MEASURING LIQUIDITY OF SELECTED STEEL COMPANIES IN INDIA

Shanthi Rangasamy

Research Supervisor, Department of Management, Kaamadhenu Arts & Science College, Sathyamangalam, Erode-638 503, Tamil Nadu, India, shanthir@kascsathy.ac.in

Anandan M

Research Scholar, Department of Management, Kaamadhenu Arts & Science College, Sathyamangalam, Erode-638 503, Tamil Nadu, India

ABSTRACT

India is the world's third largest Steel producer in 2018. 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. This study tries to find out the profitability of selected Steel companies in India. The study has used stratified sampling techniques and fifteen companies were selected. The data were collected from the respective companies' annual financial statement during from 2006-2007to2016-2017. The study has aimed to measure Liquidity of Selected Steel Companies in India.

STATEMENT OF THE PROBLEM

Finance is regarded as a life blood of a business. Every firm measures its liquidity position (short term solvency) and long-term solvency position. If organization maintain high liquidity position it indicates the sound solvency position and to meet our current obligation. If the firm is not maintained proper liquidity position, they will consequence to meet out its short-term finance obligation. This study analysis that short term solvency position of selected steel companies in India.

OBJECTIVE OF THE STUDY

To study about the short- term financial strength of selected steel companies in India

METHODOLOGY TO STUDY

Secondary data is the main focus of this study. It is collected from various companies' website, financial reports of various companies and money control.com.

Fifteen companies were selected for this study based on

1. Data availability for minimum of ten years.
2. Total assets over Rupees. Fifteen thousand crore is treated as Large scale.
3. Total assets between Rupees. Thousand five hundred to fifteen thousand crores is treated as medium scale
4. Total assets less than Rupees. Thousand five hundred crores are treated as small scale.

COMPANIES MEETING ABOVE FOUR REQUIREMENTS ARE

LARGE	**MEDIUM**	**SMALL**
SAIL	JINDAL STAINLESS	ADHUNIK
JSW STEEL	USHA MARTIN	TECHNO CRAFT IND
TATA STEEL	ELECTRO STEEL	OCL IRON
BHUSHAN STEEL	MUKAND INDUSTRIES	INDIA STEEL WORKS
JINDAL STEEL & POWER		KAMADHENU
		BEDMUTHA INDUSTRIES

PERIOD OF THE STUDY

This study covers a 10 years period from 2007 - 2008 to 2016-2017, in order to evaluate the financial performance of selected steel Companies in India.

SOURCES OF DATA

The study is based on secondary data obtained from the published annual reports of selected steel companies in India comprising of Profit & Loss A/c & Balance sheet for the year 2007 – 2008 to 2016 – 2017.

STATISTICAL TOOLS USED

Mean, Standard Deviation, Coefficient of Variation: Used to find out the average position of accounting ratios related to short term solvency analysis

Correlation Analysis: Used for to identify the relationship between short term solvency positions of the companies

ANOVA: To test those companies belonging to the same industry whether follow a different level of short-term solvency position during the study period.

REVIEW OF LITERATURE

Arab et.al., (2015) analyzed 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. The analysis revealed that there exists substantial difference in the financial performance of the identified units studied under the iron and steel industry. 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. 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. 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

LIQUIDITY RATIOS

To measure the liquidity of a firm, the following ratios can be calculated:

