Volume 2, Issue 7 (July, 2012) ISSN: 2249-7307

A Peer Reviewed International Journal of Asian Research Consortium

AJRBEM:

ASIAN JOURNAL OF RESEARCH IN BUSINESS ECONOMICS AND MANAGEMENT

A COMPARATIVE STUDY ON WORKING CAPITAL MANAGEMENT OF SELECTED STEEL COMPANIES OF INDIA

PROF. KALPESH P PRAJAPATI*; PROF. RITESH J. PATEL**

*Assistant Professor,
S.V Institute of Management,
Kadi-382715, Gujarat, India.
**Assistant Professor,
S.V Institute of Management,
Kadi-382715, Gujarat, India.

ABSTRACT

The study is done on five steel companies namely, Steel Authority of India Ltd., Tata Steel Ltd., JSW Steel Ltd., Essar Steel Ltd. & Jindal Steel & Power Ltd. The study was done to know the comparative position of steel companies in working capital management and applying various analyses such as size- wise analysis, ratio analysis & operating cycle analysis by taking data from year 2006 to 2011. The study reveals that Tata steel ltd has highest growth of net working capital during holding period followed by Jindal steel ltd & it is negative with JSW steel. Average gross operating cycle is highest with Essar steel ltd i.e 92.36 days followed by SAIL i.e 88.38 and Jindal steel i.e 69.50 days. Net operating cycle of Jindal steel and Tata steel is negative in each year that shows there is a very good working capital management in these companies.

KEY WORDS: *Working capital, Operating Cycle, Size-wise analysis.*

INTRODUCTION

Indian steel industry plays a significant role in the country's economic growth. The major contribution directs the attention that steel is having a stronghold in the traditional sectors, such as infrastructure & constructions, automobile, transportation, industrial applications etc. The liberalization of industrial policy and other initiatives taken by the Government have given a definite impetus for entry, participation and growth of the private sector in the steel industry. While the existing units are being modernized/ expanded, a large number of new

steel plants have also come up in different parts of the country based on modern, cost effective, state of-the-art technologies. In the last few years, the rapid and stable growth of the demand side has also prompted domestic entrepreneurs to set. At present, crude steel making capacity is 84 mt and India, the 4th largest producer[1] of crude steel in the world, has to its credit, the capability to produce a variety of grades and that too, of international quality standards up fresh green field projects in different states of the country.

Management of working capital is an important component of corporate financial management because it directly affects the profitability of the firms. Net working capital trend is one of the devices for measuring liquidity. Net working capital trend analysis is highly relevant as it presents the composite reflection of the trend analysis of current assets and current liabilities. The direction of change in working capital position over the period of time is an indication of the effectiveness or ineffectiveness of the working capital management. The study has been done on the basis of published annual reports of operating five steel companies in India for a period of six years starting from 2006 and ending on 2011. Company may have an optimal level of working capital that maximizes their value. Large inventory and generous trade credit policy may lead to high sales. The larger inventory also reduces the risk of a stock-out. Trade credit may stimulate sales because it allows a firm to access product quality before paying. Another component of working capital is accounts payables delaying payment of accounts payable to suppliers allows firms to access the liquidity. A popular measure of working capital management is the net operating cycle, that is, the time span between the expenditure for the purchases of raw materials and the collection of sales of finished goods. Longer the time lag, the larger the investment in working capital. A long net operating cycle might increase profitability because it leads to higher sales. However, corporate profitability might decrease with the net operating cycle, if the costs of higher investment in working capital rise faster than the benefits of holding more inventories and/or granting more trade credit to customers. The present work aims to examine the working capital management of steel companies in India

