



## “WORKING CAPITAL EFFICIENCY AND PROFITABILITY ANALYSIS OF SELECTED PRIVATE SECTOR CEMENT COMPANIES IN INDIA ”

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### Abstract

Abstract Working capital is considered to be the life force of an economic entity and its efficient management decides the tradeoff between liquidity and profitability. There are several factors that determine the working capital requirement in a firm for ex. growth in sales, performance of the firm, size of the firm etc. This paper tries to identify the factors which determine the working capital requirement in Indian cement industry. A case study is performed on ACC cements, birla cement corporation limited (bccl) and chettinad cement corporation limited (cccl) a companies listed on both NSE (National Stock Exchange) and BSE (Bombay Stock Exchange) of India. 15 years data (2001-2015) was considered for this study. A regression analysis was performed using WCR (working capital requirement) as dependent variable and growth in sales, size of the firm, performance, operating cash flow, operating efficiency, debt equity ratio, business indicator, price of raw materials as independent variables. Research results show that returns on improved working capital position of private sector cement companies in India are less than the cost of working capital of these firms indicating inefficiency in the use of working capital by these firms; affecting negatively their profitability. This negative result from the working capital returns and costs equation indicate low levels of returns to shareholders. With the improved gross working capital position of cement 222 companies in India, they still rely much on short term liabilities for financing short term capital, incurring more costs and reducing profitability.

Keywords: Working capital, ACC, CEMENT and BCCL

### Introduction and Design of the Study

Working capital is the cash available for day to day functions of a business. It is the cash that can be used to foot expected and unplanned expenses. Good working capital management will secure a company's financial stature and help build its business. It is necessary for increasing earnings and makes it easier to get business loans and attract potential investors. The main aim of a working capital management plan is to balance current assets against liabilities. This helps companies maintain its planned expenses like salaries and short term financial obligations. If a company's current liabilities are more than its current assets, it signifies a negative working capital. Hiring a good accounts manager who knows various techniques will take care of working capital management in a business efficiently. In case of deficiency, the company can increase the working capital with proper management of outstanding incomes, its creditors and of the company's inventory or by getting a short term loan.

### 2. Need for the Study

The purpose of the present study is to analyze the various concepts of working capital and find out the feasibility of the concept of working capital in the light of better planning and control of working capital. Problems of working capital management involve the problem of determining the optimum level of investment in each component of current assets i.e. inventory, receivables, cash, and other short term investment. The basic focus in working capital management should be to optimize the firm's investment. An expert in the financial management is of the opinion that problem of 3 working capital is one of the factors responsible for the low profitability in manufacturing sector. Better planning and control of working capital, or in other words, proper utilization of optimum quantity of working capital increases the earning power subject to the existence of operating margin.

### 3. Statement of the Problem

Efficient management of working capital is one of the pre-conditions for the success of an enterprise. Efficient management of working capital means management of various companies of working capital in such a way that an adequate amount of working capital is maintained for smooth running of a firm and for fulfillment of twin objectives of liquidity and profitability. While inadequate amount of working capital impairs the firm's liquidity, holding of excess working capital results in the reduction of the profitability. But the proper estimation of working capital varies across firms over the periods depending upon the nature of business, scale of operation, production cycle, credit policy, availability of raw materials, etc. For this significant amount of funds is necessary to invest permanently in the form of various current assets. For instance, due to time lag between scale of goods and their actual realization in cash, adequate amount of working capital is always required to be made available for maintaining the desired level of sales.

#### 4. Scope of the Study

The present study is confined to the Working Capital Efficiency and Profitability Analysis of Selected Private Sector Cement Companies In India during the period between 2000-01 and 2014-15. The working capital efficiency of these companies has been analyzed in terms of Working Capital Efficiency Index, Utilization Index and Performance Index. The study also investigates the relationship between the working capital efficiency and profitability of the selected cement companies.

#### 5. Objectives of the Study

The main objectives of the study are as follows:

1. To analyze the Working Capital Management of the Selected Private Sector Cement Companies in India.
2. To examine the efficiency of Working Capital Management Practices of the selected firms in Cement Industry in India.
3. To analyze the Profitability of the selected Private Sector Cement Companies in India.

#### 6. Methodology

The methodology adopted in the present study is as follows: Period of the Study the present study covers a period of 15 years starting from 2000-01 to 2014-15. Sample Selection Initially it was decided to keep in the sample of two large scale private sector cement companies listed in Bombay Stock Exchange (BSE) of India based on their total assets. However, on further scrutiny it was found that only some companies have the continuous data for the period of 5 years from 2010-11 to 2014-15 while the others not. The inclusion of companies, which possess data for heterogeneous period of time undoubtedly will, distort the method of study. Hence they have been excluded.

#### 6.1 Sources of Data

The present study is based on the secondary data. The financial data used in this study has been mainly taken from the PROWESS, the corporate database software of Centre for Monitoring Indian Economy Pvt. Ltd., Mumbai.

