

## A Study On Working Capital Analysis Of Selected Cement Companies In Ariyalur District

**Miss. Dr. R. D. Sathya**

M.Com., M.Phil., Ph.D.,  
H.O.D of Business Administration, Bharath Arts, Science  
and Management College, Thanjavur, Tamilnadu, India

**Dr. V. Balakrishnan**

M.Com., M.phil., Ph.D.,  
Department of Commerce, T.U.K Arts College, Karanthai,  
Thanjavur, Tamilnadu, India

*Abstract: The working and fixed capital are necessary financial requirement to run any industrial or service enterprise through their relative share and importance varies according to the nature of the industry. The Statistical tools like Standard deviation, Co-efficient of variation; Chi-square Test and ANOVA Test were also used to know the impact of Management on working capital. Working capital management is a new area emphasized by the productive utilization of their available funds created out of good cash flow, financial solvency and growth strategies. Working capital is defined as the amount by which current assets exceed current liabilities. Working capital of a concern is directly related to sales. The Cement industry is one of the main beneficiaries of the infrastructure boom in the world. Working capital management in any manufacturing Company is depending upon various factors like nature of business, etc.*

*Keywords: working capital turnover ratio, parameter non-parameter test.*

### I. IMPORTANCE OF WORKING CAPITAL IN CEMENT MANUFACTURING COMPANIES

Capital required for a business can be classified under two main categories:

- ✓ Fixed capital
- ✓ Working capital

Every business needs funds for two purposes for its establishment and to carry out its day – to – day operations. 1. Long terms funds are required to create production facilities through purchase of fixed assets such as plant and machinery, land, building, furniture etc. Investments in these sets represent that part of firm's capital, which is blocked on permanent or fixed capital. 2. Funds are also needed for short-term purposes for the purchase of raw material, payment of wages and other day – to – day expenses etc. these funds are known as working capital.

In simple words, working capital refers to that part of the firm's capital, which is required for financing short-term or current assets such as cash, marketable securities, debtors & inventories. Funds, thus, invested in current assets keep revolving fast and are being constantly converted in to cash

and this cash flow out again in exchange for other current assets. Hence, it is also known a revolving or circulating capital or short-term capital.

Working and fixed capital are necessary financial requirement to run any industrial or service enterprise through their relative share and importance varies according to the nature of the industry. In heavy capital-intensive industries like cement, fixed capital requirement is much more than working or floating funds. But over the years with inflation in the prices of inputs, the share of working capital in total assets has gone up and gradually problem of resources is becoming more serious than ever before.

In order to properly understand the working capital needs of Cement industry and its management, this study has selected certain Companies whose main activity is "manufacture of Cement". The major components of working capital are cash and bank balances, sundry creditors or receivables, inventory and miscellaneous current assets (which in many cases had been found of larger significance than others).

## II. STATEMENT OF THE PROBLEM

Working capital management is a new area emphasized by the productive utilization of their available funds created out of good cash flow, financial solvency and growth strategies. The Cement industry is one of the main beneficiaries of the infrastructure boom in the world. Working capital management in any manufacturing Company is depending upon various factors like nature of business, etc.

### OBJECTIVES

- ✓ To examine the relationship between the working capital efficiency and profitability.
- ✓ To analyze the size of working capital in sample cement industries.

## III. METHODOLOGY

### SAMPLING DESIGN

There are Five Cement Companies in Ariyalur District. Such Companies are: 1. Tamil Nadu Cement Corporation Limited (TANCEM), 2.Chettinad Cement Limited (CCL), 3.Aditya Birla Cement Limited (ACL), 4.Ram co Cement Limited (RCL) and 5. India Cements Limited (ICL). The first sample unit TANCEM is a public sector unit, while the other four units are from private sector.

### NATURE OF STUDY

The purpose of this research is to contribute to a very important aspect of financial management known as working capital management with reference to five study units.

### DATA COLLECTION

The primary and secondary data are used for analysis. The primary data required for the study, have been collected through personal visits, interviews of the concerns. On the other hand, secondary data have been acquired through periodicals, newspapers, annual reports and accounts of the Cement Companies.

### DATA ANALYSIS

The following analysis is made with regard to the working capital analysis of the selected Samples cement companies.

- ✓ Working capital turnover ratio
- ✓ Statistical tools apply for Parameter and non-parameter test.
  - The word parameter test is used
  - ✓ Mean deviation
  - ✓ Standard deviation
  - ✓ Correlation etc.
  - The Non-parameter test is used
  - ✓ Chi-square test
  - ✓ ANOVA test

## HYPOTHESES

The following hypotheses have been tested in the present study:

- ✓ There is no significant difference between the net sales and net working capital of the Cement Companies under study.

## IV. WORKING CAPITAL ANALYSIS (WCA)

Working and fixed capital are necessary financial requirement to run any industrial of service enterprise through their relative share and importance varies according to the nature of the industry. In heavy capital-intensive industries like Cement, fixed capital requirement is much more than working or floating funds. But over the years with inflation in the prices of inputs, the share of working capital in total assets has gone up and gradually problem of resources is becoming more serious than ever before. Working capital = current assets – current liabilities.

