

THE IMPACT OF LIQUIDITY MANAGEMENT ON PROFITABILITY OF CEMENT INDUSTRY IN INDIA – A STUDY OF SELECT UNITS

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Abstract

Profitability and liquidity are the most important parameters for any organization's performance and the ability to handle the trade-off between two parameters and it is a source of concern for financial managers. Profitability highlights the managerial competency of the organization. It also portrays work culture, operating efficiency of the organization. Liquidity analysis shows the organisation's ability to manage its current assets and current liabilities. India is the second largest cement producer in the world nearly 390 million tons of cement production capacity. It has 188 large cement plants with 378.3MTPA installed capacity and 365 small plants. The study is also aimed at finding the effect of changes in liquidity levels on profitability of Cement industry in India. Taking into account the significance of Cement Industry in terms of installed capacity, investment, production, employment and also keeping in view maintaining the optimum level of liquidity and profitability by the industry. The study covered two major companies in India over a period of past 10 years from 2004-05 to 2013-14. Liquidity ratios and profitability ratio were used to determine the liquidity and profitability positions, Correlation and analysis were used in the analysis. The study concludes that there is a significant relationship exists between liquidity and profitability.

Keywords: Liquidity, Components of Working Capital, Return on Investments, Return on Equity, Return on Assets, Profitability.

INTRODUCTION

Profitability and liquidity are the most important parameters for any organization's performance. Profitability indicates earning capacity of the organization. Indian Cement Industry is the 2nd largest cement producer at globally, average growth 8% with having 390 MTPA after China. It is not only cement producer but also a largest cement consumer in the world led by the enormous growth in the infrastructure and construction sector.

Cement Industry play a vital role in the infrastructural growth due to the geographical size and huge population of the country, innumerable constructions were undertaken by the Central govt., State govt., Public and Private sectors and other establishment create vast demand for cement consumption is growing continuously. Per capita consumption of cement has increased from 28 kgs in 1980-81 to 225 kg in 2014, by the end of 1981 the total installed capacity was 28.87 MTPA and it had increased by 378.3 MTPA at the end of 2014 with 188 large plants and 365 mini plants operated by 32 cement manufacturing companies. In India cement industry is dominated by private sector companies contribute over 97% of total cement production in the country.

The Indian Government's 12th Five Year Plan, which runs for 2013 to 2017, states that India will require a cement capacity in the region of 480 MTPA by the end of 2017. At the end of 2014 225 kg of per capita cement consumption is much less than the developed and other developing economies.

In order to meet the demand, setting up new cement plants is required. In order to overcome the following challenges such as tougher land acquisition process, high capital cost, increased gestation period, regulatory clearances, availability of new limestone and mines by the industry reach the objective at the end of 2017.

Profitability is the ability of the company to earn profit from all the business activities of an organization. It measures management efficiency in the use of organizational resources in adding value to the business. It highlights the managerial competency of the organization. It also portrays work culture, operating efficiency of the organization. Profit is expressed as a ratio in percentage, where as the profitability depicts the relationship of the absolute amount of profit with various other factors. Profits are very essential for not only the survival but also for the long term growth of any organization.

Liquidity refers to the ability of a firm to meet its short term obligations. Liquidity plays a crucial role in the successful functioning of a business firm. A study of liquidity is of major importance to both the internal and external analysts because of its close relationship with day to day operations of a business (Bhunia, 2010). Liquidity analysis shows the organisation's ability to manage its current assets and current liabilities.

It measures resource availability of the firm for discharging its short term liabilities. The liquidity resources of a firm may be kept in various forms such as cash in hand and cash at bank in current assets, reserve drawing power under a cash credit or overdraft arrangement and short term deposits. A cash balance in current account provides the highest degree of liquidity.

A weak liquidity position poses a threat to the solvency as well as profitability of a firm and makes it unsafe and unsound. Liquidity Management is a concept that is receiving serious attention all over the world especially with the current financial situations and the state of the world economy. Some of the striking corporate goals include the need to maximize profit, maintain high level of liquidity in order to guarantee safety, attain the highest level of owner's net worth coupled with the attainment of other corporate objectives. The importance of liquidity management as it affects corporate profitability in today's business cannot be over emphasized. Optimum level of liquidity guarantees a firm to meet their short term debts and the proper management of flow can be promised by a profitable business.

