ELSEVIER

Scopus

doi

Journal of Vibration Engineering

ISSN:1004-4523

Registered

- SCOPUS
- GOOGLE SCHOLAR
- DIGITAL OBJECT IDENTIFIER (DOI)
- IMPACT FACTOR 6.1

Our Website
www.jove.science

CAPITAL STRUCTURE ANALYSIS OF SELECT STEEL COMPANIES IN INDIA

[1]Munish Kumar, [2]Abhishek Kumar, [3]SanjayRijal

[1]*Assistant Prof. Department of Mechanical Engineering, Chandigarh University, Gharuan*
[2,3]*B.E students, Chandigarh University, Mohali, India*

cu.16bme1138@gmail.com, cu.16bme1141@gmail.com

Abstract

Capital structure is crucial decision of the firm to balance the relation between the debt and equity capital of the company. Present research is focused on capital structure investigations and influence on the gain of steel industry in India. Investigation has been conducted by taking two 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.

Keywords: Capital Structure, Dept, steel industries, BSE, NSE, Financial burden

1. Introduction

World 3rd largest production of steel was in India upto 2016. This was possible because of availability of raw material, cheaper labour and cost effective of generation. As a this sector was contributing well to the manufacturing sector output. Also steel industry in this country is equipped modern infrastructure involvement in factories and steel mills. Furthermore updating and latest available technology leads to modernization of plant as well as it enhanced the efficiency of this sector.The Indian steel manufacturing system has been branched into three major categories like major producers, main producers and secondary producers.

The output of steel manufacturing has risen to 10.7 per cent year-on-year to 25.76 million tonnes(MT) during January-March 2017 and 5.4 % in 2018. The export of steel was 102.1 per cent to 8.24 MT, while imports fell by 36.6 per cent to 7.42 MT during 2016-17 and 142 per cent in April 2017 to 747,000 tonnes over April 2016. The import was decreased by 23 per cent to 504,000 tonnes in April 2017 over April 2016. The consumption of steel was raised by 3.4 per cent year-on-year at 6.015 MT during April 2017.

It is very fortunate for India that if the growth rate of steel industry will be continuous at this rate then it is expected to overtake the 2nd largest steel producer Japan. The target for next 15 years are to India achieve 300 million tonnes of annual steel production. To fulfill ther future demand the new steel policyhave to planned and should be approved by government. The steel industry growth does not mean the growthof this sector it is the growth of manufacturing sector and further it will increase the job and will invite new firm to start their business. This will further enhanced the growth of per capita income as well as pleasant

situation for manufacturing sector. This will further effect the infrastructure, Railway and automobile sector.

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. From this study, it has been confirm that the 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 fixedbearing 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.

Prabalchakraborty and Naresh Gupta (2017) has examine that the main objective of a Firm is to gain the profit bt y utilizing the all available resources. This studywas based on the annual report from 2005- 2015 and has evaluated using ANOVA analysis of available data. The Statistical parameters like mean mode, median, S.D and other parameter was evaluated. 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 Research shows that profit before tax automatically increases if Steel authority of India will increase saleable steel by keeping finished steel as low as possible.

Veerakumar, (2016), has studied the who studied profitability of steel industry in India after liberalization. The aim of the study was to find the factor that effects the profitability steel industries. The data of ten years was analyzed and Statistical measures like mean, co-efficient of variation, compound annual growth rate, indices was evaluated. The research show that the profit of TISCO was the highest, followed by SAIL. The data was divided into short term, cyclic and long terms

Simranjeet Singh and HarwinderKaur (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 steelmanufacturing 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 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 examine 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

Null Hypothesis shows that there is no significant variation in 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 Ste
2007-08	248.08	7
2008-09	248.08	7
2009-10	248.08	8
2010-11	284.15	9
2011-12	284.15	9
2012-13	284.15	9
2013-14	302.75	9
2014-15	302.75	9
2015-16	302.75	9
2016-17	301.33	9
Mean	280.63	9

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.