## V. WORKING CAPITAL TURNOVER RATIO (WCTR)

Working capital is defined as the amount by which current assets exceed current liabilities. Working capital of a concern is directly related to sales. The current assets like debtors, bills receivables, cash, stock etc. change with the increase or decrease in sales. Working capital turnover ratio is an activity ratio that measures rupee of revenue generated per rupee of investment in working capital. The working capital turnover ratio is calculated with the help of the following

formula: Working Capital Turnover Ratio =  $\frac{\text{Sales or cost of sales}}{\text{Working capital}}$

The working capital turnover ratio analysis of the sample cement Companies is presented in Table and Figure 1.

YEAR	Companies				
	TANCEM	CCL	ACL	RCL	ICL
2003-04	2.00	0.00	-5.95	-6.90	0.96
2004-05	2.00	14.33	-14.89	-18.25	1.14
2005-06	1.67	0.00	-9.17	-11.11	1.42
2006-07	2.18	-24.33	-14.03	-156.00	1.81
2007-08	4.00	-46.5	-10.80	100.00	3.23
2008-09	7.33	4.96	-10.65	-126.50	4.60
2009-10	5.33	3.60	-10.68	0.00	2.75
2010-11	5.00	7.38	-5.30	-32.75	2.26
2011-12	4.17	12.12	-28.17	-4.30	3.47
2012-13	4.57	10.21	-9.89	-5.72	3.29
<b>Working capital Turnover Ratio at a glance</b>					
Minimum	1.67	-46.50	-5.30	-4.30	0.96
Maximum	7.33	14.33	-28.17	100	4.60
<b>Average</b>	<b>3.83</b>	<b>1.82</b>	<b>-11.95</b>	<b>-26.15</b>	<b>2.5</b>
<b>Result</b>	<b>Best</b>	----	----	----	<b>Best</b>

Source: secondary data

Table 1: Working capital turnover ratio of selected cement Companies for the study period (Rs. In lakhs)

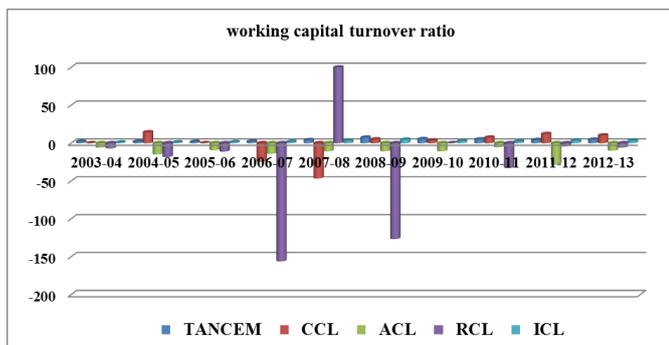


Figure 1.1: Working capital turnover ratios

The average working capital turnover ratio of TANCEM is 3.83 times. Its working capital turnover ratio varies between 1.67 times and 7.33 times in a year. The working capital turnover ratio (WCTR) of TANCEM for the entire study period is in positive side only. This is a satisfactory performance of this sample cement unit. However, the level of utilization of working capital turnover ratio (WCTR) to generate sales is not adequate.

The average working capital turnover ratio of CCL is 1.82 times. Its working capital turnover ratio (WCTR) varies between -46.50 times and 14.33 times in a year. The WCTR is fluctuating from year to year. The working capital turnover ratio (WCTR) of CCL is both in positive and negative. The highest positive working capital turnover ratio (WCTR) is reported during the year 2004-05 by 14.33 times in year, which means the working capital is fully utilized to generate maximum amount of sales. The negative working capital turnover ratio (WCTR) is reported in the year 2007-08 with -46.50 times in a year. From this, it is observed that there is no any relationship between the working capital turnover ratio (WCTR) and sales as far as this sample unit is concerned. However, this negative trend is completely reversed in the positive direction in the last five years of the study period.

The working capital turnover ratio of ICL for the entire study period is in positive only. This is an encouraging trend of ICL's working capital turnover ratio (WCTR). The ICL working capital turnover ratio (WCTR) is just like of the TANCEM in all respects in all years. However, its average working capital turnover ratio (WCTR) is 2.50 times in a year whereas in the case of TANCEM it is 3.83 times compared to the higher working capital turnover ratio (WCTR) of TANCEM, the ICL ratio is not adequate to generate more and more sales. Other than sample cement units of ACL and RCL is not satisfied.

