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"Role of Working Capital Management in Liquidity of the Indian Cement Companies- A Comparative study"

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Abstract

Liquidity plays an important role in the successful functioning of a venture and ultimate objective of any firm is to maximize the profit. Increasing profits at the cost of liquidity can bring serious problems to the firms. Working Capital affects both the liquidity and profitability of a firm. Liquidity of a firm ensures that firms are able to make short-term obligations and its continuous flow assures firms profitability. Conversely, firm that has low liquidity of working capital faces high risk which results to high profitability. For these reasons working capital management should be given proper consideration and one should try neither to maximize nor minimize the liquidity ratios; one should always try to optimize the liquidity of a firm. This study covered a period of 5 years starting from 2009-2013. The data collection source is purely secondary in form. The techniques applied in this study are basically calculation of mean, growth, growth rate, standard deviation and coefficient of variance.

Keywords: Liquidity, Profitability, Working Capital.

Introduction

Working Capital is the flow of funds necessary for business to maintain the smooth working of an enterprise. It consists of current assets which is required in ordinary course of business can be turned into cash within short span of times. Every company has to make arrangement of adequate fund to maintain day to day operation. Working Capital Management is an important area of finance for making financial decision which covers all the current accounts of firm. A firm has to maintain certain amount of fund always tied to carry on business process starting from raw material purchase, work-in-process, finished goods, consumable store, sundry debtor to meet out day-to-day cash requirement. It is also called as circulating or revolving capital. **According to Genestenberug,** "Circulating capital means current assets of a company that are changed in the ordinary course of business from one form to another, as for example, from cash to inventories to receivables into cash".

Generally there are two types of working capital. The first one is balance sheet concept :- (a) Gross working capital (sum of current assets), (b) Net working capital (CA-CL), second one is operating cycle concept meant to support all the operational activities of the firm. Here operating cycle represents the period during which investment of one unit of money will remain blocked in the normal course of operation till recovery out of revenues.

Normally working capital always refers to positive working capital or negative working capital. Positive working capital means excess of current assets over current liabilities and negative working capital means excess of current liabilities over current asset. Negative working capital is considered as risk of insolvency to the firm, but now a day it is a sign of managerial efficiency in a business. There are some companies who are using negative working capital and ensuring good amount of profit on goods sold and returns of capital too.

About the Companies

Ambuja Cement Limited: Ambuja cement Limited (ACL) for merely known as Gujrat Ambuja is leading cement manufacturing company in India commenced in year 1986. It was founded by Narotam Sekhsaria in 1983 in partnership with Suresh Neotia. ACL is a part of a global conglomerate Holcim, which holds a little over 50% equity in ACL. The ACL has 5 integrated cement manufacturing plants and 8 cement grinding units across the country. In February 2010, ACL inaugurated its cement plant at Dadri, UP. Capacity of 1.5 million tones. ACL celebrates silver jubilee in year 2011. Ambuja presented in

year 2012 two awards at the CII sustainability by honorable President of India and also bagged the gold award for the best safety.

ACC Cements: ACC Limited (formerly The Association Cement companies Limited) is engaged in manufacturing of cement. It is one of the largest producers of cement in India. ACC is also engaged in the manufacturing of ready mixed concrete. The Company is only Cement Company to get superband status in India. The company has grinding plants in Karnataka and clinkering line in Maharastra. The company is subsidiary of Ambuja Cement India private limited and acquired 40% stake in Akaash manufacturing company private limited in the year 2011. ACC inaugurated new grinding plant of capacity 1.60 million tones. ACC enters its platinum jubilee year- the first company in cement industry to achieve this status.

SHREE Cements: Shree Cement is a cement manufacturing in India. It was founded in the Beawarin district Ajmer of Rajasthan in India. The company operates in two segments: Cement and power. In June 2012, the company had the cement capacity of 13.5 million tonnes per annum and turnover of the company for 2011-2012 was Rs. 58.98 billion and net profit was Rs. 7.73 billion. In August2014, Shree Cement announced that it is set of acquire Jaiprakash association 1.5 million tone grinding unit at Panipat for 360 crore.