REVIEW OF LITERATURE

Liquidity and profitability have been extensively discussed and analyzed in the literature. While the immediate survival of a business anchors on its liquidity, its long term survival and growth depend on profitability. Thus, liquidity ensures short term survival and profitability ensures long term survival. Both are, therefore important for any firm to survive.

Abuzarand Eljelly (2004) evaluated the relation between profitability and liquidity, as measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia. The study found significant negative relation between the firm's profitability and its liquidity level, as measured by current ratio. This relationship is more evident in firms with high current ratios and longer cash conversion cycles. At the industry level, however, the study found that the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that affects profitability.

Dr. Ashok Kumar (2013) studied a comparative study on the liquidity position of five leading Indian cement companies has been done to know the liquidity position of the companies. The techniques of mean, standard deviation, coefficient of variation, ratio analysis, and Motaal's ultimate rank test has been applied to analyses the data.

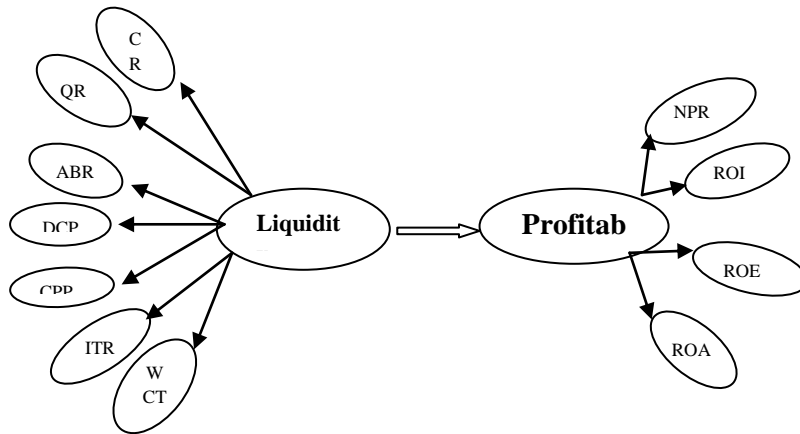
It has been found that the liquidity position of small companies are better as compared to big ones and most interestingly the growth rate of current ratio, quick ratio and working capital to current assets of all the companies are negative which indicates an unsound liquidity position.

Sandhar, Simranjeet Kaur and Janglani (2013), was studied the working capital management in terms of profitability and liquidity. Under the study partial correlation and regression analysis revealed that liquidity ratios measure by current ratio (CR), Liquid ratio (LR) and Cash Turnover Ratio, CATAR, CLTAR have a diminutive relationship with profitability measured by return on capital employed (ROA and ROI). It also revealed that CR and LR are negatively associated with ROA and ROI, while Cash Turnover Ratio (CTR) is negatively associated with ROI and ROA.

It is worthy to mention here that the inverse direction reveals with respect to CR and LR with profitability ratios ROA and ROI is very informative of the fact as it proves the theoretical foundation (liquidity- profitability trade off theory) which posts that profitability and liquidity are inversely related or that there must always be a trade-off between profitability and liquidity

CONCEPTUAL FRAMEWORK

Based on the literatures, the following conceptual frame work is formulated.



NEED FOR THE STUDY

Liquidity management and profitability are very important in the development, survival, sustainability, growth and performance of the organisation. Profitability does not translate to liquidity in all cases. A company may be profitable without necessarily being liquid. Therefore, liquidity should be managed in order to obtain an optimal level, that is, a level that avoid excess liquidity which may translate to poverty of ideas by management.

Also liquidity level should not fall below minimum requirement as it will lead to the inability of the organization to meet short term obligation. Taking into account the significance of Cement Industry in terms of installed capacity, investment, production, technology, and an employment all are keeping in view maintaining the optimum liquidity and profitability by the industry. Review of literature reveals that there are more studies on impact of liquidity management on profitability on other industries, but there was few studies on this particular topic with relate to cement industry. Keeping this in view, an attempt has been made to study the “The impact of Liquidity management on Profitability of Seed Industry in India – A study of select units” in relation to funds, expenditure, income and profit, liquidity management aspects.

OBJECTIVES OF THE STUDY

The main objective of the study is to evaluate “The Impact of Liquidity Management on Profitability of select Cement Companies in India – a Select Study”. The objectives of the study are

1. To study the trends of working capital, current assets and current liabilities as well as test the competency of the working capital.
2. To study the liquidity and profitability positions.
3. To find out the relationship between liquidity and profitability of the select units.
4. To find out the areas of weakness in the management of liquidity and profitability and offer suggestions for improvement, if any.