REVIEW OF PREVIOUS STUDIES

Herbert & Sue (1998), has Undertaken one study on Industry practice relating to aggressive conservative working capital policies. The study looked at ten diverse industry groups over an extended time period to examine the relative relationship between aggressive and conservative working capital practices. Results strongly show that the industries had significantly different current asset management policies. Additionally, the relative industry ranking of the aggressive/conservative asset policies exhibited remarkable stability over time. Industry policies concerning relative aggressive/conservative liability management were also significantly different. Kesseven Padachi (2006) has undertaken a study on trends in working capital management and its impact on firms' performance by analyzing mauritian small manufacturing firms. The study was undertaken by taking data from 1998- 2003 for 58 firms. The key variables used in the analysis were inventory days, accounts receivable days, accounts payable days and cash conversion cycle. A strong significant relationship between working capital management and profitability has been found in previous empirical work. An analysis of the liquidity, profitability and operational efficiency of the five industries shows significant changes and how best practices in the paper industry have contributed to performance. The findings also reveal an increasing trend in the short-term component of

[1] An overview of steel sector of India report by Ministry of steel, government of India, 2012

working capital financing. Abdul & Mohamed (2007) has elucidated that there is significant negative relationship between debt used by the firm and its profitability. Swaran Singh & S.K.bansal (2010) had done a comparative study on management of working capital in IFFCO & KRIBHCO. The study was done by taking data for the year 1999-00 to till 2006-07. The study was done using various analytical tools such as ratio analysis, operating cycle analysis & T-Test. The study has finally concluded that management of working capital at IFFCO is better as compare to KRIBHCO.

OBJECTIVES OF THE STUDY

1. To study the structure of the working capital of selected steel companies.
2. To study the management of working capital components by steel companies
3. To know the comparative position of steel companies in working capital management.

HYPOTHESIS FORMULATED FOR THE STUDY

$H_{0:}$- There is no significant difference between the working capital ratios of selected steel companies in India

METHODOLOGY OF THE STUDY

To compare the key working capital components and ratios of selected companies, the exploratory and analytical research design is used for the calculation of gross operating cycle, net operating cycle and ratios with the help of balance sheet and profit and loss account during April 2006 to March 2011.

ANALYSIS AND DISCUSSION

The analysis of working capital management of selected companies is arranged in the following parts:

1. Size- wise analysis
2. Ratio analysis
3. Operating cycle analysis

(i) SOURCES OF DATA: The basic data for this current study has been collected from the Internet, Books, Journals and Electronic database Ace Equity provided by Accord Fintech Pvt. Ltd. an ISO 9001:2000 certified company.

(II) SELECTION OF SAMPLE: Non-probability judgmental sampling technique has been used to select samples. Top five steel companies by sales as on 31st march 2011 have been selected for the study. The list is as follows:

1. Steel Authority of India Ltd.
2. Tata Steel Ltd.

3. JSW Steel Ltd.

4. Essar Steel Ltd.

5. Jindal Steel & Power Ltd.

(III) STATISTICAL TOOLS AND TECHNIQUES

Analysis was done through Excel software & Statistical tools like Average, Standard deviation, Variance and ANOVA are used in the study.

DATA ANALYSIS AND INTERPRETATION

Information found in published financial statements is often not enough to form conclusive judgments about company's performance, financial statements do provide important clues about what needs to be examined in greater detail. Analysis of financial statements is of interest to lenders, investors, security analysts, managers, regulators and others. Financial statement analysis may be done through various techniques like horizontal analysis, vertical analysis etc. but ratio analysis is a widely used tool for analysis. It enables the stakeholders to mark trends in a business and to compare its performance with competitors. This research uses a ratio analysis and operating cycle analysis to examine working capital position and management of steel companies in India.

TABLE 1: SIZE WISE ANALYSIS OF WORKING CAPITAL COMPONENTS OF ESSAR STEEL LTD.

