MANAGEMENT OF LIQUIDITY - A CASE STUDY OF TISCO LTD.

Dr. Bhavet*

ABSTRACT

Liquidity implies the ability of a firm to meet its current obligations when they- become due for payment by realizing amounts from current assets. As a rule, liquid position will be satisfactory if current assets can pay off current liabilities and it will be unsatisfactory if current liabilities may not be easily meet out of current assets. A firm in order to survive must remain liquid and failure to meet its obligation in due time results in bad credit rating by the short term creditors, reduction in the value of goodwill in the market and ultimately leads to closure of the firm. To ensure sufficient liquidity, a firm will be in favour of maintaining a high degree of liquidity. But even a very high degree of liquidity is not good as funds will be unnecessarily tied up in current assets management thereby hampering the profitability of the firm. Hence, a sound financial management policy seeks to maintain adequate liquidity in order to meet its short-term obligations as and when they become due without impairing profitability. In this paper an attempt has been made to analyse the liquidity management of TISCO Ltd., one of the leading iron and steel manufacturing company in India for the period 2001-02 to 2005-06.

KEYWORDS

Liquidity, current assets, current liabilities, creditors, goodwill, profitability, current ratio, quick ratio, inventory turnover ratio.

*Faculty,M. M. Institute of Management,Maharishi Markandeshwar University,Mullana – 133 203 (Ambala), Haryana, INDIA.

INTRODUCTION

The company was established by its founder J. N. Tata. Tata steel is Asia's first and India's largest integrated private sector steel company which emerged over the years as a flourishing steel enterprise due to its ability to transform, itself rapidly to react the challenges of a highly competitive global economy and commitment to become a supplier of choice by delighting its customer with services and products. Constant modernization and introduction of the state-of-the-art technology has enabled the company to stay ahead in the industry and successfully meet the expectations of all sections of stakeholders.

The company being acknowledged for its excellence was adjusted the best integrated steel plant by the Ministry of steel for 2000-01 and was conferred the Prime Minister's Trophy for the third time in row and four times in all. The company's concerted effort to become the lowest cost producer of steel has yielded rich dividends in making it a world class steel maker and delivering substantial profits. Apart from the above, the company's community based initiatives far exceeds its business mandate.

OBJECTIVES OF THE STUDY

The main objectives of the study are:

- To examine the liquidity position of the company on the basis of some important parameters of liquidity management such as current ratio, quick ratio, current assets to total assets ratio, inventory turnover ratio and debtors turnover ratio.
- To study the liquidity position of the company more precisely by a comprehensive test.
- To measure the closeness of association between liquidity and profitability by computing Spearman's rank correlation coefficient and to test the significance of such correlation coefficient.
- To offer some suggestions for improvement in the efficiency of liquidity management of the company.

RESEARCH METHODOLOGY OF THE STUDY

The data collected from the published annual reports of the company for the five year period have been suitably re-arranged, classified and tabulated according to the requirements of the study. For analyzing the performance of liquidity management of

the company, the technique of ratio analysis, comprehensive rank test, Spearman's rank correlation analysis has been used. To test the significance of relationship between liquidity and profitability worked out by rank correlation coefficient, students't' test has also been employed. Further, the technique of least square has been used in the study in order to assess the behaviour of ratio.

RESULTS AND DISCUSSION

To measure the liquidity position of the company during the study period, the following important ratios have been computed which are shown in table-I

CURRENT RATIO

Current ratio (also known as working capital ratio) is the ratio between total current assets and total current liabilities and is calculated by dividing the current assets by current liabilities. The current ratio of a firm measures its short-term solvency, i.e. its ability to meet short-term obligations. The higher the current ratio, the larger the amount of rupees available per rupee of current liability, the more the firm's ability to meet current obligations and greater the safety of funds of short-term creditors. An increase in current ratio indicates improvement in the liquidity position of a firm while decrease in the current ratio indicates deterioration in the liquidity position of a firm. Although there is no hard and fast rule, conventionally a current ratio of 2:1 is considered to be satisfactory. However, each firm should develop its own standard for current ratio from past experience.

