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## AN ANALYSIS OF WORKING CAPITAL MANAGEMENT IN SAIL AND RINL

**N.K. PRADEEP KUMAR**

Academic Consultant  
Department of Commerce  
S.V.U College of CM&CS, Sri Venkateswara University  
Tirupati, Andhra Pradesh – 517 502, India

### *Abstract*

Working Capital Management has its impact on liquidity as well profitability. The impact on effectiveness and profitability of working capital is tried to find out by measuring the fluctuation in fixed assets, current assets and sales. For this, two major companies i.e. Steel Authority of India Limited (SAIL) and Rashtriya Ispat Nigam Limited (RINL) is taken. An adequate level of working capital provides a business with operational flexibility. Business with an adequate level of working capital have more options available to it, and can make its own choice as to when working capital will be used and how it will be used. On the other hand, if a firm is short of working capital, it may be forced to limit business operations, extension of credit to customers and the amount that it invests in inventory. This will adversely affect production as well as sales which in turn will affect profitability of the concern. The paper makes an assessment of management of working capital, examines the adequacy of the working capital, observes the actual liquidity and solvency position and offers the valuable suggestions for the adequacy and healthy management of working capital in these units.

**Keywords:** Working Capital, SAIL, RINL, Liquidity, Profitability

### **Introduction**

Working capital is life blood of business enterprises. It has been now established that the utilization of working capital magnifies the profitability of an enterprise considerably. The firms have therefore, to optimize the use of limited available sources through efficient and effective management of working capital. Usually, working capital

management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the inter-relationship that exists between them. The aim of working capital management is to manage the concern's current assets and current liabilities in such a way that an adequate working capital is maintained. An adequate level of

working capital provides a business with operational flexibility. Business with an adequate level of working capital have more options available to it, and can make its own choice as to when working capital will be used and how it will be used. On the other hand, if a firm is short of working capital, it may be forced to limit business operations, extension of credit to customers and the amount that it invests in inventory. This will adversely affect production as well as sales which in turn will affect profitability of the concern.

### PROFILE OF SAIL AND RINL

The Iron and steel industry in India features a strong incumbent footing as well as rapidly developing companies. The government owned Steel Authority of India with its five integrated plants and three special alloy plants is the biggest and most diverse in terms of production and acts like an operating company with an annual production of 13.5 million metric tons. SAIL is the 24th largest steel producer in the world. Rashtriya Ispat Nigam Limited (RINL) is the corporate entity of Visakhapatnam Steel plant, the most modern and successful plant owned by the government. Visakhapatnam Steel Plant – popularly known as “Vizag Steel”, is one of the first shore-based integrated steel plants in India with more than 75 per cent of value added products in its basket, RINL has a wide marketing network spread across the country. In order to maintain its techno economic supremacy, RINL is modernizing its existing assets, which would further increase the capacity to 7.3 million tons by 2017. These two account for a quarter of production in India. They not only play an important role in the production of primary and secondary steel, but also contribute substantially to

value addition in terms of quality, innovation and cost effectiveness.

### OBJECTIVES

The working capital management of the companies has been studied keeping in view the following objectives:

- To assess the inventory effectiveness; and
- To evaluate liquidity and solvency

### HYPOTHESES

Null hypothesis is framed in the present study. In order to test the variables of working capital viz., inventory efficiency and current ratio the following are employed:

- (i) there is significant difference in the inventory ratio; and
- (ii) there is no significant difference in the current ratio.

### RESEARCH METHODOLOGY

#### Sample Design

The study confines public sector units in India according to the Ministry of Steel website, Government of India, the universe for the study consists of 9 iron and steel units spread over public sector out of them 2 units are conveniently selected. The sample thereafter constitutes two public iron and steel industrial units' viz. Steel Authority of India Limited (SAIL) and Rashtriya Ispat Nigam Limited (RINL).

#### Data Base

The present study is based on the secondary sources. The data have been collected through various published annual reports of the SAIL and RINL and other selected official websites; books, magazines, journals have been referred and used for the purpose of the study.

#### Period of the study

A ten year period commencing with the financial year 2003-04 and ending with 2012-13 has been adopted.

**LIMITATIONS OF THE STUDY**

The present study is confined to the working capital management analysis in terms of inventory, solvency and liquidity. The figures taken from the annual reports have been rounded off to two decimals of rupees in crores. Secondary data have been collected from more than one source. Hence, there may be slight divergence between one source and another on the same variable.

**TOOLS OF ANALYSIS**

The data culled from different sources are synthesized, tabulated, analyzed and interpreted. Further, statistical tool t-test is applied to analyze the data.

**ANALYSIS OF WORKING CAPITAL**

Analysis of Working Capital has been carried out keeping in view the objectives as set for the present research paper.