Year	Inventory	% of GWC	Sundry Debtors	% of GWC	Cash and Bank	% of GWC	Other Current Assets	% of GWC	Loans and Advances	% of GWC	Total GWC	Total Current Liabilities & Provisions	Net Working Capital
2006	1485	38	540	14	726	19	249	6	873	23	3874	2497	1377
2007	2329	53	547	12	433	10	250	6	838	19	4397	3489	909
2008	2108	54	360	9	399	10	94	2	973	25	3935	3377	558
2009	2158	45	407	9	508	11	126	3	1588	33	4787	2928	1859
2010	2633	32	471	6	1771	22	1056	13	2280	28	8212	5017	3196
2011	5223	47	515	5	921	8	1130	10	3258	29	11045	6272	4774
Mean	2656	45	473	9	793	13	484	7	1635	26	6042	3930	2112
S. D.	1313	8	76	4	518	6	476	4	970	5	2938	1430	1595
Min.	1485	32	360	5	399	8	94	2	838	19	3874	2497	558
Max.	5223	54	547	14	1771	22	1130	13	3258	33	11045	6272	4774

INFERENCE: Inventory holds major portion in total current assets of Essar Steel Ltd. On an average, Inventory holds 45% in total current assets whereas, Sundry Debtors & cash and bank balance hold 9% & 13% portion respectively. Other current assets holding were 7% portion in

total current assets. Loans & advances holds 26% portion in total current assets. Total Current assets was of Rs. 6041.81, on an average, where as current liabilities were of Rs. 3929.94. Net working capital was of Rs. 2111.88.

TABLE 2: SIZE WISE ANALYSIS OF JINDAL STEEL & POWER LTD.

Year	Inventory	% of GWC	Sundry Debtors	% of GWC	Cash and Bank	% of GWC	Other Current Assets	% of GWC	Loans and Advances	% of GWC	Total GWC	Total Current Liabilities & Provisions	Net Working Capital
2006	569	38	300	20	31	2	64	4	527	35	1490	898	592
2007	642	36	320	18	53	3	60	3	726	40	1802	1180	621
2008	981	30	287	9	578	18	83	3	1370	42	3300	1621	1679
2009	1210	24	391	8	309	6	0	0	3199	63	5109	3432	1677
2010	1329	23	622	11	60	1	0	0	3866	66	5877	4242	1635
2011	2204	27	737	9	52	1	0	0	5105	63	8098	4707	3391
Mean	1156	30	443	12	181	5	35	2	2466	51	4279	2680	1599
S. D.	595	6	190	5	221	6	39	2	1868	14	2557	1653	1019
Min.	569	23	287	8	31	1	0	0	527	35	1490	898	592
Max.	2204	38	737	20	578	18	83	4	5105	66	8098	4707	3391

INFERENCE: Among all current assets of Jindal steel & power Ltd, Loans & advances holds major portion of 51%. Inventory holds a portion of 30% in total current assets. On an average, Sundry debtors & Cash and bank balance are holding 12% & 5% portion in total current assets, respectively. Other current assets holds negligible portion of 2% in total current assets. Total Current assets was of Rs. 4279, on an average, where as current liabilities were of Rs. 2680. Net Working capital was of Rs. 1599.

TABLE 3: SIZE WISE ANALYSIS OF JSW STEEL LTD.

Year	Inventory	% of GWC	Sundry Debtors	% of GWC	Cash and Bank	% of GWC	Other Current Assets	% of GWC	Loans and Advance	% of GWC	Total GWC	Total Current Liabilitie & Provisions	Net Working Capital
2006	924	36	241	9	99	4	896	35	408	16	2568	2143	425
2007	1011	41	245	10	338	14	592	24	293	12	2479	2279	200
2008	1549	50	337	11	339	11	375	12	485	16	3086	4102	-1015
2009	2051	44	398	9	420	9	298	6	1464	32	4632	7557	-2925
2010	2586	47	563	10	287	5	83	2	2040	37	5560	7622	-2062
2011	4138	41	839	8	1887	19	129	1	3195	31	10188	10065	124
Mean	2043	43	437	10	562	10	396	13	1314	24	4752	5628	-876
S. D.	1204	5	230	1	658	5	306	13	1152	11	2930	3258	1377
Min.	924	36	241	8	99	4	83	1	293	12	2479	2143	-2925
Max.	4138	50	839	11	1887	19	896	35	3195	37	10188	10065	425

INFERENCE: In total current assets of JSW steel ltd, Inventory holds major portion of 43%. Sundry Debtors & cash and bank balance hold 10% portion. Other current assets are holding 13% portion where as Loans & advances are holding 24% portion in total current assets. Total Current assets was of Rs. 4752, on an average where as current liabilities were of Rs. 5628. Net Working capital was of Rs. -876.

