of the selected two steel companies.
- To examine the performance in capital structure of the selected two steel companies through ratio analysis and statistical analysis.

4. Hypothesis of the study

- There is no significant difference between the years of the Capital Gearing Ratio in the selected Steel companies.

5. Research Design

The study is purely based on secondary data which collected CMIE data base. JSW Steel Limited and Tata Steel Limited have been selected for this study. The study covers a period of 10 years from 2007-08 to 2016-17. For examining the performance in capital structure, mean, standard deviation, co-efficient of variation, indices, annual growth rate and 't' test have been used appropriately.

6. Data Analysis

Capital structure variables are taken for examining the performance in capital structure of the selected two steel companies like JSW Steel Limited and Tata Steel Limited. The variables are discussed in the following tables with the help of mean, standard deviation, co-efficient of variation.

6.1 Equity Capital

The Equity Capital refers to that portion of the organization's capital, which is raised in exchange for the share of ownership in the company. It is discussed in the following table.

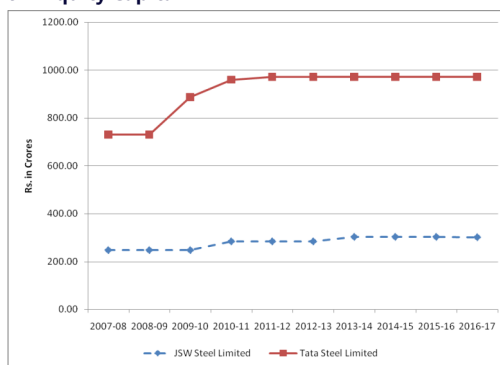
Table 1 : Descriptive statistics of Equity Capital

Year	JSW Steel Limited	Tata Steel Limited
2007-08	248.08	730.8
2008-09	248.08	730.8
2009-10	248.08	887.4
2010-11	284.15	959.4
2011-12	284.15	971.4
2012-13	284.15	971.4
2013-14	302.75	971.4
2014-15	302.75	971.4
2015-16	302.75	971.4
2016-17	301.33	971.4
Mean	280.63	913.7
SD	23.83	99.8
CV (%)	8.49	10.9

Source : CMIE Data Base.

It is determined from the above table that the mean value of equity capital endowed by 280.63 in JSW Steel Limited and 913.69 in Tata Steel Limited. The standard deviations of the JSW Steel Limited and Tata Steel Limited are 23.83 and 99.8 respectively. The co-efficient of variation of equity capital endowed by 8.49 per cent in JSW Steel Limited and 10.9 per cent in Tata Steel Limited.

Chart 1 : Equity Capital



6.2 Reserves And Surplus

Reserves and Surplus of the selected two steel companies has been discussed in the following table.

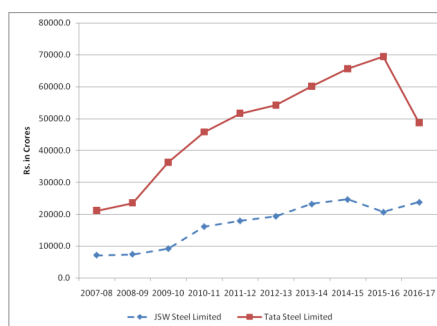
Table 2 : Descriptive Statistics of Reserves and Surplus

Year	JSW Steel Limited	Tata Steel Limited
2007-08	7140.2	21097.4
2008-09	7422.2	23501.2
2009-10	9179.2	36281.3
2010-11	16132.7	45807.0
2011-12	17934.3	51650.0
2012-13	19374.2	54238.3
2013-14	23217.0	60176.6
2014-15	24657.4	65692.5
2015-16	20685.8	69505.3
2016-17	23796.8	48687.6
Mean	16954.0	47663.7
SD	6785.8	16470.3
CV (%)	40.0	34.6

Source : CMIE Data Base.