According to Table-1, current ratio in 2001-02 was 1.851, in 2002-03 it was 1.712, in 2003-04 it was 1.389, in 2004-05 it was 1.156 and in 2005-06 it was only 1.085. The average current ratio during the study period was 1.438 which is not up to the standard ratio of 2:1. The current ratio of the company deteriorated continuously during the study period and unable to reach the standard ratio of 2:1 in any financial year. Hence, the liquidity position of the company in terms of the conventional standard of current ratio was not satisfactory. However, no definite inference can be drawn on the basis of current ratio about the liquidity position of the company as current ratio is a quantitative rather than a qualitative index of liquidity.

ACID-TEST/QUICK RATIO

As a measure of true liquidity position of a firm, acid-test ratio has been designed to overcome the limitation of current ratio. The acid-test ratio is the ratio between quick assets and quick liabilities and is calculated by dividing quick assets by quick liabilities. Quick assets are represented by current assets less stocks and quick liabilities are represented by Current liabilities less bank overdraft. Generally a high acid-test ratio is an indication of favourable liquidity position of the firm and a low acid-test ratio indicates that the liquidity position of the firm is not good. Conventionally, an acid-test ratio of l: l is considered to be satisfactory.

TABLE – 1: RATIOS RELATING TO LIQUIDITY MANAGEMENT OF TISCO LTD.

Liquidity Ratio	2001-02	2002-03	2003-04	2004-05	2005-06	Average
1) Current Ratio	1.851	1.712	1.389	1.156	1.085	1.438
2) Acid-test Ratio	1.293	1.182	0.952	0.795	0.775	0.999
3) Current Assets To Total Assets Ratio	0.347	0.321	0282	0.250	0.257	0.291
4) a) Inventory Turnover Ratio	6.104	6.078	6.172	7.293	8.417	6.812
b) Age of Inventory	60 days	60 days	59 days	50 days	43 days	54 days
a) Debtors Turnover Ratio	4754	5121	6172	7293	8417	6812
b) Age of Debtors	77 days	71 days	74 days	63 days	60 days	69 days

Source: Computed from published annual reports of TISCO Ltd.

As per Table-l, acid-test ratio in 2001-02 was 1.293, in 2002-03 it was 1.182, in 2003-04 it was 0.952, in 2004-05 it was 0.795 and in 2005-06 it was 0.775. The average of acid-test ratio during the study period was 0.999, which was very near to the standard ratio of 1:1. Though the ratio shows a declining trend during the study period, it was more than the standard ratio of 1:1 in 2001-02 and 2002-03 while in the other years under study the ratio was less than the standard ratio of l: l Hence, this ratio was satisfactory for the first two years during the period under study while in rest of the years under study the company's ability to meet its short-term obligations was not satisfactory.

CURRENT ASSETS TO TOTAL ASSETS RATIO

This ratio shows the extent of total funds invested for working capital purpose. It helps to

assess the importance of current assets of a concern.

According to table-1, Current assets to total assets ratio in 2001-02 was 0.347, in 2002-03 it was 0.321, in 2003-04 it was 0.282, in 2004-05 it was 0.250 and in 2005-06 it was 0.257. The average current assets to total assets ratio during the period under study was 0.291. The ratio was minimum in the year 2004-05 which was 0.250 and it was maximum in the year 2001-02 which was 0.347. Thus it indicates that the share of current assets in total assets of the company on an average was 29. I% during the period under study.

INVENTORY TURNOVER RATIO (AGE OF INVENTORY)

This ratio indicates the number of times inventory is replaced during the year i.e. how quickly the inventory is sold. This ratio affects the liquidity position of a firm and it is a test of efficient management of inventory. Generally, higher the inventory turnover ratio, the shorter is the average time between investment in stocks and sales transaction. On the other hand, a low inventory turnover ratio signifies over-investment in inventory or excessive inventory.

Table-1 presents that the inventory turnover ratio recorded an increasing trend during the study period from 6.104 in 2001-02 to 8.417 in 2005-06 with an average of 6.812 which is satisfactory. Similarly the age of inventory decreased during the study period from 60 days in 2001-02 to 43 days in 2005-2006 with an average of 54 days, which showed effective management of inventory.