1. Current Ratio
2. Quick Ratio
3. Absolute Liquid Ratio

TABLE 1

CURRENT RATIO FOR SELECTED LARGE, MEDIUM AND SMALL SCALE STEEL COMPANIES IN INDIA

	LARGE SCALE					MEDIUM SCALE				SMALL SCALE						
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP	JS	USHA	ELECTRO	MUKAND	ADHUNIK	TECHNO	OCL IRON	INDIA STEEL	KAMADHENU	BEDMUTHA	IND AVG
2007 - 08	1.16	0.41	0.53	1.23	0.89	0.99	0.78	26.95	1.92	2.00	5.09	0.99	1.50	1.48	3.77	3.31
2008 - 09	1.32	0.29	0.51	1.22	0.55	0.60	0.64	3.23	1.72	3.12	4.52	1.79	0.62	1.91	3.52	1.70
2009 - 10	0.95	0.35	0.46	1.47	0.54	1.07	0.46	0.28	2.50	3.28	5.42	1.27	0.66	1.95	1.88	1.50
2010 - 11	2.34	0.52	0.71	0.95	0.68	1.31	0.72	0.09	1.81	2.99	8.14	14.20	0.96	1.77	2.03	2.61
2011 - 12	1.71	0.48	0.61	0.84	0.68	1.03	0.77	0.15	1.65	3.05	4.33	2.10	0.92	1.73	2.22	1.48
2012 - 13	1.62	0.45	0.48	1.11	1.01	1.24	0.68	0.13	1.56	3.19	5.16	1.13	0.88	1.68	2.86	1.55
2013 - 14	1.23	0.47	0.39	0.90	0.86	1.10	0.58	0.29	1.47	2.94	5.50	0.77	0.86	2.19	0.84	1.36
2014 - 15	1.09	0.54	0.49	1.52	0.72	0.93	0.64	0.44	1.92	2.07	5.09	0.25	0.98	2.52	1.02	1.35
2015 - 16	0.87	0.48	0.52	1.61	0.35	0.80	0.52	0.26	1.99	1.68	4.57	0.10	0.87	2.81	1.12	1.24
2016 - 17	0.75	0.63	0.46	0.31	0.20	0.76	0.58	0.18	1.98	2.19	4.56	0.03	0.87	2.66	1.21	1.16
MEAN	**1.31**	**0.45**	**0.50**	**1.10**	**0.65**	**0.97**	**0.64**	**3.20**	**1.84**	**2.64**	**5.23**	**2.26**	**0.91**	**2.06**	**2.05**	**1.73**
SD	**0.45**	**0.09**	**0.08**	**0.36**	**0.24**	**0.21**	**0.10**	**7.97**	**0.26**	**0.57**	**1.04**	**4.03**	**0.22**	**0.44**	**1.00**	**0.64**
CV(%)	**34.31**	**20.38**	**16.70**	**32.78**	**37.68**	**21.40**	**15.63**	**249.03**	**14.38**	**21.43**	**19.87**	**178.42**	**24.57**	**21.16**	**48.58**	**36.99**

TABLE 2

QUICK RATIO FOR SELECTED LARGE, MEDIUM AND SMALL SCALE STEEL COMPANIES IN INDIA

	LARGE SCALE					MEDIUM SCALE				SMALL SCALE						
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP	JS	USHA	ELECTRO	MUKAND	ADHUNIK	TECHNO	OCL IRON	INDIA STEEL	KAMADHENU	BEDMUTHA	IND AVG
2007 - 08	0.39	0.11	0.15	0.44	0.25	0.27	0.25	26.95	0.90	2.00	2.61	0.52	0.57	1.33	2.03	2.59
2008 - 09	0.33	0.07	0.12	0.46	0.16	0.15	0.29	3.23	0.89	1.63	2.57	0.58	0.12	1.48	2.25	0.96
2009 - 10	0.28	0.07	0.11	0.44	0.18	0.50	0.10	0.28	1.27	1.75	2.95	0.60	0.24	1.52	0.85	0.74
2010 - 11	1.53	0.21	0.38	0.13	0.18	0.55	0.21	0.06	0.93	1.70	4.23	13.51	0.34	1.28	1.00	1.75
2011 - 12	0.77	0.22	0.30	0.27	0.16	0.39	0.26	0.04	0.81	1.99	2.67	1.98	0.32	1.25	1.09	0.83
2012 - 13	0.55	0.18	0.18	0.34	0.29	0.47	0.22	0.30	0.77	1.73	3.31	0.68	0.23	1.21	1.72	0.81
2013 - 14	0.44	0.14	0.09	0.25	0.31	0.38	0.18	0.20	0.65	1.63	3.71	0.51	0.30	1.56	0.46	0.72
2014 - 15	0.26	0.17	0.05	0.38	0.22	0.34	0.14	0.33	0.82	0.84	3.05	0.16	0.27	1.74	0.51	0.62
2015 - 16	0.15	0.15	0.10	0.36	0.11	0.30	0.13	0.29	0.89	0.88	2.72	0.04	0.29	1.92	0.62	0.60
2016 - 17	0.13	0.22	0.10	0.11	0.07	0.25	0.20	0.25	0.82	1.14	2.75	0.02	0.18	1.77	0.74	0.58
MEAN	**0.49**	**0.14**	**0.15**	**0.32**	**0.18**	**0.35**	**0.20**	**3.20**	**0.88**	**1.52**	**3.06**	**1.85**	**0.29**	**1.51**	**1.13**	**1.02**
SD	**0.39**	**0.05**	**0.10**	**0.12**	**0.07**	**0.12**	**0.06**	**7.97**	**0.15**	**0.40**	**0.52**	**3.92**	**0.11**	**0.23**	**1.10**	**0.61**
CV(%)	**80.46**	**38.47**	**65.70**	**37.11**	**40.18**	**33.40**	**29.32**	**249.09**	**17.33**	**26.56**	**16.88**	**211.85**	**39.48**	**15.32**	**97.68**	**60.13**