The working capital turnover ratio analysis of the sample cement units under parameter test is presented in Table 1.3

Tools applied	Levels	Companies					Result
		TANCEM	CCL	ACL	RCL	ICL	
Mean deviation	Lowest	---	---	35	---	36	Best
	Least	39	---	---	---	---	Fair
	Highest	---	78	---	106	---	---
Standard deviation	Lowest	1.75	---	---	---	1.12	Best
	Least	---	---	6.11	---	---	Fair
	Highest	---	13.34	---	55.38	---	---
Co-efficient of variation	Lowest	46	---	---	---	45	Best
	Least	---	---	---	---	---	---
	Highest	---	108	51	120	---	---
Correlation	Least	---	0.69	---	---	---	Best
	Lowest	---	---	---	---	0.39	Just
	Negative	-0.49	---	-0.71	-0.63	---	---

Table 1.3

The mean deviation which is calculated from the arithmetic mean reveals that the lowest mean deviation of 35 is reported in ACL which is followed by ICL with 36 and in the case of in TANCEM it is 39. The mean deviations of the remaining two sample cement units are very wider.

The lowest standard deviation of ICL is 1.12 followed by TANCEM with 1.75. The standard deviations of the other three sample cement units are observed at higher levels.

The lowest Co-efficient of variation is maintains by ICL and TANCEM with 45 percent and 46 percent respectively. For the remaining, other three sample units higher Co-efficient of variations are reported, which means unreliable and directionless working capital turnover ratios.

The correlation analysis is made between net sales and net working capital which discloses a positive correlation of 0.69 for CCL and 0.39 in ICL. In the case of remaining three sample units, the negative correlation is strongly established. The working capital turnover ratio analysis of the sample units under Non-parameter test is presented in Table 5.2 (b)

Test of Hypothesis through chi-square and one way ANOVA

Null Hypothesis (Ho): There is no significance difference between the net sales and net working capital of the Cement Companies under study.

Test	Companies					Level	d.f (r-1)(c-1)	Table value	Result
	TANC EM	CC L	ACL	RC L	ICL				
Chi-square test values	6.57	---	---	---	---	Less	10-1=9	16.919	Ho: No significance
	---	54.33	180.33	246.89	162.15	More			H <sub>1</sub> : Significance
One-way ANOVA test values	---	---	---	---	---	---	V <sub>1</sub> =1, V <sub>2</sub> =18	4.41	---
	95.75	21.06	13.23	96.26	16.88	More			H <sub>1</sub> : significance

Table 1.4: Test of Hypothesis

### CHI-SQUARE TEST

The table value for (r-1) (c-1) = (10-1) (2-1) (9x1) d.f = 9 (degree of freedom) at 5% level of significance is 16.919.

The above Null hypothesis is accepted only by TANCEM and while other four samples cement units reject it.

Ho: The Chi-square test value of selected sample Cement unit is TANCEM 6.57, which is less than table value of 16.919. The Null hypothesis is accepted. Hence, there is no significant difference between the net sales and net working capital of the TANCEM Cement Company.

H<sub>1</sub>: The Chi-square test values of selected sample cement units are CCL 54.33, ACL 180.33, RCL 246.89 and ICL 162.15, which is more than table value of 16.919. The Null hypothesis is rejected and Alternative hypothesis is accepted. Hence, there is a significance difference between the net sales and net working capital of the CCL, ACL, RCL and ICL cement companies.

### ONE-WAY ANOVA TEST

The critical value of F-Ratio (V<sub>1</sub>=1, V<sub>2</sub>=18) at 5% level of significance 4.41.

All sample cement units reject the Null hypothesis ( $H_1$ )

$H_1$ : The one way ANOVA test values of selected sample cement units are TANCEM 95.75, CCL 21.06, ACL 13.23, RCL 96.26 and ICL 16.88 which are more than table value of F-Ratio 4.41 at 5% level with degree of freedom being  $V_1=1$  and  $V_2=18$ . The Null hypothesis is rejected and Alternative hypothesis is accepted. Hence, there is a significance difference between the net sales and net working capital of the TANCEM, CCL, ACL, RCL and ICL Cement Companies.

## VI. CONCLUSION

The working capital or working capital turnover ratio analysis of the selected cement companies is well position. Since, there is always a heavy and continuous sale for cement from different agencies there is no need for cement companies to offer credit sales and therefore they generally do not face the any problem working capital analysis of all the cement companies.

## REFERENCES

- [1] Marting John Control of working capital. Mishra R.K. Working capital management, Somaiya publication (P) Ltd, Bombay.
- [2] Santanu Kr. Ghosh and Santi Gopal Maji, "Working Capital Management efficiency: A Study on the Indian Cement Industry."
- [3] Pandey I M and Perera KLW, "Working Capital Management of the private sector manufacturing companies in Sri Lanka."
- [4] Vedvinayagam Ganesan, "An Analysis of Working Capital Management efficiency in Telecommunication equipment industry."
- [5] BA Ranjith Apputhami, The Impact of firms' Capital Expenditure on Working Capital Management: An empirical study across industries in Thailand."
- [6] Md. Sayaduzzaman, "Working Capital Management: A study on British American Tobacco Bangladesh Company Ltd."