TABLE 4: SIZE WISE ANALYSIS OF STEEL AUTHORITY OF INDIA LTD

Year	Inventory	% of GWC	Sundry Debtors	% of GWC	Cash and Bank	% of GWC	Other Current Assets	% of GWC	Loans and Advances	% of GWC	Total GWC	Total Current Liabilities & Provisions	Net Working Capital
2006	6210	40	1882	12	6173	39	564	4	803	5	15631	10675	4956
2007	6651	33	2315	11	9610	47	883	4	919	5	20379	10911	9467
2008	6857	26	3048	12	13759	52	1111	4	1542	6	26318	13199	13119
2009	10161	29	3028	9	18265	53	1992	6	1231	4	34676	17139	17536
2010	9027	23	3494	9	22436	57	2272	6	1924	5	39154	17149	22006
2011	11303	30	4161	11	17479	46	2391	6	2757	7	38090	17357	20733
Mean	8368	30	2988	11	14620	49	1536	5	1529	5	29041	14405	14636
S. D.	2105	6	814	1	5996	6	779	1	728	1	9779	3203	6673
Min.	6210	23	1882	9	6173	39	564	4	803	4	15631	10675	4956
Max.	11303	40	4161	12	22436	57	2391	6	2757	7	39154	17357	22006

INFERENCE: Among all current assets, cash and bank balance is holding maximum portion of 49%. On an average, Inventory has hold 30% in total current assets. On an average, Sundry Debtors & Other current assets are holding 11% & 5% portion, respectively. Loans & advances holds 7% portion in total current assets. On average, total Current assets was of Rs. 29041, where as current liabilities were of Rs. 14405 during 2006 to 2011. Net Working capital was of Rs. 14636.

TABLE 5: SIZE WISE ANALYSIS OF TATA STEEL LTD

Year	Inventory	% of GWC	Sundry Debtors	% of GWC	Cash and Bank	% of GWC	Other Current Assets	% of GWC	Loans and Advances	% of GWC	Total GWC	Total Current Liabilities & Provisions	Net Working Capital
2006	2175	51	539	13	288	7	0	0	1235	29	4238	5197	-960
2007	2333	17	632	5	7681	56	0	0	3056	22	13702	6561	7141
2008	2605	7	543	1	465	1	0	0	33349	90	36962	7840	29122
2009	3480	32	636	6	1591	15	472	4	4561	42	10740	8957	1783
2010	3078	25	435	4	3234	26	0	0	5504	45	12251	9004	3247
2011	3954	16	428	2	4142	17	0	0	15689	65	24212	10996	13216
Mean	2938	25	536	5	2900	20	79	1	10566	49	17018	8093	8925
S. D.	693	16	91	4	2792	19	193	2	12251	25	11713	2040	11050
Min.	2175	7	428	1	288	1	0	0	1235	22	4238	5197	-960
Max.	3954	51	636	13	7681	56	472	4	33349	90	36962	10996	29122

INFERENCE: Loans & advances hold a major portion of 49% in total current assets during 2006-2011. On an average, Inventory has hold 25% in total current assets, Sundry Debtors & cash and bank balance are holding 5% & 20% portion, respectively. Other current assets are holding very negligible portion of 1% in total current assets. Total Current assets was of Rs. 17017. Net Working capital was of Rs. 8925.