The average inventory turnover ratio of Indian Manufacturing Companies was 2.12 as per study conducted by CMIE (CMIE, 2007, P. 7). The average inventory turnover ratio of the company during the study period was 6.812 which were much higher than the standard set by CMIE. Thus, it showed efficient management of inventory. To avoid stock out cost associated with a high ratio as well as cost of carrying excessive inventory associated with a low ratio, a firm should have neither too high nor too low inventory turnover. Therefore to judge the reasonableness of this ratio during the period under study it is compared on the basis of trend analysis during the study period. For this purpose, let y=a+bx be the equation of the straight line with origin at the year 2003-04 where x is independent variable relating to time period under study (x unit is 1 year) and y is dependent variable in Rs. to be predicted. By least square method, the normal equations for finding the values of ‘a’ and ‘b’ are:

$$\sum y = ax + b\sum x \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(i)}$$

$$\sum xy = a\sum x + b\sum x^2 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(ii)}$$

From the above equations, the trend values are computed which is shown in Table-II below:

The above figure depicts that the company had maintained a more or less reasonable level of inventory turnover ratio during all the years except in the year 2003-04 compared to the trend line. In 2003-04 the ratio was lower than the trend line and therefore suggests to the management for investigation to locate the factors responsible for it.

DEBTORS TURNOVER RATIO (AGE OF DEBTORS)

I. Debtors' turnover ratio is the ratio that expresses how quickly cash is collected from the customers. In other words this ratio shows how many days credit is outstanding in the value of amounts owing by debtors. The higher the debtors turnover ratio and shorter the age of debtors, better the trade credit management and better the liquidity of debtors. On the other hand, low debtors turnover ratio and longer collection period indicates that payment by debtors are delayed.

Table-1 presents that the debtors' turnover ratio recorded and increasing trend during the study period except in the year 2003-04 i.e. from 4.754 in 2001-02 to 6.065 in 2005-2006 with an average of 5.340. Similarly, the age of debtors decreased during the study period except in the year 2003-04 i.e. from 77 days in 2001-02 to 60 days in 2005-2006 with an average of 69 days. The average debtors' turnover ratio of Indian Manufacturing Companies was 11 as per study conducted by CMIE (CMIE, 2007, P. 7). The average debtors' turnover ratio of the company during the study period was 5.340 which were much lower than the standard set by CMIE. So, it can be inferred that though this ratio showed an increasing trend during the study period, further efforts are required to tighten the debt collection policy of the company.

II. To evaluate the overall liquidity position of the company more precisely, a comprehensive test has been applied. In this test the following ratios (each expressed as

percentage) are taken into consideration namely:

- Inventory to current assets ratio
- Debtors to current assets ratio.
- Cash & Bank to current assets ratio.
- Loans & Advances & other assets to current assets ratio.

Accordingly, a process of ranking is used to arrive at a more comprehensive measure of liquidity in which the above mentioned four ratios are combined in a points score. In case of debtors to current assets ratio, cash & bank to current asset's ratio and loans & advances & other current assets to current assets ratio, a high value indicates relatively favourable position and ranking has been done in that order. On the other hand, a low inventory to current assets ratio shows a more favourable position and thus ranking has been done in that order. Ultimate ranking has been done on the principle that lower the points scored the more favourable are the liquidity position and vice versa.

TABLE II: TREND VALUES FOR THE YEAR2001-02 & 2005-06 OF TISCO LTD.

Year	Sales (Rs.in Crore)	Stocks (Rs. in Crore)	Inventory Turnover Ratio (times)
2001-02	6087.312	1066.516	5.7
2005-06	7396.648	624.224	7.9

Table-III reveals that the liquidity position of the company was best in the ultimate year of the study period i.e. in the year 2005-06, the year 2001-02 occupied the second position followed by the years 2002-03, 2003-04 and 2004-05 respectively in that order. Management may enquire why the liquidity position was not sound in the year 2004-05 or 2003-04 compared to that in the year 2005-06 or in the year 2001-02. Thus fluctuation in the liquidity position over different years d the study period may be a point for investigation into the financial efforts of the company.

III. To measure the degree of association between liquidity and profitability of the company, Spearman's correlation coefficient has been employed and to examine whether the computed value of such correlation coefficient is significant or not students `t' test has been applied. In this respect, liquidity is represented by current assets to total assets and profitability is

represented by return on total capital employed.