PRISM Cement: Prism cement limited is one of India's leading integrated building materials company, with a wide range of products from cement, ready mixed concrete, tiles, bath products to kitchens. Prism Cement is cement manufacturing company promoted by Rajan Raheja Group. The company was incorporated in 1992 as Karan Cement. Later in the year 1994 the name was changed to Prism Cement. The equity shares of prism Cement are listed on BSE and NSE. It has three company divisions, Prism Cement, H&R Johnson (India) and RMC Ready Mix (India). It has the highest quality standards due to efficient plant operations with automated control. It mainly captures the market area of Uttar Pradesh, Madhya Pradesh and Bihar. It has wide marketing network of 3300 dealers. The plant has 2.51 million tonnes per annum of installed capacity. The company has set up a packing unit at Allahabad to cater to the requirement of customers in Eastern/Central U.P.

Review of Literature

Pandey, I.M and Parera, K.L.W (1997), carried out an empirical study of working capital management policies & practices of the private sector manufacturing companies listed on the Colombo Stock Exchange in Sri Lanka. The main conclusion of the study is that most companies in Sri Lanka have informal working capital policy. Company profitability has an influence on the methods of working capital planning and control.

Shin and Soenen (1998) analyzed and highlighted that efficient Working Capital Management (WCM) was very important for creating value for the shareholders. The way working capital was managed had a significant impact on both profitability and liquidity. They found a strong negative relationship between lengths of the firm's net-trading cycle and its profitability. **Ghosh & Maji, (2003)** In this paper examine the efficiency of working capital management of Indian Cement companies, during 1992-1993 to 2001-2002, indicates that Indian Cement Industries as a whole did not perform remarkable well during the period. Three indices calculated- utilization, value performance, & overall efficiency index to measure the efficiency of working capital management, instead of working capital management ratios. **Deloof (2003)** examined that most of the firms had large amount of cash invested in working capital. It is expected that management of working capital will have a significant impact on profitability of those firms. The study found a strong relationship between the working capital management and corporate

profitability. Using correlation and regression tests he found a significant negative relationship between gross operating income and the number of day's accounts receivables, inventories to a reasonable minimum. **Singh & Pandey (2008)** in his paper suggested that fixed & Current Assets play a vital role for successful working of any business and it has direct impact on profitability & liquidity. **Nandi Chandra Kartik (2012)** in his paper on "Trends in Liquidity Management & impact on profitability": states that the selected companies always try to maintain adequate amount of net working capital In relation to Current Liability so as to maintain a good amount of liquidity.

Objective of the Study

1) To examine the effects of ratios relating to working capital management on firms liquidity.
2) To study and compare the liquidity position of different cement companies under study by offering Motaals comprehensive test.

Research Methodology

The primarily aim of this study is to have a comparative study of working capital management in liquidity of the Indian Cement Companies.

Sample Design

The study has been carried out by selecting some leading four cement companies of Indian Cement Industries listed in BSE and NSE namely: Ambuja cements, ACC cements, Shree Cements and Prism Cements.

- **Data Collection Method**

The data required for this study have been collected from financial statement of the sample firm and published annual report of the selected companies. The data collection source is purely secondary in form.

- **Study Period**

This study covered a period of 5 years starting from 2009-2013 taking into consideration the availability of data for the choosing study period.

- **Tools and Techniques of Data Analysis**

The techniques applied in this study are basically calculation of mean, growth, growth rate, and standard deviation, coefficient of variance, various necessary ratio analyses and Motaal's comprehensive rank test.

Limitation of the Study

The study suffers from certain limitations are stated as follows:

1) The study is totally based on secondary data available, which may be biased.
2) The study has been conducted over a very limited period of five years only.
3) There may be some error left while preparing the consolidated financial statement of the selected companies which may affect the overall outcome of the study undertaken.
4) The study is conducted considering only five companies. Hence, it will reflect only partial view of the working capital management in the Indian Cement Industry.

Data Analysis and Interpretation

To analyze the liquidity position of all companies under study, we have calculated working capital ratio, liquid asset ratio and other important ratio which helps to draw a conclusion about liquidity condition of companies.