TABLE 6: AVERAGE GROWTH OF WORKING CAPITAL COMPONENTS DURING HOLDING PERIOD 2006-2011

Components	Essar Steel Ltd.	Jindal Steel & Power Ltd	JSW Steel	Steel Authority Of India Ltd	Tata Steel Ltd.
Inventories	25.146	27.082	29.986	11.978	11.952
Sundry Debtors	-0.964	17.974	24.948	15.868	-4.612
Cash and Bank	4.764	10.346	58.954	20.816	53.32
Other Current Assets	30.266	5.2	-38.762	28.89	20
Loans and Advances	26.328	45.414	41.162	24.668	50.836
Total Current Assets	20.956	33.856	27.56	17.812	34.854
Current Liabilities	16.734	30.04	32.348	15.86	19.312
Provisions	81.304	38.832	11.446	1.402	8.144
Total Current Liabilities	18.422	33.132	30.936	9.724	14.99
Net Working Capital	24.866	34.906	-101.268	28.622	181.08

INFERENCE: Tata steel ltd has highest growth of NWC during holding period followed by Jindal steel ltd. It is negative with JSW steel. Average growth rate of current liabilities is highest with Jindal steel followed by JSW steel. It is low with SAIL and Tata steel compared to others. Total current assets are growing at more than 30 percent with Jindal steel and Tata steel, while it is only 17.81 percent with SAIL. Sundry debtor's growth is negative with Essar steel and Tata steel that shows good position in credit management.

TABLE 7: GROSS & NET OPERATING CYCLE OF SELECTED COMPANIES

Year	Essar Steel Ltd.		Jindal Steel & Power Ltd.		JSW Steel Ltd		Steel Authority Of India Ltd.		Tata Steel Ltd.	
	GOC	NOC	GOC	NOC	GOC	NOC	GOC	NOC	GOC	NOC
2011	120.9	52.4	73.43	-43.57	59.0	26.3	106.95	52.21	45.1	-44.31
2010	88.28	29.8	75.42	-56.76	52.5	12.9	104.99	48.15	52.0	-39.93
2009	72.31	31.4	58.33	-12.74	52.1	8.55	85.55	52.42	49.3	-34.97
2008	81.88	28.4	60.37	-1.72	45.4	9.97	74.80	42.54	50.2	-52.00
2007	99.38	29.9	77.05	-3.44	47.5	11.7	78.62	44.86	52.4	-43.93
2006	91.38	30.6	72.39	-5.28	58.3	13.4	79.35	45.08	55.0	-38.99
Average	92.36	33.8	69.50	-20.59	52.5	13.8	88.38	47.55	50.7	-42.35
Rank		3		2		4		5		1

INFERENCE: For all companies, GOC is showing fluctuating trend over the study period. Average GOC is highest with Essar steel ltd i.e 92.36 days followed by SAIL i.e 88.38 and Jindal steel i.e 69.50 days. NOC of Jindal steel and Tata steel is negative in each year that shows very good management of working capital.

TABLE 8: WORKING CAPITAL RATIO ANALYSIS OF JINDAL STEEL & POWER LTD.

Ratio	2011	2010	2009	2008	2007	2006	Mean	S.D.	Min	Max
Inventory Turnover	6.9	6.8	8.2	8.3	7.2	7.9	7.5	0.7	6.8	8.3
Debtors Turnover	17.9	17.0	26.4	22.1	14.0	13.9	18.5	4.9	13.9	26.4
Sales/Working Capital	3.6	5.3	5.4	4.0	7.0	5.5	5.1	1.2	3.6	7.0
Receivable days	20.4	21.5	13.8	16.4	26.1	26.3	20.8	5.1	13.8	26.3
Inventory Days	53.0	53.9	44.5	43.9	51.0	46.1	48.7	4.4	43.9	53.9
Payable days	117.0	132.1	71.0	62.1	80.5	77.7	90.1	27.9	62.1	132
Current Ratio	1.7	1.4	1.5	2.0	1.5	1.7	1.6	0.2	1.4	2.0
Quick Ratio	1.3	1.1	1.1	1.4	1.0	1.0	1.2	0.2	1.0	1.4
Creditors turn over	3.1	2.8	5.1	5.9	4.5	4.7	4.4	1.2	2.8	5.9
Total Assets to working capital	6.1	9.3	6.2	4.5	9.7	7.8	7.3	2.0	4.5	9.7

INFERENCE: Average inventory turnover ratio of Jindal Steel & Power Ltd., is 7.5 during six years. It is highest in the year 2008 and lowest in the year 2010 while average sales to WC ratio

of the company are 5.1. It is highest in the year 2007 and lowest in the year 2011. Receivable days shows fluctuating trend during study period and it is highest in the year 2007 and lowest in the year 2009. Inventory period also shows fluctuating trend and it remain on an average 48.7 days in last six years. Average payable days are 90.1 days during the study period. Average current ratio of the company is 1.6 during the study period that shows very good liquidity position of the company.