TABLE 3

ABSOLUTE LIQUID RATIO FOR SELECTED LARGE, MEDIUM AND SMALL SCALE STEEL COMPANIES IN INDIA

	LARGE SCALE					MEDIUM SCALE				SMALL SCALE						
YEAR	SAIL	JSW	TATA	BHUSHAN	JSP	JS	USHA	ELECTRO	MUKAND	ADHUNIK	TECHNO	OCL IRON	INDIA STEEL	KAMADHENU	BEDMUTHA	IND AVG
2007 - 08	0.05	0.04	0.07	0.01	0.06	0.02	0.00	26.95	0.07	1.00	0.08	0.05	0.04	0.08	0.43	1.93
2008 - 09	0.03	0.02	0.05	0.08	0.03	0.00	0.00	3.23	0.04	0.09	0.06	0.15	0.01	0.07	0.54	0.29
2009 - 10	0.02	0.01	0.06	0.05	0.01	0.13	0.01	0.28	0.09	0.09	0.05	0.17	0.03	0.08	0.01	0.07
2010 - 11	1.24	0.14	0.34	0.01	0.01	0.11	0.06	0.06	0.10	0.24	1.41	13.19	0.04	0.06	0.13	1.14
2011 - 12	0.44	0.15	0.25	0.06	0.01	0.04	0.11	0.04	0.07	0.13	0.19	1.94	0.06	0.04	0.17	0.25
2012 - 13	0.26	0.08	0.13	0.02	0.01	0.02	0.04	0.29	0.06	0.12	0.22	0.54	0.06	0.08	0.28	0.15
2013 - 14	0.15	0.02	0.05	0.01	0.11	0.01	0.05	0.15	0.06	0.20	0.50	0.43	0.01	0.10	0.08	0.13
2014 - 15	0.11	0.08	0.03	0.01	0.04	0.01	0.01	0.21	0.06	0.08	0.59	0.13	0.01	0.12	0.14	0.11
2015 - 16	0.01	0.03	0.06	0.02	0.03	0.02	0.00	0.05	0.05	0.07	0.59	0.03	0.01	0.13	0.09	0.08
2016 - 17	0.01	0.05	0.03	0.01	0.01	0.01	0.00	0.13	0.05	0.09	0.40	0.01	0.01	0.10	0.11	0.07
MEAN	**0.22**	**0.06**	**0.11**	**0.03**	**0.03**	**0.04**	**0.03**	**3.14**	**0.06**	**0.21**	**0.41**	**1.66**	**0.03**	**0.09**	**0.20**	**0.42**
SD	**0.36**	**0.05**	**0.10**	**0.29**	**0.03**	**0.04**	**0.03**	**7.99**	**0.02**	**0.27**	**0.39**	**3.88**	**0.02**	**0.03**	**0.16**	**0.59**
CV(%)	**163.75**	**78.82**	**91.31**	**970.64**	**100.37**	**105.68**	**113.60**	**254.50**	**28.66**	**127.59**	**94.95**	**233.78**	**64.26**	**28.02**	**80.23**	**140.23**

H_1: There is no significant difference in the Current ratio between the companies and between years.

TABLE 4 SHOWS TWO – WAY ANOVA

Source of Variation	*SS*	*Df*	*MS*	*F*	*P-value*	*F crit*
Between Years	64.2719	9	7.14133	1.17632	0.31574	1.95495
Between Companies	230.473	14	16.4624	2.71169	0.00162	1.77102
Residual	764.931	126	6.07088			
Total	1059.68	149				

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

H_2: There is no significant difference in the Quick ratio between the companies and between years.

TABLE 5 SHOWS TWO – WAY ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Years	56.4532	9	6.27258	1.06308	0.39466	1.95495
Between Companies	147.229	14	10.5163	1.78231	0.04813	1.77102
Residual	743.45	126	5.9004			
Total	947.132	149				

Note: P Value <0.05 - Significant at 5% Level.

H_3: There is no difference in the Absolute Liquid ratio between the companies and between years.

TABLE 6 SHOWS TWO – WAY ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Years	52.0324	9	5.78137	0.9829	0.45746	1.95495
Between Companies	102.859	14	7.34707	1.24908	0.24885	1.77102
Residual	741.127	126	5.88196			
Total	896.019	149				

Note: P Value <0.05 - Significant at 5% Level.