RESEARCH METHODOLOGY

The following methodology is adopted for conducting the study:

A sample of two companies i.e., Ultratech Cement limited and Ambuja Cements Limited were selected. This study is mainly based on secondary data, collected through annual reports, financial statements of companies for 10 year period from 2004-05 to 2013-14 and some more information collected from circulars, research periodicals, websites and other published sources and internet.

The liquidity management of a company could be measured in terms of its current ratio, quick ratio, absolute quick ratio, debtors collection period, creditors payment period, cash conversion cycle, working capital turnover ratio, current assets to total asset turnover ratio. On the other sided profitability could be measured by using the profitability and efficiency ratio such as net profit ratio, return on investment ratio, return on equity and return on asset ratio to judge the relative profitability and efficiency of utilization of resources of a business.

Various statistical techniques such as mean, standard deviation, co-efficient of variation and Chi square test have been used to analyse data. Correlation analysis is used to identify the nature and extent of the relationship between the liquidity and profitability to draw meaningful conclusions.

DATA ANALYSIS AND INTERPRETATION

ANALYSIS OF WORKING CAPITAL TREND

Working Capital is that part of firm's capital which is required for financing current assets. Funds so invested in current assets keep revolving fast and get converted into cash. Further, this cash flow again gets converted into current assets and the cycle continues for a business entity. The working capital measures how well a company is utilizing its working capital to support a given level of sales. Working capital is current assets minus current liabilities.

The high working capital indicates that management is being extremely efficient in using a firm's short-term assets and liabilities to support sales. Conversely, a low working capital indicates that a business is investing in too many accounts receivable and inventory assets to support its sales.

Working Capital trend is one of the important techniques for measuring the profitability of the enterprises. As a measuring rod of efficiency or otherwise of the trend analysis of liquidity, the analysis of working capital trend is highly relevant as it presents the composite indication of the trend values of current assets and current liabilities. The direction of change in working capital position throughout the study period is a sign of the effectiveness or ineffectiveness of the working capital management(Bhunia, 2010).

The Ambuja Cements Limited and Ultra tech Cement limited components of Current Assets, Current Liabilities, Net Working Capital, Growth rate and Trend values of Net Working Capital during the study period 2004-05 to 2013-14. It is observed that the above table 1 the Gross Working Capital i.e., total of Current Assets registered upward trend throughout the period from 2004-05 to 2013-14. It was rs. 756.54 Ambuja Cements Ltd., which continuously increased and reached up to 5995.21 crores in the year 2013-14, indicating 679.8 percent increase over the first study year. And there was a increased trend from 2004-05 to 2011-12 in case of current Liabilities of Rs. 395.75 crores to 3010.94, indicating that 660.8 percent increases in current liabilities, following year 2012-13 there were decreases the amount to 2843.2 crores i.e., 5.57 percent with compared previous year and immediately it was increased by the next year 2013-14 of Rs. 3147.6 Crores. Although there was a 695.3 percent increase in the first year.

The networking capital of Ambuja Cements Ltd. was registered positive figures during the study period. There was a rising trend registered up to 2004-05 to 2006-07 by Rs. 360.79 crores to Rs. 1266.91 and there was slight decrease following the years 2007-08, 2008-09 by Rs. 1043.48 and 810.7, when coming to 2009-10 to 2013-14 there was continuous increased trend by Rs. 1317.65 Crores to 2847.61 Crores.

In case of Ultra tech Cements Ltd., there was continuous increase is Current Assets of Rs. 837.5 crores in the year 2004-05 to 8997.67 Crores in the financial year ended 2013-14. It indicates that there were increases 974.3 percent over the first study year. There was a proportionate increase is registered in Current Liabilities according to fulfill the requirement of current needs except 2013-14 by Rs. 439.3 Crores to 6238.27. In 2013-14, current liabilities were decreased from 6238.27 crores to 5726.85 crores. The positive amount of Net Working Capital was recorded as increase and decrease trend from 2004-05 to 2007-08, 398.2 crores to 151.99 crores and also recorded rising trend from 2008-09 to throughout the study period.