**INVENTORY EFFICIENCY**

**Inventory Turnover Ratio**

The ratio establishes a relationship between costs of goods sold and average inventory of finished goods. The objective of computing this ratio is to determine the efficiency with which the inventory is converted into sales. Financial analysts have fixed a norm of eight times as an optimum turnover of inventory. A relatively low inventory may be the result of ineffective inventory management i.e. carrying too large an inventory and poor sales or carrying expired inventory to avoid writing off inventory losses against income. Normally a high number indicates greater sales efficiency and a lower risk of loss through un-saleable stock. A high inventory turnover ratio indicates that stock is fast moving. As a result inventory is effectively turned into sales. The inventory turnover ratio is shown in Table 1.

**TABLE 1**  
**Inventory Turnover Ratio**  
(in times)

Year	SAIL	RINL
2003-04	4.83	4.04
2004-05	4.83	3.90
2005-06	4.06	3.96
2006-07	3.76	4.43
2007-08	4.18	3.86
2008-09	4.04	2.86
2009-10	3.07	2.95
2010-11	3.32	3.14
2011-12	3.02	3.34
2012-13	2.52	2.94
<b>Average</b>	<b>3.76</b>	<b>3.54</b>
<b>CSLD</b>	<b>3.65</b>	

*Source: Compiled from the annual reports of SAIL and RINL*

It is evident that in the case of SAIL and RINL, the inventory turnover ratio had reported a mixed trend of rise and fall over the study period. Further, it is noticed that the ratio also had depicted a decline during the latter years of the study period in both the firms i.e. SAIL and RINL. The highest ratio registered was 4.83 times in 2003-04, the lowest being 2.52 times in 2012-13 in SAIL. But in the case of RINL, the ratio had ranged between the highest of 4.43 times in 2006-07 and the lowest of 2.94 times in 2012-13. The ratio recorded on an average 3.76 times and 3.54 times in SAIL and RINL respectively which is more or less nearer to the consolidated average ratio of 3.65 times. It is obvious that inventory turnover ratio was less than the standard norm of eight times during entire period of study in SAIL and RINL. It indicates that the inventory was not turned into sales effectively in these companies.

**DEBTORS EFFICIENCY**

**Debtors Turnover Ratio**

The ratio establishes a relationship between net credit sales and average account receivables (average debtors).

The ratio is intended to evaluate the ability of a company to efficiently issue credit to its customers and collect funds from them in a timely manner. There is no general norm for the receivables turnover ratio; it strongly depends on the industry and other factors. A high turnover ratio indicates a combination of a conservative credit policy and efficient management in collecting the accounts receivables, as well as a number of high-quality customers. A low debtor's turnover ratio implies inefficient management of debtors or less liquid debtors. It is also quite likely that a low turnover level indicates an excessive amount of bad debt. But in some cases, too high a ratio can indicate that the company's credit lending policies are too stringent, preventing prime borrowing candidates from becoming customers. This ratio is computed by dividing the net credit sales by the average account receivables (average debtors). The debtors' turnover ratio is presented in Table 2

**TABLE 2**  
**Debtors Turnover Ratio**  
(in times)

Year	SAIL	RINL
2003-04	13.74	63.81
2004-05	14.85	149.29
2005-06	14.81	44.10
2006-07	14.66	36.59
2007-08	12.98	97.30
2008-09	14.29	47.72
2009-10	11.61	54.14
2010-11	10.27	31.67
2011-12	9.73	31.02
2012-13	10.08	11.99
<b>Average</b>	<b>12.70</b>	<b>56.76</b>
<b>CSLD</b>	<b>34.73</b>	

*Source: Compiled from the annual reports of SAIL and RINL*

In the case of SAIL, the debtors' turnover ratio had varied between 9.73 times in 2011-12 and 14.85 times in 2004-05. The ratio had shown fluctuating trend over the study period. The average

debtor turnover ratio registered was 12.70 times. It is interesting to note that the highest ratio of 149.29 times was registered in 2004-05, the lowest being 11.99 times in 2012-13 with an average ratio of 56.76 times. The ratio had remarkably slid down to 11.99 times in 2012-13 from 63.81 times in 2003-04. Between these two public sector companies the average debtors' turnover ratio was higher in RINL. Further, it may be observed that the RINL had adopted a stringent credit policy. The debtors were less liquid leading to inefficient management of debtors in the case of SAIL.