Table 3(A) shows that the calculated value of F (0.9829) is less than the table value of F (1.95495) which indicates null hypothesis is accepted and thereby it is concluded that there is no significant difference in the Absolute Liquid ratio between the years.On the other hand, the calculated value of F (1.24908) is more than the critical value of 'F' (1.77102) which indicates null hypothesis is rejected and thereby it is concluded that there is a significant difference in Absolute Liquid ratio between the companies.

CORRELATION ANALYSIS

Correlation is a statistical tool, it helps us to find an association between two variables x and y.

Karl pearson's Co – efficient of Correlation:

The karlpearson's Co – efficient of correlation is calculated by using the formula

$$\frac{n\sum xy - \sum x \sum y}{\sqrt{n\sum x^2 - (\sum x)^2 * n\sum y^2 - (\sum y)^2}}$$

CORRELATION BETWEEN CURRENT RATIO OF SAIL AND BHUSHAN

TABLE 7					
YEAR	**SAIL(X)**	**BHUSHAN (Y)**	**XY**	X^2	Y^2
2007 - 08	1.16	1.23	1.42	1.34	1.50
2008 - 09	1.32	1.22	1.61	1.75	1.49
2009 - 10	0.95	1.47	1.40	0.91	2.17
2010 - 11	2.34	0.95	2.23	5.46	0.91
2011 - 12	1.71	0.84	1.43	2.91	0.70
2012 - 13	1.62	1.11	1.80	2.63	1.24
2013 - 14	1.23	0.90	1.11	1.52	0.81
2014 - 15	1.09	1.52	1.66	1.19	2.30
2015 - 16	0.87	1.61	1.39	0.75	2.58
2016 - 17	0.75	0.31	0.24	0.57	0.10
TOTAL	13.04	11.16	14.29	19.03	13.80

r= -0.158

CORRELATION BETWEEN CURRENT RATIO OF JS AND MUKAND

TABLE 8					
YEAR	**JS(X)**	**MUKAND(Y)**	**XY**	X^2	Y^2
2007 – 08	0.99	1.92	1.89	0.97	3.68
2008 – 09	0.60	1.72	1.03	0.36	2.97
2009 – 10	1.07	2.50	2.67	1.14	6.24
2010 – 11	1.31	1.81	2.37	1.71	3.26
2011 – 12	1.03	1.65	1.70	1.06	2.72
2012 – 13	1.24	1.56	1.94	1.54	2.45
2013 – 14	1.10	1.47	1.62	1.21	2.16
2014 – 15	0.93	1.92	1.78	0.86	3.67
2015 – 16	0.80	1.99	1.59	0.64	3.98
2016 – 17	0.76	1.98	1.51	0.58	3.90
TOTAL	9.82	18.52	18.09	10.08	35.03

r= - 0.167

CORRELATION BETWEEN CURRENT RATIO OF ADHUNIK AND TECHNO

TABLE 9					
YEAR	**ADHUNIK(X)**	**TECHNO(Y)**	**XY**	X^2	Y^2
2007 - 08	2.00	5.09	10.18	4.00	25.90
2008 - 09	3.12	4.52	14.10	9.73	20.43

2009 - 10	3.28	5.42	17.76	10.74	29.39
2010 - 11	2.99	8.14	24.34	8.95	66.18
2011 - 12	3.05	4.33	13.22	9.32	18.77
2012 - 13	3.19	5.16	16.44	10.15	26.62
2013 - 14	2.94	5.50	16.14	8.62	30.22
2014 - 15	2.07	5.09	10.52	4.27	25.95
2015 - 16	1.68	4.57	7.66	2.81	20.85
2016 - 17	2.19	4.56	9.99	4.80	20.79
TOTAL	26.50	52.37	140.36	73.39	285.09

r = 0.27

FINDINGS FROM THE STUDY

LIQUIDITY RATIOS

Current Ratio

Among the Large-scale companies, the highest average value (1.30) was for SAIL, 1.12 for BHUSHAN, 0.65 for JSP 0.52 for TATA and the lowest average value was 0.46 for JSW and also the SD was highest (0.45) for SAIL and the lowest (0.08) for TATA. Among the Medium scale companies,the highest average value (3.20) wasfor Electro Steel, 1.85 for Mukand Industries, 0.98 for JS, and the lowest average value was 0.64 for Usha Martin and also the SD was highest (7.97) Electro Steel and lowest (0.10) for Usha Martin. Among the Small scale companies,the highest average value (5.24) was for Techno Craft Industries, 2.65 for Adhunik,, 2.26 for OCL IRON, 2.07 for KAMADHENU, 2.05 for Bedmutha Industries and the lowest average value (0.91) for India Steel and the SD was highest (4.03) for OCL IRON and the lowest (0.22) for India Steel. The Industry average of the Current ratio of all selected steel companies Mean, SD and CV were (1.73), (0.64) and (36.99%).