ANALYSIS OF NET WORKING CAPITAL TREND VALUES

Ambuja Cements Limited, from the trend equation i.e., $Y = 1507.55 + 270.52(X)$ it is seen that the estimated value of net working capital were positive with an upward trend during the whole study period from 2004-05 to 2013-14. The difference between actual net working capital and estimate values of net working capital were negative from 2007-08 to 2010-11 while they were positive in remaining years from 2001-12 to 2013-14.

Ultra tech Cement Limited, from the trend equation i.e., $Y = 1345.38 + 291.58(X)$, reveals that the net working capital values were positive and increasing trend during the study period. The difference between actual and estimated net working capital were negatively registered in the years 2007-08, 2008-09 and 2012-13 remaining years were registered positively.

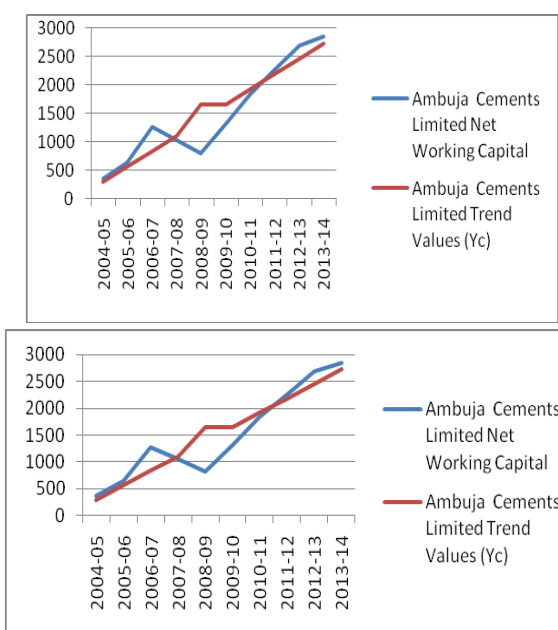
Table – 1: Analysis of Working Capital Trend for the period from 2004-05 to 2013-14

Table – 1: Analysis of Working Capital Trend for the period from 2004-05 to 2013-14

| year | Ambuja Cements Limited | | | | | | Year | Ultratech Cement Limited | | | | | |
|---------|------------------------|---------------------|---------------------|-------------|-------------------|-------------------|---------|--------------------------|---------------------|---------------------|-------------|-------------------|-------------------|
| | Current Assets | Current Liabilities | Net Working Capital | Growth Rate | Trend Values (Yc) | Difference (V-Yc) | | Current Assets | Current Liabilities | Net Working Capital | Growth Rate | Trend Values (Yc) | Difference (V-Yc) |
| 2004-05 | 756.54 | 395.75 | 360.79 | - | 290.01 | 70.78 | 2004-05 | 837.5 | 439.3 | 398.2 | - | 33.24 | 364.96 |
| 2005-06 | 1339.23 | 701.59 | 637.64 | 76.7 | 560.74 | 76.9 | 2005-06 | 920.67 | 556.05 | 364.62 | -8.5 | 324.83 | 39.79 |
| 2006-07 | 2436 | 1169.09 | 1266.91 | 98.7 | 831.26 | 435.65 | 2006-07 | 1419.38 | 755.18 | 664.2 | 82.16 | 616.42 | 47.78 |
| 2007-08 | 2517.28 | 1473.8 | 1043.48 | -21.4 | 1101.77 | -58.29 | 2007-08 | 1430.55 | 1278.56 | 151.99 | -77.1 | 908.01 | -756.02 |
| 2008-09 | 2551.79 | 1741.09 | 810.7 | -22.3 | 1642.81 | -832.11 | 2008-09 | 2351.1 | 1242.72 | 1108.38 | 629.2 | 1199.58 | -91.2 |
| 2009-10 | 3711.83 | 2394.18 | 1317.65 | 62.5 | 1642.81 | -325.16 | 2009-10 | 3079.07 | 1299.09 | 1779.98 | 60.6 | 1491.17 | 288.81 |
| 2010-11 | 4597.26 | 2764.27 | 1832.99 | 39.1 | 1913.33 | -80.34 | 2010-11 | 7078.17 | 5169.18 | 1908.99 | 7.3 | 1782.76 | 126.23 |
| 2011-12 | 5274.85 | 3010.94 | 2263.91 | 23.5 | 2183.84 | 80.07 | 2011-12 | 6802.14 | 4573.32 | 2228.82 | 16.8 | 2074.35 | 154.47 |
| 2012-13 | 5537.04 | 2843.2 | 2693.84 | 18.9 | 2454.36 | 239.48 | 2012-13 | 7816.09 | 6238.27 | 1577.82 | -41.3 | 2365.94 | -788.12 |
| 2013-14 | 5995.21 | 3147.6 | 2847.61 | 5.8 | 2724.87 | 122.74 | 2013-14 | 8997.67 | 5726.85 | 3270.82 | 107.3 | 2657.52 | 613.3 |