## TECHNICAL AND LIQUIDITY PERFORMANCE

### Current Ratio

The ratio establishes a relationship between current assets and current liabilities. The objective of computing this ratio is to measure the ability of the firms to meet its short term obligations and to reflect the short term financial strength/solvency of the firm. In other words, the objective is to measure the safety margin available for short term creditors. A higher current ratio is a clue that a company is able to pay its debts maturing within a year. On the other hand, a low current ratio points to the possibility of a firm not being able to pay its short term debt. However, too high a ratio indicate the presence of idle funds with the firm or the absence of investment opportunities with the firm and too low ratio may indicate the inadequacy of working capital which may deter the smooth functioning of the firm. The current ratio is shown in Table 3

**TABLE 3**  
**Current Ratio**

(in times)		
Year	SAIL	RINL
2003-04	0.92	4.57
2004-05	1.41	4.88
2005-06	1.46	5.20
2006-07	1.86	4.97
2007-08	1.99	3.70
2008-09	2.02	2.84
2009-10	2.28	2.22
2010-11	2.19	1.65
2011-12	1.63	1.21
2012-13	1.37	1.03
<b>Average</b>	<b>1.71</b>	<b>3.23</b>
<b>CSLD</b>	<b>2.47</b>	

*Source: Compiled from the annual reports of SAIL and RINL*

It is evident that the current ratio depicted wide fluctuations in the both the iron and steel companies. The current ratio in SAIL had varied between the lowest of 0.92 times and the highest of 2.28 times over the study period with an average ratio of 1.71 times. The ratio was less than the standard norm of 2:1 times in six years out of a decade under study. It indicates that the SAIL was unable to meet its currently maturing obligations during the study period barring four years. In other words, the liquidity performance was unsatisfactory in a majority of the years under report. In RINL the ratio had reported a decline which came down to 1.03 times in 2012-13 from 4.57 times in 2003-04. In RINL, the ratio was too high in the first five years of the study period. It implies that the more working funds were blocked up unnecessarily in current assets upto 2007-08. Further, it is noticed that the company was unable to repay its current liabilities out of current assets from 2010-11 onwards as the ratio was less than the standard norm of 2:1. Between these two companies, the liquidity performance of RINL was better.

**APPLICATION OF ‘t’ – TEST FOR CURRENT RATIO**

Application of ‘t’ – test for current ratio of SAIL and RINL companies is presented in Table 4

To determine whether there was any significant variation in the current ratio between the individual iron and steel companies and the industry, the following null hypothesis was formulated and it was tested through students ‘t’ test.

**H<sub>0</sub>:** “There is no significant difference in the current ratio”.

**TABLE 4**

**Application of ‘t’ Test For Current Ratio**

Particulars	SAIL	RINL
Mean of Current ratio	1.71	3.23
SD of Current ratio	0.43	1.64
CV of Current ratio	25.15	50.77
‘r’ Current ratio	0.83	0.37
Calculated value of ‘t’	0.140595827	2.84896
p – value	0.882813774	0.010911*
Table value of ‘t’	2.262	2.262

*Note : \* indicates Significant*

*Source: Computed from Table 3*

It is found that there is no significant difference in the current ratio of SAIL, whereas there is significant difference in the current ratio of RINL. Hence, it is concluded that null hypotheses was accepted for SAIL but rejected for RINL.

**‘t’ – TEST FOR TESTING THE HYPOTHETICAL CURRENT RATIO**

Students‘t’ – test is applied to test the hypothetical current ratio of 2:1. The details of SAIL and RINL units are furnished in Table 5

**TABLE 5**

**‘t’ – Test for Testing the Hypothetical Current Ratio**

Particulars	SAIL	RINL
Mean of Current ratio	1.71	3.23
SD of Current ratio	0.428280	1.641016
Value of ‘t’	- 2.03138134	2.2486
Table value	2.262	2.262

**Note :**

- i) No. of observations in each case are 10 (No of years=10)
- ii) Hypothetical ratio is 2:1 for all the enterprises.
- iii) Degree of Freedom (N-1) or (10-1=9) for all the enterprises

*Source: Computed from Table 4*

The calculated value of ‘t’ is less than the table value of ‘t’ at 5 per cent level of significance for current ratio in SAIL and RINL. It shows that the hypothetical current ratio holds good over the years.