Table: 1 **Rs. In Crores**

Ambuja Cements

Year	Current Asset	Current Liabilities	Working Capital	Quick Asset	Current Ratio	Quick Ratio	Working Capital to Current Asset (%)	Stock to Current Asset (%)	Quick Asset to Current Asset (%)
2009	1979.33	1743.72	235.61	1296.09	1.14	0.74	11.90	34.52	65.48
2010	3135.32	2397.09	738.23	2233.46	1.31	0.93	23.55	28.76	71.24
2011	3838.9	2710	1128.9	2911.14	1.42	1.07	29.41	24.17	75.83
2012	5292.74	3044.61	2248.13	4305.74	1.74	1.41	42.48	18.65	81.35
2013	5527.28	2853.28	2674	4590.87	1.94	1.61	48.38	16.94	83.06
Mean	3954.71	2549.74	1404.97	3067.46	1.51	1.15	31.14	24.61	75.39
Growth	3547.95	1109.56	2438.39	3294.78	0.80	0.87	36.47	-17.58	17.58
Growth Rate (%)	179.25	63.63	1034.93	254.21	70.66	116.47	306.42	-50.92	26.84
Std. Dev	1487.47	508.84	1025.86	1388.51	0.33	0.35	14.63	7.25	7.25
CV (%)	37.61	19.96	73.02	45.27	21.62	30.60	46.98	29.44	9.61

Ambuja Cement: From the above table, it has been examined that in case of Ambuja Cement the current asset as shown growth rate of 179.25 percent and current liability growth rate was 63.63 percent. The standard deviation of current asset was Rs. 1487.47 crore and coefficient of variance was 37.61 percent which show a steady and fast growth of current asset during study period. The growth rate of current liability is 63.63 percent with standard deviation Rs. 508.84 crore and coefficient of variance was 19.96 percent. The growth rate of working capital was positive that is 1034.93 percent and standard deviation and coefficient of variance was Rs. 1025.86 crore and 73.02 percent respectively. This working capital shows that from 2009 to 2013 it shows positive. The quick asset's growth rate was registered as 254.21 percent, standard deviation is Rs. 1388.73 crore and coefficient of variance was 45.27 percent. By this we have found that quick asset also changed in similar fashion as of current asset. The average current ratio of the company was 1.51 and average quick ratio of the company was 1.15. When the liquidity ratios of Ambuja CEMENT were analyzed, we found that both current ratio and quick ratio have registered a positive growth rate that is 70.66 percent and 116.47 percent respectively. The positive growth in both current ratio and quick ratio indicates that the liquidity position of company has been grown over the year.

Table: 2									Rs. In Crores
ACC Cements									
Year	**Current Asset**	**Current Liabilities**	**Working Capital**	**Quick Asset**	**Current Ratio**	**Quick Ratio**	**Working Capital to Current Asset (%)**	**Stock to Current Asset (%)**	**Quick Asset to Current Asset (%)**
2009	2330.17	3265.26	-935.09	1544.08	0.71	0.47	-40.13	33.74	66.26
2010	2763.03	3867.42	-1104.4	1837.13	0.71	0.48	-39.97	33.51	66.49
2011	3676.07	3800.63	-124.56	2563.13	0.97	0.67	-3.39	30.28	69.72
2012	4848.96	3407.28	1441.68	3714.56	1.42	1.09	29.73	23.39	76.61
2013	4424.03	3276.3	1147.73	3301.73	1.35	1.01	25.94	25.37	74.63
Mean	3608.45	3523.38	85.07	2592.13	1.03	0.74	-5.56	29.26	70.74
Growth	2093.86	11.04	2082.82	1757.65	0.64	0.53	66.07	-8.37	8.37
Growth Rate (%)	89.86	0.34	-222.74	113.83	89.22	113.11	-164.65	-24.80	12.63
Std. Dev	1067.40	289.99	1169.31	926.37	0.34	0.29	33.99	4.71	4.71
CV	29.58	8.23	1374.46	35.74	32.83	39.19	-611.07	16.09	6.66

ACC Cements: In order to study the liquidity position in accordance with all other companies, it is found that in case of ACC CEMENT the current asset as shown growth rate of 89.86 percent and current liability growth rate was 0.34 percent. The standard deviation of current asset was Rs. 1067.40 crore and coefficient of variance was 29.58 percent which shows a steady growth of current asset during study period. The growth rate of current liability is 0.34 percent with standard deviation Rs. 289.99 crore and coefficient of variance was 8.23 percent. The growth rate of working capital was negative that is -222.74 percent and standard deviation and coefficient of variance were Rs. 1169.31 crore and 1374.46 percent respectively. This working capital shows that in the year 2009-2011 working capital shows negative and from 2012 to 2013 it shows positive. The quick asset's growth rate was registered as 113.83 percent and standard deviation is Rs. 926.37 crore and coefficient of variance was 35.74 percent. By this we have found that quick asset also changed in similar fashion as of current asset. The average current ratio of the company was 1.03 and average quick ratio of the company was 0.74. When the liquidity ratios of ACC CEMENT were analyzed, we found that both current ratio and quick ratio have registered a positive growth that is 89.22 percent and 113.11 percent respectively. The positive growth in both current ratio and quick ratio indicates that the liquidity position of company has been grown over the year.