TABLE 9: WORKING CAPITAL RATIO ANALYSIS OF JSW STEEL LTD.

Ratio	2011	2010	2009	2008	2007	2006	Mean	S.D.	Min	Max
Inventory Turnover	7.5	8.4	8.4	9.8	9.6	8.2	8.6	0.9	7.5	9.8
Debtors Turnover	35.9	40.5	41.3	43.3	38.2	26.8	37.7	5.9	26.8	43.3
Sales/Working Capital	203.3	-9.4	-5.2	-12.4	46.5	16.0	39.8	83.1	-12.4	203.3
Receivable days	10.2	9.0	8.8	8.4	9.6	13.6	9.9	1.9	8.4	13.6
Inventory Days	48.8	43.5	43.3	37.0	38.0	44.8	42.6	4.4	37.0	48.8
Payable days	32.7	39.6	43.6	35.4	35.8	45.0	38.7	4.9	32.7	45.0
Current Ratio	1.0	0.7	0.6	0.8	1.1	1.2	0.9	0.2	0.6	1.2
Quick Ratio	0.6	0.4	0.3	0.4	0.6	0.8	0.5	0.2	0.3	0.8
Creditors turn over	11.2	9.2	8.4	10.3	10.2	8.1	9.6	1.2	8.1	11.2
Total Assets to working capital	236.0	-10.3	-6.6	-14.9	48.9	19.9	45.5	96.4	-14.9	236.0

INFERENCE: Average inventory turnover ratio of JSW steel is 8.6 during six years. It is highest in the year 2008 and lowest in the year 2011 while average sales to WC ratio of the company is 39.8, It is highest in the year 2011 and lowest in the year 2008. Receivable days shows fluctuating trend during study period and it is highest in the year 2006 and lowest in the year 2008. Inventory period also shows fluctuating trend and it has reached to 48.8 days in the year 2011. Average payable days are 38.7 days during the study period. Average current ratio of the company is 0.9 during the study period that shows the company has maintained lesser assets than liabilities.

TABLE 10: WORKING CAPITAL RATIO ANALYSIS OF STEEL AUTHORITY OF INDIA LTD

Ratio	2011	2010	2009	2008	2007	2006	Mean	S.D.	Min	Max
Inventory Turnover	4.7	4.7	5.8	6.8	6.2	6.3	5.7	0.9	4.7	6.8
Debtors Turnover	12.5	13.7	16.2	17.2	18.9	17.3	16.0	2.4	12	18.9
Sales/Working Capital	2.3	2.0	2.8	3.5	4.2	6.6	3.6	1.7	2.0	6.6
Receivable days	29.3	26.6	22.5	21.3	19.3	21.2	23.4	3.8	19	29.3
Inventory Days	77.7	78.4	63.0	53.5	59.3	58.2	65.0	10	53	78.4
Payable days	54.7	56.8	33.1	32.3	33.8	34.3	40.8	11	32	56.8
Current Ratio	2.2	2.3	2.0	2.0	1.9	1.5	2.0	0.3	1.5	2.3
Quick Ratio	1.5	1.8	1.4	1.5	1.3	0.9	1.4	0.3	0.9	1.8
Creditors turn over	6.7	6.4	11.0	11.3	10.8	10.7	9.5	2.3	6.4	11.3
Total Assets to working capital	2.8	2.3	2.0	2.0	2.3	3.4	2.5	0.5	2.0	3.4

INFERENCE: Average inventory turnover ratio of SAIL is 5.7 during six years. It is highest in the year 2008 and lowest in the year 2011 while average sales to WC ratio of the company is 3.6, It is highest in the year 2006 and lowest in the year 2010. Receivable days shows fluctuating trend during study period and it is highest in the year 2011 and lowest in the year 2007. Inventory period also shows fluctuating trend and it has reached to 77.7 days in the year 2011. Average payable days are 40.8 days during the study period. Average current ratio of the company is 2 during the study period that shows very good liquidity position of the company.