Source: Annual Reports

Figure 2: Actual and Estimated Working Capital of Ambuja Cements limited and Ultra tech Cement Limited



The negative deviations were registered in both companies due to a decrease in current assets and also simultaneous increase in current liabilities.

In order to test the significance of the difference between the actual values and trend values of working capital of the sample study, Chi-square test has also been applied.

Since the calculated Chi Square value (780.3, 5132.5) is greater than the table value at 5 percent level of significance (23.589) in both Companies, the null hypothesis is rejected. Hence there is a significant relationship between actual values and trend values of Working capital at 5 percent.

ANALYSIS OF LIQUIDITY MANAGEMENT AND PROFITABILITY

Liquidity analysis shows the organisation's ability to manage its current assets and current liabilities. It measures resource availability of the firm for discharging its short term liabilities.

The short term creditors are interested in the short term solvency or liquidity of a firm. Profitability is the ability to make profit from all the business activities. It measures the management efficiency in the use of organizational resources. It is necessary to maintain proper balance between liquidity and profitability. The liquidity ratios measure the short term ability of a firm.

Table -2: Ratios relating to Liquidity Management and Profitability Ratio's of Ambuja Cements Limited

| Sl No. | Ratios | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | Average | SD | variance |
|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|----------|
| 1 | CR | 1.91 | 1.90 | 2.08 | 1.70 | 1.46 | 1.55 | 1.66 | 1.75 | 1.94 | 1.90 | 1.78 | 0.194 | 0.04 |
| 2 | QR | 1.11 | 1.32 | 1.58 | 1.08 | 1.07 | 1.17 | 1.32 | 1.42 | 1.61 | 1.62 | 1.38 | 0.221 | 0.05 |
| 3 | ABR | 0.65 | 0.77 | 1.28 | 0.69 | 0.84 | 0.97 | 1.02 | 1.26 | 1.41 | 1.43 | 1.03 | 0.296 | 0.09 |
| 4 | WCTA | 7.23 | 9.83 | 4.51 | 5.98 | 8.73 | 5.61 | 4.65 | 4.27 | 3.37 | 3.48 | 5.77 | 2.19 | 4.84 |
| 5 | DCP | 6.33 | 5.16 | 9.19 | 12.96 | 7.75 | 6.25 | 10.16 | 7.94 | 9.18 | 8.28 | 8.32 | 2.23 | 5.01 |
| 6 | ITR | 8.22 | 15.33 | 9.80 | 6.63 | 10.53 | 8.19 | 9.22 | 9.80 | 9.73 | 11.15 | 9.85 | 2.31 | 5.38 |
| 7 | NPR | 17.97 | 23.98 | 31.01 | 22.49 | 17.22 | 17.09 | 14.4 | 13.4 | 14.25 | 15.09 | 18.69 | 5.56 | 30.95 |
| 8 | ROI | 0.25 | 0.46 | 0.38 | 0.25 | 0.19 | 0.17 | 0.15 | 0.15 | 0.14 | 0.15 | 0.23 | 0.11 | 0.01 |
| 9 | ROE | 1.74 | 4.96 | 5.81 | 4.61 | 3.99 | 4.13 | 4.01 | 4.20 | 4.18 | 4.83 | 4.25 | 0.05 | 1.09 |
| 10 | ROA | 0.21 | 0.61 | 0.59 | 0.44 | 0.35 | 0.22 | 0.19 | 0.22 | 0.21 | 0.24 | 0.39 | 0.16 | 0.03 |