It is noticed from the analysis that mean value has recorded as Rs.16954.0 crores for JSE steel limited and Rs.47663.7 crores for Tata Steel Limited. The standard deviations are 6785.8 percent for JSW Steel Limited and 16470.3 percent for Tata Steel Limited. The co-efficient of variation has registered 40.0 percent for JSW Steel Limited and 34.6 percent for Tata Steel Limited.

Chart 2 : Reserves and Surplus



6.3 Network

Network is one of the important factor for examining the capital structure of the selected steel companies and it is analysed in the following table.

Table 3 : Descriptive Statistics of Network

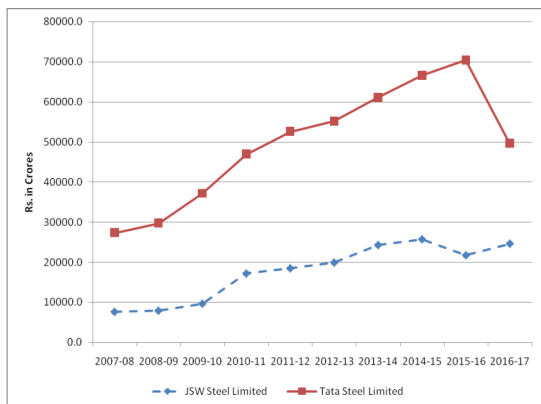
Year	JSW Steel Limited	Tata Steel Limited
2007-08	7677.3	27300.7
2008-09	7959.3	29704.6
2009-10	9706.3	37168.8

2010-11	17225.3	46944.6
2011-12	18497.5	52621.4
2012-13	19937.4	55209.7
2013-14	24284.2	61148.0
2014-15	25724.6	66663.9
2015-16	21753.0	70476.7
2016-17	24634.7	49659.0
Mean	17739.9	49689.7
SD	6971.0	14740.6
CV (%)	39.3	29.7

Source : CMIE Data Base.

From the analysis of Network, it is observed that the two steel companies JSW Steel Limited and Tata Steel Limited have recorded the mean values as Rs.17739.9 crores and Rs.49689.7 crores respectively. And, the standard deviation of JSW Steel Limited and Tata Steel Limited are 6971.0 percent and 14740.6 percent respectively. On the other hand, 39.3 percent and 29.7 percent has registered as co-efficient of variation of JSW Steel Limited and Tata Steel Limited respectively.

Chart 3 : Network



6.4 Tangibility

In this section, tangibility has been analysed and discussed in the following table. Tangibility is one of the important capital structure variable.

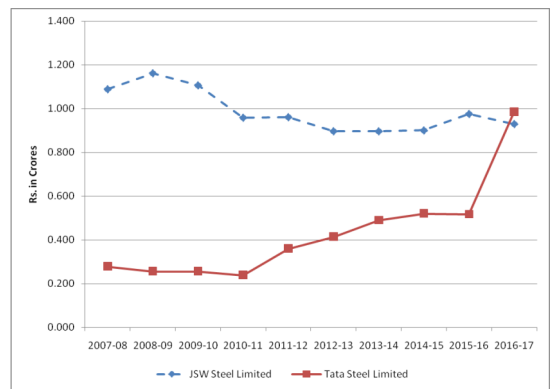
Table 4 : Descriptive Statistics of Tangibility

Year	JSW Steel Limited	Tata Steel Limited
2007-08	1.088	0.279
2008-09	1.161	0.256
2009-10	1.106	0.256
2010-11	0.958	0.238
2011-12	0.961	0.359
2012-13	0.897	0.414
2013-14	0.896	0.490
2014-15	0.900	0.520
2015-16	0.975	0.517
2016-17	0.930	0.986
Mean	0.987	0.431
SD	0.096	0.224
CV (%)	9.757	52.024

Source : CMIE Data Base.

The analysis of Tangibility of JSW Steel Limited and Tata Steel Limited noticed that as follows : The mean value of JSW Steel Limited and Tata Steel Limited has recorded as Rs.0.987 crores and Rs.0.431 crores and standard deviation as 0.096 percent and 0.224 percent. On the other hand, co-efficient of variation has recorded as 9.757 percent and 52.024 percent.