TABLE 11: WORKING CAPITAL RATIO ANALYSIS OF TATA STEEL LTD.

Ratio	2011	2010	2009	2008	2007	2006	Mean	S.D.	Min	Max
Inventory Turnover	9.10	8.20	8.80	9.00	8.80	8.50	8.73	0.33	8.20	9.10
Debtors Turnover	74.00	50.00	45.50	37.80	33.80	30.6	45.2	15.8	30.6	74.00
Sales/Working Capital	2.40	8.20	15.1	0.80	2.80	-17.9	1.90	11.0	-17.9	15.10
Receivable days	4.90	7.30	8.00	9.70	10.80	11.9	8.77	2.55	4.90	11.90
Inventory Days	40.20	44.70	41.40	40.60	41.60	43.1	41.9	1.68	40.2	44.70
Payable days	89.50	92.00	84.40	102.3	96.40	94.0	93.1	6.10	84.4	102.3
Current Ratio	2.20	1.40	1.20	4.70	2.10	0.80	2.07	1.40	0.80	4.70
Quick Ratio	1.80	1.00	0.80	4.40	1.70	0.40	1.68	1.43	0.40	4.40
Creditors turn over	4.00	3.90	4.20	3.50	3.70	3.80	3.85	0.24	3.50	4.20
Total Assets to working capital	5.90	19.50	32.60	1.60	3.30	-12.8	8.35	15.7	-12.8	32.60

INFERENCE: Average inventory turnover ratio of Tata steel is 8.7 during six years. It is highest in the year 2011 and lowest in the year 2010 while an average sale to WC ratio of the company is 1.9. It is highest in the year 2009 and lowest in the year 2006. Receivable days shows fluctuating trend during study period and it is highest in the year 2006 and lowest in the year 2011. Inventory period also shows fluctuating trend and it was on an average remain 41.93 days in last 6 years. Average payable days are 93.10 days during the study period. Average current ratio of the company is 2.07 during the study period that shows very good liquidity position of the company.

TABLE 12: WORKING CAPITAL RATIO ANALYSIS OF ESSAR STEEL LTD.

Ratio	2011	2010	2009	2008	2007	2006	Mean	S.D.	Min	Max
Inventory Turnover	3.4	4.9	6.0	5.4	4.7	5.7	5.0	0.9	3.4	6.0
Debtors Turnover	27.1	26.7	33.1	26.3	16.6	13.6	23.9	7.3	13.6	33.1
Sales/Working Capital	2.8	3.7	6.8	21.4	9.9	5.0	8.3	6.9	2.8	21.4
Receivable days	13.5	13.7	11.0	13.9	22.0	27.0	16.9	6.2	11.0	27.0
Inventory Days	107.4	74.6	61.3	68.0	77.3	64.4	75.5	16.8	61.3	107
Payable days	68.5	58.5	40.8	53.5	69.4	60.8	58.6	10.6	40.8	69.4
Current Ratio	1.8	1.6	1.6	1.2	1.3	1.6	1.5	0.2	1.2	1.8
Quick Ratio	0.9	1.1	0.9	0.5	0.6	1.0	0.8	0.2	0.5	1.1
Creditors turn over	5.3	6.2	8.9	6.8	5.3	6.0	6.4	1.4	5.3	8.9
Total Assets to working capital	6.9	8.6	6.6	19.5	12.7	8.2	10.4	5.0	6.6	19.5

INFERENCE: Average inventory turnover ratio of Essar steel is 5 during six years. It is highest in the year 2009 and lowest in the year 2011 while average sales to WC ratio of the company is 8.3, It is highest in the year 2008 and lowest in the year 2011. Receivable days shows fluctuating trend during study period and it is highest in the year 2006 and lowest in the year 2009. Inventory period also shows fluctuating trend and it has reached to 107.4 days in the year 2011. Average payable days are 58.6 days during the study period. Average current ratio of the company is 1.5 during the study period that the company has maintained fewer assets than liabilities.