Source: Annual Reports

Table – 3: Ratios relating to Liquidity Management and Profitability Ratio's of Ultra Tech Cement Limited

| Sl No. | Ratios | 2004-05 | 2005-06 | 2006-07 | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | Average | SD | variance |
|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|----------|
| 1 | CR | 1.91 | 1.66 | 1.88 | 1.12 | 1.89 | 2.38 | 1.37 | 1.49 | 1.26 | 1.76 | 1.67 | 0.35 | 0.14 |
| 2 | QR | 1.27 | 0.98 | 1.30 | 0.65 | 1.33 | 1.74 | 0.99 | 1.05 | 0.88 | 1.29 | 1.15 | 0.28 | 0.09 |
| 3 | ABR | 0.13 | 0.38 | 0.73 | 0.18 | 0.88 | 1.31 | 0.69 | 0.62 | 0.53 | 0.78 | 0.63 | 0.33 | 0.12 |
| 4 | WCTA | 6.97 | 9.29 | 7.39 | 36.25 | 5.5 | 3.96 | 6.92 | 8.21 | 12.96 | 6.13 | 10.36 | 8.93 | 88.6 |
| 5 | DCP | 22.23 | 18.36 | 13.46 | 14.16 | 10.50 | 11.03 | 16.42 | 15.06 | 18.29 | 22.97 | 16.26 | 4.05 | 18.2 |
| 6 | ITR | 9.79 | 8.92 | 11.32 | 9.03 | 9.22 | 8.58 | 6.75 | 8.99 | 8.52 | 8.48 | 8.97 | 1.09 | 1.3 |
| 7 | NPR | 1.88 | 6.69 | 15.92 | 18.28 | 15.3 | 15.51 | 10.63 | 13.36 | 13.26 | 10.68 | 121.51 | 4.89 | 23.9 |
| 8 | ROI | 0.05 | 0.22 | 0.44 | 0.37 | 0.27 | 0.23 | 1.31 | 0.19 | 0.17 | 0.12 | 0.34 | 0.35 | 0.13 |
| 9 | ROE | 0.42 | 1.83 | 6.3 | 8.09 | 7.85 | 8.78 | 5.15 | 8.93 | 9.68 | .82 | 6.48 | 0.37 | 12.6 |
| 10 | ROA | 0.03 | 0.08 | 0.31 | 0.41 | 0.21 | 0.22 | 0.12 | 0.21 | 0.20 | 0.13 | 0.19 | 0.11 | 0.03 |

Source: Annual Reports

Current Ratio: Current ratio of a firm measures its short term solvency, that is, its ability to meet short term obligations. It is expressed as the result, how many numbers of times current assets exceed current liabilities. High ratio indicates sufficient short term funds to fulfill the short term obligation. Greater ratio indicates the safety of funds of short term creditor, generally a current ratio of 2:1 is considered to be as the good ratio. It can be observed from the above table 2 and table 3, both companies has maintained sufficient current assets large that current liabilities. There by the firm is being to pay its current maturing debts as and when it becomes due.

The average ratio of Amubuja Cements Limited average ratio is 1.8, standard deviation is 0.19 and variance is 0.04, ultra tech Cement limited average ratio of study period is 1.67, standard deviation is 0.35, variance is 0.14.

Quick Ratio: Quick ratio is between quick assets and current liabilities and it is calculated by dividing the quick assets by the current liabilities. 1:1 is considered satisfactory ratio of a firm can easily meet all current claims. It evaluates the efficiency of company to discharge its current liabilities minus inventory. Both companies has maintain satisfactory level ratio. It indicates the ability of both companies to pay off current obligations immediately. The average ratio of Amubuja Cements Limited average ratio is 1.38, standard deviation is 0.221 and variance is 0.05, ultra tech Cement limited average ratio of study period is 1.15, standard deviation is 0.28, variance is 0.09.

Absolute Quick Ratio: It is calculated by dividing the absolute liquid assets by current liabilities. It is represented by cash and near cash items. 1:2 is the ideal ratio, indicates Re.1 worth liquid assets are considered adequate to pay Rs. 2 worth of current liabilities. Ambuja Cements Limited has tried and improved to maintain adequate ratio during the period but Ultra tech Cement Limited has failed to maintain adequate liquid assets during the study period except 2008-09. The average ratio of Amubuja Cements Limited average ratio is 1.03, standard deviation is 0.296 and variance is 0.09, ultra tech Cement limited average ratio of study period is 0.63, standard deviation is 0.33, variance is 0.12.

Working Capital Turnover Ratio: This ratio indicates the number of times of working capital is turned one in the course of a year. This ratio measures the efficient utilization of working capital being used by a firm. A high ratio indicates efficient utilization of working capital and indicates low investment in working capital. That is, with less amounts, the concern is able to generate more sales. During the study period both companies were registered upward and downward turnover ratio. The average ratio of Amubuja Cements Limited average ratio is 5.77, standard deviation is 2.19 and variance is 4.84, ultra tech Cement limited average ratio of study period is 10.36, standard deviation is 8.93, variance is 88.6.