Chart 4 : Tangibility



6.5 Capital Gearing Ratio

This ratio is also known as capitalization or leverage ratio. It is used to analysed the capital structure of the company. The ratio establishes relationship between fixed interest and dividend bearing funds and equity shareholders funds. Capital gearing ratio shows the proportion of various items of long-term finance employed in the business. A low gearing ratio indicates over capitalization. In order to examine the significant difference in capital gearing ratio during the study period is discussed by using 't' test with the following hypothesis.

H₀ : There is no significant difference between the years of the Capital Gearing Ratio in the selected Steel companies.

Table No. 5 : Capital Gearing Ratio

Year	JSW Steel Limited	Indices	Tata Steel Limited	Indices
2007-08	0.9351	100.0	0.6553	100.0
2008-09	1.2574	134.5	0.8826	134.7
2009-10	1.1876	94.4	0.6790	76.9
2010-11	0.5148	43.3	0.5219	76.9
2011-12	0.6232	121.1	0.4058	77.8
2012-13	0.7741	124.2	0.4268	105.2
2013-14	0.8670	112.0	0.3894	91.2
2014-15	0.9911	114.3	0.3585	92.1
2015-16	1.1893	120.0	0.3328	92.8
2016-17	1.1293	95.0	0.4973	149.4
Mean	0.9469	105.9	0.5149	99.7
SD	0.2530	25.6	0.1749	24.6
CV (%)	26.721	24.2	33.959	24.6
AGR (%)	1.334		-7.762	
't' Value	0.385		-3.472	
'p' Value	0.711^{NS}		0.008*	

It is noted from the analysis that the steel companies JSW Steel Limited and Tata Steel Limited has recorded the mean values as 0.9469 and 0.5149 respectively. The standard deviation of JSW Steel Limited and Tata Steel Limited are 0.253 percent and 0.175 percent. The co-efficient of variation of the companies JSW Steel Limited and Tata Steel Limited are 26.721 percent and 33.959 percent. The percentage of annual growth rate noticed that JSW steel limited has positive growth and Tata Steel Limited has negative growth during the study period. Further, 't' value and 'p' value indicates that Tata Steel Limited has significant growth and JSW steel limited has not significant growth during the study period. So, the hypothesis is accepted in JSW steel limited and rejected in Tata steel limited. It indicates Tata steel limited has significant difference between the years of capital gearing ratio and it justifies the co-efficient of variation result.

7. Findings

- It is found from the analysis of equity capital of the selected

two companies that JSW steel limited has more consistent than Tata steel limited.

- It is noted from the analysis of reserves and surplus that the company Tata steel limited has more consistent than JSW steel limited.
- While considering the analysis of networth of the selected steel companies that Tata steel limited has more consistent than JSW steel limited.
- In the case of tangibility of the steel companies that JSW steel limited has more consistent than Tata steel limited.
- The capital gearing ratio indicated that JSW steel limited has more consistent than Tata steel limited. Further, the result of annual growth rate indicates that JSW steel limited has positive growth and Tata Steel Limited has negative growth during the study period. Also, the result indicates that Tata Steel Limited has significant growth and JSW steel limited has not significant growth during the study period.

8. Recommendations and Conclusion

- This study had examined the performance in capital structure of the selected two steel companies JSW steel limited and Tata steel limited during the past ten years from 2007-08 to 2016-17 in India.
- In India, legal determinants play a significant role in shaping the capital structure of the steel companies. Important ones are creditor rights, maintenance of legal reserves and law enforcement. Some studies have shown that debt structure is also determined by how right, are enforced by creditors. Debentures in India are, by definition, secured loans having a floating charge on all the aspects of the company compared to the working capital financed by a commercial bank, which generally have a second or inferior charge on assets. It is therefore argued that the financial manager must consider the factors and carefully analyze sector specific attributes before attempting to achieve the so-called optimal capital structure, as they are vital in the Indian context. The designing appropriate capital structure of the firm is warranted to sustain the value of the firm in the hyper-competitive corporate environment.

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