Table: 3									Rs. In Crores
Shree Cements									
Year	**Current Asset**	**Current Liabilities**	**Working Capital**	**Quick Asset**	**Current Ratio**	**Quick Ratio**	**Working Capital to Current Asset (%)**	**Stock to Current Asset (%)**	**Quick Asset to Current Asset (%)**
2009	1429.37	684.18	745.19	1274.92	2.09	1.86	52.13	37.11	89.19
2010	1582.17	966.71	615.46	1224.04	1.64	1.27	38.90	33.53	77.36
2011	1438.85	908.38	530.47	1034.62	1.58	1.14	36.87	36.87	71.91
2012	2744.57	2033.83	710.74	2241.25	1.35	1.10	25.90	19.33	81.66
2013	2271.77	1417.01	854.76	1741.29	1.60	1.23	37.63	23.35	76.65
Mean	1893.35	1202.02	691.32	1503.22	1.65	1.32	38.28	30.04	79.36
Growth	842.4	732.83	109.57	466.37	-0.49	-0.63	-14.51	-13.76	-12.55
Growth Rate (%)	58.94	107.11	14.70	36.58	-23.26	-34.05	-27.83	-37.08	-14.07
Std. Dev	588.74	535.70	124.12	487.60	0.27	0.31	9.33	8.19	6.50
CV	31.10	44.57	17.95	32.44	16.29	23.56	24.37	27.27	8.19

Shree Cements: It is considered from the above table that in case of Shree Cements, the current asset as shown growth rate of 58.94 percent and current liability growth rate was 107.11 percent. The standard deviation of current asset was Rs. 588.74 crore and coefficient of variance was 31.10 percent which show a greater fluctuation and steady growth of current asset during study period. The growth rate of current liability is 107.11 percent with standard deviation Rs. 535.70 crore and coefficient of variance was 44.57 percent. The growth rate of working capital was 14.70 percent and standard deviation and coefficient of variance was Rs. 124.12 crore and 17.95 percent respectively. The quick asset's growth rate was registered as 36.58 percent and standard deviation is Rs. 487.60 crore and coefficient of variance was 32.44 percent. By this we have found that the current liability, working capital and quick asset also changed in similar fashion as of current asset. The average current ratio of the company was 1.65 and average quick ratio of the company was 1.32.

When the liquidity ratios of SHREE CEMENT were analyzed, we found that both current ratio and quick ratio have registered a negative growth that is -23.26 percent and -34.05 percent respectively. The negative growth in both current ratio and quick ratio indicates that the liquidity position of company has been degraded over the year.

Table: 4									Rs. In Crores
Prism Cements									
Year	**Current Asset**	**Current Liabilities**	**Working Capital**	**Quick Asset**	**Current Ratio**	**Quick Ratio**	**Working Capital to Current Asset (%)**	**Stock to Current Asset (%)**	**Quick Asset to Current Asset (%)**
2009	168.66	159.91	8.75	91.76	1.05	0.57	5.19	45.59	54.41
2010	819.01	546.7	272.31	502.47	1.50	0.92	33.25	9.39	61.35
2011	1074.9	774.56	300.35	646.46	1.39	0.83	27.94	7.15	60.14
2012	1345.6	1475	-129.42	829.91	0.91	0.56	-9.62	5.72	61.68
2013	1678.1	1869.76	-191.68	1091.15	0.90	0.58	-11.42	4.58	65.02
Mean	1017.2	965.19	52.06	632.35	1.15	0.69	9.07	14.49	60.52
Growth	1509.4	1709.85	-200.43	999.39	-0.16	0.01	-16.61	-41.01	10.62
Growth Rate (%)	894.9	1069.3	-2290.6	1089.1	-14.9	1.7	-320.2	-89.9	19.5
Std. Dev	571.67	696.08	226.04	373.78	0.28	0.17	20.77	17.48	3.87
CV	56.20	72.12	434.18	59.11	24.09	24.33	229.02	120.67	6.39