Quick Ratio

Among the Large-scale companies, the highest average value (0.48) was for SAIL, 0.32 for BHUSHAN, 0.19 for JSP, 0.16 for TATA and the lowest average value was 0.15 for JSW and also the SD was highest (0.39) for SAIL and lowest (0.05) for JSW. Among the Medium companies, the highest average value (3.19) was for Electro Steel, 0.88 for Mukand Industries, 0.36 for JS, and the lowest average value was 0.20 for Usha Martin and also the SD was highest (7.97) for Electro Steel and lowest (0.06) for Usha Martin. Among the Small scale companies, the highest average value (3.06) was for Techno Craft Industries, 1.86 for OCL IRON, 1.53 for Adhunik,1.51 for KAMADHENU, 1.13 for Bedmutha Industries and the lowest average value (0.29) for India Steel and the SD was highest (3.92) for OCL IRON and the lowest (0.11) for India Steel. The Industry average of the Quick ratio of all selected steel companies Mean, SD and CVwas (1.02), (0.61) and (60.13%).

Absolute Liquid Ratio

Among the Large-scale companies, the highest average value (0.23) was for SAIL, 0.11 for TATA, 0.06 for JSW, and the lowest average value was 0.03 for BHUSHAN and JSP and also the SD was highest (0.36) for SAIL and lowest (0.03) for JSP.

Among the Medium scale companies ,the highest average value (3.14) was for Electro Steel, 0.06 for Mukand Industries, 0.04 for JS, and the lowest average value was 0.03 for Usha Martin and also the SD was highest (7.99) for Electro Steel and lowest 0.06 was for Mukand Industries .Among the Small scale companies,the highest average value (1.66) was for OCL IRON, 0.41 for Techno Craft Industries, 0.21 for Adhunik, 0.20 for Bedmutha Industries, 0.09 for KAMADHENU, and the lowest average value (0.03) for India Steel and the SD was highest (3.88) for OCL IRON and the lowest (0.02) for India Steel. The Industry average of the Absolute Liquid ratio of all selected steel companies Mean, SD and CVwas (0.42), (0.59) and (140.23%).

CONCLUSION

Current Ratio, Quick Ratio and Absolute Liquid Ratio of the selected Large scale steel companies were unsatisfactory because the ratio of SAIL is 1.30, 0.48 and 0.23, BHUSHAN is 1.12, 0.32 and 0.03, JSP is 0.65, 0.19 and 0.03, TATA is 0.52, 0.16 and 0.11, JSW is 0.46, 0.15 and 0.06 is much lower than the accepted standard norm of 2:1, 1:1 and 0.5. The Large-Scale Sector Steel companies needs to improve its Short-term financial position. In Medium Scale Companies, all the four companies, with the exception of Electro steel, are below the standard norm. Current Ratio, Quick Ratio and Absolute Liquid Ratio of the Electro Steel were unsatisfactory because the ratio of Electro steel is 3.20, 3.19 and 3.14 which is much higher than the accepted standard norm. As a result, a company with a high current ratio will have slow moving inventories, a company with a high Quick Ratio indicates liquidity position it has slow paying debtors. In small scale companies, all the six companies, with the exception of India steel have a current ratio higher than the ideal ratio of 2:1. But India steel has a current ratio of 0.91. So, it should improve its current ratio above 2. Current Ratio, Quick Ratio and Absolute Liquid Ratio of the selected small-scale Steel companies is quite satisfactory. So, the entire Large, Medium, Small Scale Steel Companies must therefore strive to improve their financial situation in the short term.

REFERENCES

1. *Arab, Ollah Rooh, Seyed Saadat Masoumi, Saadat Seyed and Barati, Azadeh, (2015), Financial Performance of the Steel Industry in India: A Critical Analysis, Middle-East Journal of Scientific Research 23 (6): 1085-1090, 2015 ISSN 1990-9233 doi :10.5829/idosi.mejsr.2015.23.06.22197*
2. *Balakrishnan (2016), A Study on Financial Performance of Steel Industry in India, Vol-2 Issue-4 2016 IJARIIE-ISSN(O)-2395-4396.*
3. *Bhatia, Shipra, (2017), Crisis in Indian Steel Industry: Issues and Challenges, International Journal of Scientific and Research Publications, Volume 7, Issue 8, August 2017 ISSN 2250-3153.*

ONLINE REFERENCES

[1] *www.moneycontrol.com*
[2] *www.indiasteelexpo.in*
[3] *www.accounting4management.com*
[4] *www.wikipedia.org*