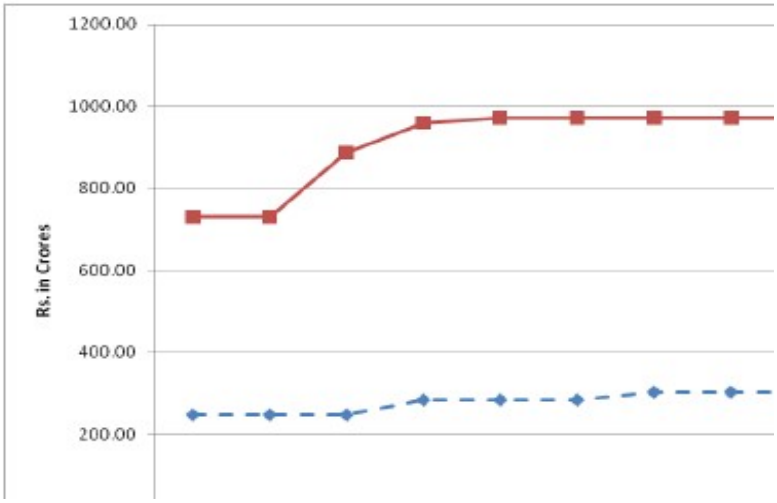

Figure 1: Equity Capital

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 St
2007-08	7140.2	21
2008-09	7422.2	23
2009-10	9179.2	36
2010-11	16132.7	45
2011-12	17934.3	51
2012-13	19374.2	54
2013-14	23217.0	60
2014-15	24657.4	65
2015-16	20685.8	69
2016-17	23796.8	48
Mean	**16954.0**	**47**

It is noticed from the analysis that mean value has recorded as Rs.16954.0 crores for JSE steel limited and Rs.47663.7crores 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.

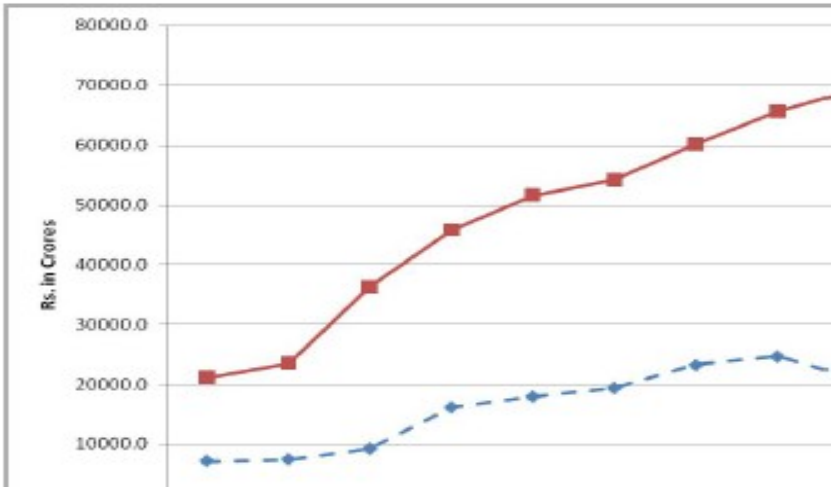

Figure 2: Reserves and Surplus

6.3 Net worth

Net worth is one of the important factors for examining the capitalstructure of the selected steel companies and it is analyzed in the table given below..

Table 3 : Descriptive Statistics of Net worth

Year	JSW Steel Limited	Tata Stee
2007-08	7677.3	273
2008-09	7959.3	297
2010-11	17225.3	469
2011-12	18497.5	526
2012-13	19937.4	552
2013-14	24284.2	611
2014-15	25724.6	666
2015-16	21753.0	704
2016-17	24634.7	496
Mean	**17739.9**	**496**

Source : CMIE Data Base.

From the analysis of Networth, 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.