Debtors Collection Period: These ratio shows the debt collection period i.e., number of days it takes an organization to recover payments by customers. It indicates the efficiency of management in converting receivables into cash. Lower ratio indicates management efficiency in collecting debts from its customers. Higher ratio implies the liberal credit policy or inefficient collection performance and less liquid debtors. The ratio was fluctuated 5.16 times in 2005-06 and 12.96 times in 2007-08 in case of Ambuja Cements limited and 10.5 in 2008-09, 22.97 times in 2013-14 recorded in Ultratech cements limited. The average ratio of Amubuja Cements Limited average ratio is 8.32, standard deviation is 2.23 and variance is 5.01, ultra tech Cement limited average ratio of study period is 16.26, standard deviation is 4.05, variance is 18.2.

Inventory Turnover Ratio: The inventory turnover ratio indicates how much of investment is made in inventory for every one rupee of sales. It reveals the number of times finished stock is turned over during a given accounting period. A high ratio means fast moving and a low ratio means slow moving inventories in hand. A low ratio can also be result of maintaining excessive amount of stock needlessly.

As this result much funds are blocked in the form of inventory. The ratio was fluctuated 6.63 and 15.33 and the average ratio of Amubuja Cements Limited average ratio is 9.85, standard deviation is 2.31 and variance is 5.38, ultra tech Cement limited the ratio registered between from 8.58 to 11.32 and average ratio of study period is 8.97, standard deviation is 1.09, variance is 1.3.

Net Profit Ratio: Net Profit Ratio is the relationship between the net profit and sales. It measures the overall efficiency of production, administration, selling, financing, pricing and tax management. Both companies are recovering good profits done by the firm operating activities. The highest ratio registered 23.98 in the year 2005-06 and the average ratio of Amubuja Cements Limited average ratio is 818.69, standard deviation is 5.56 and variance is 30.95, in ultra tech Cement limited the ratio was recorded between 1.88 percent to 18.28 percent, average ratio of study period is 121.51, standard deviation is 4.89, variance is 23.9.

Return on Investment: This ratio is used to measure the overall efficiency of a business organization. It reveals the firms efficiency by using their resources. Calculating return on investment is to divide profit after tax by total investment. There was recorded fluctuated ratio during the period and the average ratio of Amubuja Cements Limited average ratio is 0.23, standard deviation is 0.11 and variance is 0.01, ultra tech Cement limited average ratio of study period is 0.34, standard deviation is 0.35, variance is 0.13.

Return on Equity: A return on shareholder's equity is calculated to see the profitability of owner's investment. It is measured by dividing the net profit after taxes by shareholders equity. The shareholder's equity or net worth will include paid up share capital, share premium and reserves and surplus less accumulated losses. Net worth can also be found by subtracting total liabilities from the total assets. The average ratio of Amubuja Cements Limited average ratio is 4.25, standard deviation is 1.05 and variance is 1.09, ultra tech Cement limited average ratio of study period is 6.48, standard deviation is 3.37, variance is 12.6.

Return on Assets: it is a profitability ratio to calculate return on assets is total annual net income divided by the average total assets during the financial year. Return on Assets expresses the net income earned by a company as a percentage of the total assets available for use by that company. ROA suggests that companies with higher amounts of assets should be able to earn higher levels of income. ROA measures management's ability to earn a return on the firm's resources. The average ratio of Amubuja Cements Limited average ratio is 0.39, standard deviation is 0.16 and variance is 1.09, ultra tech Cement limited average ratio of study period is 0.19, standard deviation is 0.11, variance is 0.03.