**QUICK RATIO**

The quick ratio establishes a relationship between quick assets and current liabilities. The objective of computing this ratio is to measure the ability of the firm to meet its short term obligations as and when due without relying upon the realization of stock. The higher the quick ratio, the better the position of the company. The commonly acceptable quick ratio is 1:1 but may vary from industry to industry. A company with a quick ratio of less than one cannot currently pay back its current liabilities. It is a sad sign for investors and partners. This ratio is computed by dividing the

quick assets with the current liabilities. The quick assets ratio is presented in Table 6

**TABLE 6  
Quick Ratio**

(in times)

Year	SAIL	RINL
2003-04	0.58	3.99
2004-05	0.99	4.00
2005-06	0.88	4.43
2006-07	1.25	4.39
2007-08	1.47	3.15
2008-09	1.42	2.07
2009-10	1.75	1.65
2010-11	1.54	0.95
2011-12	0.90	0.74
2012-13	0.66	0.66
<b>Average</b>	<b>1.14</b>	<b>2.60</b>
<b>CSLD</b>	<b>1.87</b>	

*Source: Compiled from the annual reports of SAIL and RINL*

It is obvious that the quick ratio recorded on an average was 1:14 times and 2.60 times in SAIL and RINL respectively over the study period. The highest quick ratio of 4.43 times in 2005-06 was recorded in RINL, while the lowest of 0.58 times in SAIL in 2003-04. The liquid ratio was too high in six years out of ten years in RINL. It implies that more working funds were blocked up in current assets even after excluding the inventory from total current assets. The situation had resulted in under-trading in RINL. The liquid ratio was satisfactory on an average in SAIL as the ratio had just exceeded the standard norm of 1:1.

**ACTUAL LIQUIDITY AND SOLVENCY POSITION**

Actual liquidity position of an enterprise mostly depends on its ability to pay off its current financial obligations from the net cash flows generated from its own operations but not by current assets alone, when it is being run. It is understandable that a manufacturing concern is unable to dispose of its current assets due to either lack of demand in the

market or current assets lack the quality of conversion into cash at a given point of time. The higher the cash flow ratio, the greater the degree of liquidity and solvency of a firm and vice-versa. Hence, the relationship of current liabilities with the net cash flows may be measured by computing net cash flow to current liabilities.

**Net Cash Flows to Current Liabilities**

The ratio of net cash flows to current liabilities can be computed as follows:

$$\frac{\text{Net Cash Flows to Current Liabilities}}{\text{Net Profit + Non-cash expenses}} \times 100$$

Current Liabilities

The net cash flows to current liabilities ratio is portrayed in Table 7

**TABLE 7**  
**Net Cash Flows to Current Liabilities**  
(in percentage)

Year	SAIL	RINL
2003-04	29.67	160.53
2004-05	63.72	207.75
2005-06	31.25	102.55
2006-07	49.93	78.65
2007-08	48.39	71.65
2008-09	28.12	33.94
2009-10	45.83	20.94
2010-11	36.32	16.34
2011-12	28.80	14.40
2012-13	12.83	4.64
<b>Average</b>	<b>37.49</b>	<b>71.14</b>
<b>CSLD</b>	<b>54.32</b>	

*Source: Compiled from the annual reports of SAIL and RINL*

It is evident from Table 7 that an analysis of individual public sector companies reveals that the net cash flow to current liabilities ratio was positive throughout the period of the study in SAIL and RINL. The net cash flow to current liabilities ratio had remarkably slashed down from 29.67 per cent to 12.83 per cent in SAIL and from 160.53 per cent to a mere 4.64 per cent in RINL over the study period. It indicates that the

actual liquidity performance had deteriorated more particularly in RINL during the later years of study. It may be noted that the ratio had exceeded the cent per cent norm in the three years out of ten years in RINL.

**CONCLUSION**

The following are the conclusion and suggestions offered for the better financial health of sample companies.

- Inventory turnover ratio was less than the standard norm of eight times in SAIL and RINL. It indicates that the inventory was ineffectively turned into sales. Consequently, there is a high risk of loss due to unsalable stock.
- In RINL, liquid ratio was too high in six out of ten years. It implies that more working funds were blocked up in current assets. The situation had resulted in under-trading. Liquid ratio is better in the SAIL as it had exceeded the standard norm of 1:1.
- In RINL, the net cash flow to current liabilities ratio had exceeded the cent per cent norm in three out of ten years. The actual liquidity performance was relatively better in RINL. Analysis purports that the coverage of current liabilities was satisfactory in both these units.
- It may be further suggested that inventory efficiency results can be strengthened if inventory methods shall be scientifically specified so as to reduce the risk of loss due to unnecessary blocking up of working funds.
- ABC analysis (Selective Inventory Control) shall be carried out for all the components of inventory.
- JIT shall be followed to reduce the blocking up of working funds in inventory. Inventory methods shall be scientifically specified so as to reduce the risk of loss due to

unnecessary blocking up of working funds as already pointed out.

- SAIL shall improve liquidity performance either by increasing current assets or reducing current liabilities.
- RINL shall minimize working funds in current assets to the possible extent.

These suggestions if implemented working capital performance of public sector units' i.e. Steel Authority of India Limited and Rashtriya Ispat Nigam Limited shall be improved to desired levels.

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