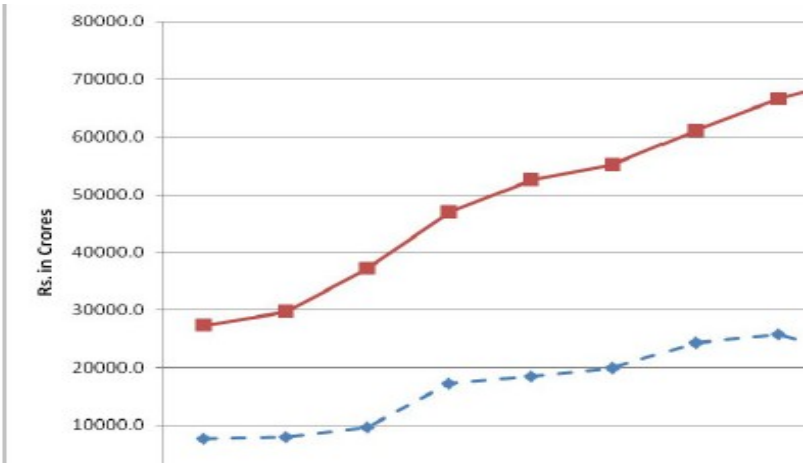

Figure 3: Net Worth

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 St
2007-08	1.088	0
2008-09	1.161	0
2009-10	1.106	0
2010-11	0.958	0
2011-12	0.961	0
2012-13	0.897	0
2013-14	0.896	0
2014-15	0.900	0
2015-16	0.975	0
2016-17	0.930	0

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

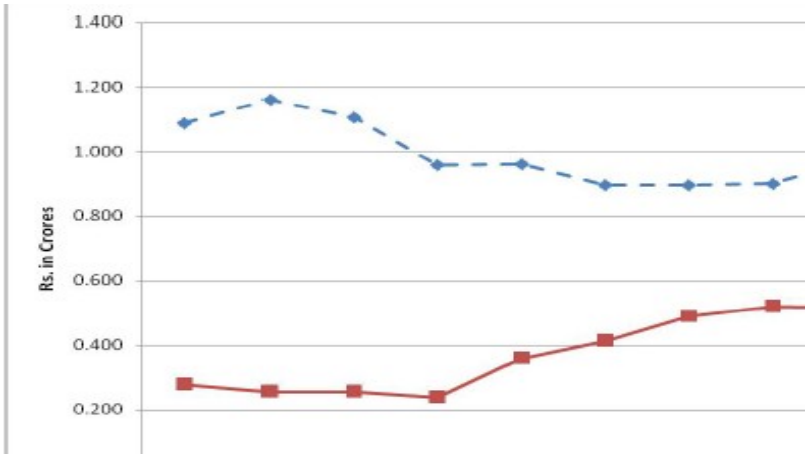

Chart 4 : Tangibility

6.5 Capital Gearing Ratio

This ratio is also known as capitalization or leverage ratio. This Parameter examinecapital structure of the company. The parameter correlates between fixed interest and dividend bearing funds and equity shareholders funds. This parameter indicates 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.

H : 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 Stee Limited
2007-08	0.9351	100.0	0.6553
2008-09	1.2574	134.5	0.8826
2009-10	1.1876	94.4	0.6790
2010-11	0.5148	43.3	0.5219
2011-12	0.6232	121.1	0.4058
2012-13	0.7741	124.2	0.4268
2013-14	0.8670	112.0	0.3894
2014-15	0.9911	114.3	0.3585
2015-16	1.1893	120.0	0.3328
2016-17	1.1293	95.0	0.4973
Mean	**0.9469**	**105.9**	**0.5149**
SD	**0.2530**	**25.6**	**0.1749**
CV (%)	**26.721**	**24.2**	**33.959**

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 201617 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.

REFERENCES

1. Navaneetha, B., AadhiShivani, S., Aarthy, VS., Abinayaa, A., &Akshaya, GK. (2017). A study on capital structure analysis of Tata motors limited. International Journal of Commerce and Management Research, 3(3), 48-52.
2. Prabalchakraborty&Naresh Gupta (2017). Profitability performance analysis of Steel Authority India Limited (SAIL). International Journal of Management and Applied Science, 3(1), 156-162.
3. Simranjeet Singh &HarwinderKaur (2017). Working capital management and profitability: evidence from selected steel manufacturing companies in India. Indian Journal of Commerce & Management Studies, VIII(2), 73-79.
4. Veerakumar, V.K. (2016). Financial performance of steel industry in India with special reference to TISCO and SAIL. Intercontinental Journal of Finance Research Review, 4(8), 98-102.
5. www.moneycontrol.com
6. www.CMIE.com
7. www.jsw.in
8. www.tatasteel.com