Table - 4: Analysis of Simple Correlation between the of Liquidity Management and the Profitability Ratio of Ambuja Cements Limited & Ultra tech Cement Limited

| Ambuja Cements Limited | | | | | Ultrasch Cements Limited | | | | |
|---|--|----------|----------|----------|---|--|----------|----------|----------|
| Ratios relating to Liquidity Management (Independent Variables) | Profitability Ratios (Dependent Variables) | | | | Ratios relating to Liquidity Management (Independent Variables) | Profitability Ratios (Dependent Variables) | | | |
| | NPR | ROI | ROE | ROA | | NPR | ROI | ROE | ROA |
| CR | 0.443437 | 0.460394 | 0.217993 | 0.338682 | CR | -0.13746 | -0.30688 | -0.18831 | -0.26695 |
| QR | 0.013889 | -0.04128 | 0.519527 | 0.016387 | QR | -0.04784 | -0.2213 | -0.08975 | -0.24179 |
| ABR | -0.21879 | -0.37361 | 0.463182 | -0.23568 | ABR | 0.441754 | 0.109002 | 0.363697 | 0.091245 |
| WCTA | 0.068328 | 0.587535 | -0.20468 | 0.480234 | WCTA | 0.393448 | 0.003594 | 0.259147 | 0.658425 |
| DCP | 0.068328 | -0.26522 | 0.268943 | -0.00259 | DCP | -0.75261 | -0.20522 | -0.7601 | -0.62837 |
| ITR | 0.153236 | 0.518773 | 0.351978 | 0.455767 | ITR | 0.082861 | -0.52364 | -0.03675 | 0.300819 |

Source: Annual Reports

This study has been considered to find out the degree of association between variables such as liquidity and profitability of Ambuja Cements Limited and Ultra tech Cement Limited. Simple Correlation was taken to investigate the relationship between variables. In this regard, Current ratio, Quick ratio, Absolute quick ratio, Working capital turnover ratio, Debtors collection period and Inventory turnover ratio were taking as independent variables and Net profit ratio, Return on Investment, Return on Equity, and Return on asset were considered as depended variables. The above Table 4 has been highlighted the correlation coefficient values.

It is observed that above table exhibits the correlation coefficient values of Ambuja Cements Limited, that indicate inverse correlation among the variables such as NPR & ABR are (-)0.21879, ROI & QR, ROI & ABR and ROI & DCP are (-) 0.04128, (-) 0.37361, (-) 0.26522, ROE & WCTR are (-) 0.20468, ROA & ABR, ROA & DCP are (-) 0.23568, (-) 0.00259. The Correlation among NPR & CR, NPR & QR, NPR & WCTA, NPR & ITR are (0.443437), (0.013889), (0.068328), (0.068328), (0.153236), ROI & CR, ROI & WCTA, ROI & ITR are (0.460394), (0.587535), (0.518773), ROE & CR, ROE & QR, ROE & ABR, ROE & DCP, ROE & ITR are (0.217993), (0.519527), (0.463182), (0.268943), (0.351978), are ROA & CR, ROA & QR, ROA & WCTA, ROA & ITR (0.338682), (0.0016387), (0.480234), (0.455767) are Positively relate to each other.

In case of Ultra tech Cement limited, Table 4 exhibits correlation between independent variables such as liquidity ratios and dependent variables i.e., profitability ratios reveals that there has been negative association between NPR & CR, NPR & QR, NPR & DCP are (-) 0.13746, (-) 0.04784, (-) 0.75261, ROI & CR, ROI & QR, ROI & DCP, ROI & ITR are (-) 0.30688, (-) 0.2213, (-) 0.20522, (-) 0.52364, ROE & CR, ROE & QR, ROE & ITR are (-) 0.18831, (-) 0.08975, (-) 0.7601, (-)0.03675, ROA & CR, ROA & QR, ROA & DCP are (-) 0.26695, (-) 0.24179, (-) 0.62837 and following variables were associated with positive relation such as NPR & ABR, NPR & WCTA, NPR & ITR are 0.441754, 0.393448, 0.082861, ROI & ABR, ROI & WCTA are 0.109002, 0.003594, ROE & ABR, ROE & WCTA are 0.363697, 0.259147, ROA & ABR, ROA WCTA, ROA & ITR are 0.091245, 0.658425, 0.300819.

CONCLUSIONS

The cardinality of liquidity management in any organization cannot be over emphasized. This is because either inadequate liquidity or excess liquidity may be injurious to the smooth operations of the organization. This study highlight the impact of liquidity management on profitability of select cement companies. On the basis of above study both companies has been tries to maintain adequate amount of net working capital in terms of current asses and current liabilities and also maintain adequate amount of liquid assets to meet its short term obligations. In order to study the association between liquidity and profitability simple correlation analysis was applied, it reveals that the profitability position and liquidity position of the Ambuja Cements Limited is better than that of Ultratech Cement Limited.

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