Applying Edward Spearman's formula, the rank correlation (r) between liquidity and profitability

$$= 1 - \frac{6\sum D^2}{n(n^2 - 1)} [n = 5, \sum D^2 = 16]$$

$$= 1 - \frac{6 \times 16}{5(25 - 1)} = 0.2$$

FORMULATION OF HYPOTHESES

Null hypothesis (H_o): There is no significant correlation between liquidity and profitability.

Alternative hypothesis (H_A): There is significant correlation between liquidity and profitability.

Observed value of `t' =

$$\frac{r\sqrt{n-2}}{\sqrt{1-1^2}} = \frac{0.2\sqrt{5-2}}{\sqrt{1-(0.2)^2}} = 0.35$$

Critical value of 't' at 5% level of significance with (n-2) i.e. 3 degrees of freedom = 3.18

Table-IV shows that the rank correlation coefficient between liquidity and profitability of the company was 0.2 which is statistically Insignificant at 5% level of significance because the observed value of 't' (0.35) is less than the critical value of 't' (3.18) leading to the acceptance of null hypothesis. It indicates that although the degree of association between liquidity and profitability of the company was positive, the degree of influence of liquidity on its profitability was low and insignificant.

TABLE III: STATEMENT OF RANKING IN ORDER OF LIQUIDITY OF TISCO LTD.

Year	Inventory To	Debtors to	Cash & Bank to	Loans & Advances &	Liquidity Ranks	Total Rank	Ultimate Rank

	Current (Assets (%)	Current Assets (%)	Current Assets (%)	Other Assets to Current Assets (%)	1	2	3	4	(1+2+3+4)	
2001-02	30.14	38.70	7.28	23.86	2	4	4	2	12	2
2002-03	30.94	36.72	12.55	19.77	3	5	1	4	13	3
2003-04	31.46	39.35	10.40	18.76	5	2	2	5	14	4
2004-05	31.23	39.09	6.39	23.27	4	3	5	3	15	5
2005-06	28.57	39.66	7.41	24.34	1	1	3	1	6	1

Source: Computed from published annual reports of TISCO Ltd.

TABLE IV: RANK CORRELATION ANALYSIS BETWEEN LIQUIDITY AND PROFITABILITY AND STUDENTS'T' TEST OF TISCO LTD.

Year	Current Assets to Total Assets Ratio		Return on Total Capital Employed		Rank Difference D = x -y	D^2
	%	Rank (X)	%	Rank (y)		
2001-02	34.78	1	5.88	1	0	0
2002-03	32.14	2	3.73	4	-2	4
2003-04	28.26	3	3.11	5	-2	4
2004-05	25.04	5	4.48	3	2	4
2005-06	25.74	4	5.81	2	2	4

Source: Computed from published annual reports of TISCO Ltd.

SUGGESTIONS

- To ensure good liquidity position, the company should try to maintain an adequate quantity of net current assets in relation to current liabilities.
- Considering the decreasing trend of quick assets, the company should increase the level of quick assets in relation to current liabilities.
- The company must make every efforts to tithteen its debt collection policy. To improve the quality of debtors and to reduce the amount tied-up in debtors, a periodical report of overdues may be suitably prepared and effective action may be taken by the management from item to time to spread up its collections.
- The company had maintained a reasonable level of inventory during the study period except in the year 2003-04 and may required to maintain this level in future. However, the inventory of slow moving items if any should be reduced to the maximum possible extent.
- Though the association between liquidity and profitability of the company was positive, it was statistically insignificant indicating low degree of influence of liquidity on its profitability. Hence, the overall state of liquidity should be improved so as to have a favourable impact on the profitability of the company.
- To maintain overall control over liquidity position, the company should give special attention to the management of current assets and all the relevant techniques of current assets management should be employed.

REFERENCES

B. Banerjee – Financial Policy & Management Accounting.

Ghosh & Saha – Business Mathematics and Statistics

I. M. Pandy – Financial Management

Industry Financial Aggregates and Ratios, Centre for Monitoring Indian Economy (P) Ltd., Bombay, June 2008.

M Y Khan, P. K. Jain- Financial Management.

N. G. Das-Statistical Methods (Part- II)

Published Annual reports of TISCO Ltd from 2001-02 to 2006-07.

Various issues of the Management Accountant, ICWAI

www.tatasteel.com