TABLE 13: COMPARATIVE ANALYSES OF AVERAGE RATIOS OF SELECTED COMPANIES DURING SIX YEARS

Ratio	Jindal Steel & Power Ltd.	JSW Steel Ltd.	Steel Authority Of India Ltd.	Tata Steel Ltd.	Essar Steel Ltd.
Inventory Turnover	7.54	8.65	5.73	8.71	5
Debtors Turnover	18.56	37.66	15.95	45.26	23.87
Sales/Working Capital	5.12	39.78	3.57	1.9	8.25
Receivable days	20.77	9.94	23.36	8.78	16.85
Inventory Days	48.73	42.56	65.02	41.94	75.51
Payable days	90.08	38.67	40.83	93.07	58.56
Current Ratio	1.64	0.9	1.97	2.06	1.5
Quick Ratio	1.15	0.52	1.39	1.7	0.84
Creditors turn over	4.35	9.56	9.48	3.84	6.44
Total Assets to working capital	7.25	45.47	2.46	8.35	10.42

INFERENCE: Tata steel is in top position in inventory turnover with 8.71 followed by JSW steel i.e 8.65 and Jindal still with 7.54. Debtors turnover ratio is highest with Tata steel i.e 45.26 followed by JSW steel with 37.66 and Essar steel with 23.87. SAIL is in top position in receivable days with 23.36 days followed by Jindal steel with 20.77; it is lowest with Tata steel. Inventory days are highest with Essar steel i.e 75.54 days followed by SAIL i.e 65.02. All companies have maintained current ratio less than 2:1 except Tata steel i.e 2.06. Creditors' turnover is lowest with Tata steel followed by Jindal steel i.e 4.35.

ANALYSIS THROUGH TESTING THE HYPOTHESIS USING ONE WAY ANOVA

Testing of the following Hypothesis:

$H_{0:}$- There is no significant difference between the working capital ratios of selected steel companies in India

$H_{1:}$- There is significant difference between the working capital ratios of selected steel companies in India

ANOVA RATIO OF SELECTED STEEL COMPANIES

ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	219.6221911	4	54.90554778	0.080357763	0.987932	2.605975
Within Groups	27330.55049	40	683.2637622			
Total	27550.17268	44				

Tabulated Value: 3.83 at 4, 40 degree of freedom

INFERENCE

Calculated value of F ratio (0.0803) is less than the Tabulated value (3.83). Therefore the Null Hypothesis is true which means there is no significant difference between working capital ratios of selected Steel companies in India.

CONCLUSION

Tata steel ltd has highest growth of NWC during holding period followed by Jindal steel ltd & it is negative with JSW steel. For all companies, GOC was fluctuating over the study period. Average GOC is highest with Essar steel ltd i.e 92.36 days followed by SAIL i.e 88.38 and Jindal steel i.e 69.50 days. NOC of Jindal steel and Tata steel is negative in each year that shows there is a very good management of working capital. Tata steel is in top position in inventory turnover with 8.71 followed by JSW steel i.e 8.65 and Jindal steel with 7.54. Debtors turnover ratio is highest with Tata steel i.e 45.26 followed by JSW steel with 37.66 and Essar steel with 23.87. SAIL is in top position in receivable days with 23.36 days followed by Jindal steel with 20.77; it is lowest with Tata steel. Inventory days are highest with Essar steel i.e 75.54 days followed by SAIL i.e 65.02. All companies have maintained current ratio less than 2:1 except Tata steel i.e 2.06. Creditors' turnover is lowest with Tata steel followed by Jindal steel i.e 4.35.

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