Prism Cements: It is evident from the above table that in case of Prism Cement the current asset as shown growth rate of 894.9 percent and current liability growth rate was 1069.3 percent. The standard deviation of current asset was Rs. 571.67 crore and coefficient of variance was 56.20 percent which show a vast growth of current asset during study period. The growth rate of current liability is 1069.3 percent with standard deviation Rs. 696.08 crore and coefficient of variance was 72.12 percent. The growth rate of working capital was negative that is -2290.6 percent and standard deviation and coefficient of variance was Rs. 226.04 crore and 434.18 percent respectively. This working capital grows from 2009 to 2011 and later on it diminishes from 2012 to 2013. The quick asset's growth rate was registered as 1089.1 percent and standard deviation is Rs. 373.78 crore and coefficient of variance was 59.11 percent. By this we have found that quick asset also changed in similar fashion as of current asset. The average current ratio of the company was 1.15 and average quick ratio of the company was 0.69.

When the liquidity ratios of Prism Cement were analyzed, we found that current ratio shows negative and quick ratio has registered a positive growth that is -14.9 and 1.7 percent respectively. It means that liquidity position of Prism cements for the study period is not satisfactory.

Motaal's Comprehensive Test of Liquidity

This comprehensive test of liquidity recommends determining the financial soundness of a firm as regards liquidity position. According to this test, a process of ranking is used to reach at a comprehensive assessment of liquidity. In this test, three different ratios related to test to liquidity have been calculated such as stock to current assets ratio, working capital to current assets ratio & liquid resources to current assets ratio All these above four ratios are combined in a point score and are calculated as follows:

(a) Working Capital to Current Assets Ratio = Working capital ÷ Current Assets × 100
(b) Stock to Current Assets Ratio = Stock ÷ Current Assets × 100
(c) Liquid resource to Current Assets Ratio = Liquid Resources ÷ Current Assets × 100

A high value of working capital and liquid resources (cash in hand and at bank) to current assets ratio shows the more favorable liquidity condition of a firm and vice- versa. On contrary, the lower the value of stock or inventory to current assets indicates more favorable liquidity position of a firm and vice – versa. This comprehensive test of liquidity is measured on the basis of point score and ranking. Each individual ratio over the period of time are analyzed and ranked. At last, ultimate ranking has been made on the principle that the lower the total of individual rank, the more favorable is the liquidity position of the company and will be ranked 1st and vice-versa. If the same value of total rank is obtained for more than one year, then the same rank will be given to all concerned years.

Table 5

Motaals Comprehensive Test of Liquidity

S.No.	Company	Working Capital to Current Assets Ratio (%)	Rank	Stock to Current Asset Ratio (%)	Rank	Liquidity Resources to Current Assets Ratio (%)	Rank	Total	Ultimate Rank
1	**Ambuja Cements**	31.14	2	24.61	2	75.39	2	6	**1**
2	**ACC Cements**	-5.56	4	29.26	3	70.74	3	10	**4**
3	**Shree Cements**	38.28	1	30.04	4	79.36	1	6	**1**
4	**Prism Cements**	9.07	3	14.49	1	60.52	4	8	**3**

From the above table of Motaal's comprehensive test of liquidity indicates that there are two companies holding the rank I naming Ambuja Cements and Shree cements. These two companies are having most liquid position among the four companies taken under study. PRISM Cement has ranked III and the last company ACC ranked IV showing the unfavorable liquidity position.

Conclusion

From the above analysis we can draw out the following conclusion:

1. In case of Ambuja and ACC the Current Assets growth rate are much more than of the growth rate of Current Liabilities where as in case of Shree and prism cement, Current Liabilities growth rate is much more than of their Current Asset, which in long run will affect the working capital position of the company. Thus, companies should ensure that the current assets and current liabilities grow at standard ratio of 2:1.
2. In case of ACC cements and Prism cements we have came across with negative working capital. Now a days, there are many companies maintain negative working capital to get good amount of profit and return on capital by compromising their liquidity but it indicates poor liquidity and overburdened with current liabilities, which is not good situation for long run business and for the period of recession especially.
3. None of the companies mentioned above, were able to maintain ideal rule of thumb of current ratio and quick ratio, for studied period.
4. All the studied companies try to maintain the percentage of inventory in current assets is as low as possible, which ensure good liquidity for the business.

5. As per Motaals Comprehensive test, the liquidity position of Ambuja cements and Shree cements is best and followed by Prism Cements and lastly ACC Cements.

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