#### 6.2 Framework of Analysis

The following tools were used for the analysis and interpretation of the data: In this study, Mean, Standard Deviation, Coefficient of Variation, Maximum, Minimum, Range, Skewness, Kurtosis were used to determine the average value of the different parameters and their variations based on 5 years data. profitability and to analyze the factors determining the profitability. Analysis of Variance (ANOVA) The analysis of variance, one of the most important tools of statistical analysis, has been developed specially to test the significance of the difference between more than two sample means and to make inferences about whether the sample has been drawn from the populations having the same mean.

#### 7. Limitations of the study

The limitations of the study are as follows:

1. This study is based on the published data of banks. Hence, the study carries all the limitations inherent in the secondary data.
2. The accounting and statistical tools used in this study have their own limitations.

#### Review of Literature

The review of literature guides the researches for getting better understanding of methodology used in limitations of various available estimation procedures and database, and lucid interpretation and reconciliation of the conflicting results. Besides this, the review of empirical studies explores the avenues for future and present research efforts related to the subject matter. Therefore, studies related with the different aspects of working capital and profitability of the cement companies.

Siva Reddy Kalluru, Shan Bhat K. (2008)<sup>1</sup> examined the determination of profitability in Indian commercial banks. They measured bank profitability in terms of return on total assets (ROTA) and return on capital employed (ROCE). They concluded that the profitability of banks was affected not only by bank's own characteristics but also by industry 40 structural variables and macroeconomic variable. Bank ownership and political parties in power also played a vital role in determining bank profitability in India. However, the determinants of bank profitability varied significantly across the bank groups.

M.A. Zariyawati, M.N. Annur and A.S. Abdul Rahim (2009)<sup>2</sup> investigated the relationship between working capital management and profitability of the firm. The researcher used the cash conversion cycle as a measure of working capital management. This study has used a panel data of 1628 firm's years for a period of 1996 to 2006. The co-efficient results of



pooled OLS regression analysis provide a strong negative significant relationship between cash conversion cycle and profitability of the firms. It is revealed that by reducing the conversion cycle, a firm's profitability can be increased.

1. Siva Reddy Kalluru, Shan Bhat.K (2008), "An Empirical Analysis of Profitability Determinants in Indian banks during post reform period". Journal of industrial economics ICFAI press Vol.V (4) PP.27-56.

2. M.A. Zariyawati, M.N. Annur and A.S. Abdul Rahim (2009), "Working capital management and corporate performance" - Case of Malaysia", University Putra Malaysia, Malaysia, Journal of Modern Accounting and Auditing, Vol.5. No.11.

### **Profile of the selected sample companies**

#### **Associated Cement Companies Limited (ACCL)**

ACCL is India's foremost manufacturer of cement and concrete. ACCL's operations are spread throughout the country with 17 modern cement factories, more than 40 Ready mix concrete plants, 21 sales offices, and several zonal offices. It has a workforce of about 9,000 persons and a countrywide distribution network of over 9,000 dealers. Incorporation of The Associated Cement Companies Limited on August 1, 1936. Since inception in 1936, the company has been a trendsetter and important benchmark for the cement industry in many areas of cement and concrete technology. ACCL has a unique track record of innovative research, product development and specialized consultancy services. The company's various manufacturing units are backed by a central technology support services centre - the only one of its kind in the Indian cement industry.

#### **Birla Cement Corporation Limited (BCCL)**

Birla Corporation Limited is the flagship Company of the M.P. Birla Group. Incorporated as Birla Jute Manufacturing Company Limited in 1919, it was Late Mr. Madhav Prasad Birla who gave shape to it. As Chairman of the Company, Mr. Madhav Prasad Birla transformed it from a manufacturer of jute goods to a leading multi-product corporation with widespread activities. Under the Chairmanship of Mrs. Priyamvada Birla, the Company crossed the Rs. 1300 - crore turnover mark and the name was changed to Birla Corporation Limited in 1998.

### **Working capital analysis**

The working capital is the life-blood and nerve centre of a business firm. The importance of working capital in any industry needs no special emphasis. No business can run effectively without a sufficient quantity of working capital. It is crucial to retain right level of working capital. Working capital management is one of the most important functions of corporate management. A business enterprise with ample working capital is always in a position to avail advantages of any favorable opportunity either to buy raw materials or to implement a special order or to wait for enhanced market status. Working capital can be utilized for the payment of lease, employee's payroll, and pretty much any other operating costs that are involved in the everyday life of business. Even very successful business owners may need working capital funds when the unexpected circumstances arise. The overall success of the company depends upon its working capital position. So, it should be handled properly because it shows the efficiency and financial strength of company.

In this study following ratios are used to analyze the working capital performance of selected private sector cement companies in India.

- Current Ratio
- Inventory turnover ratio

#### **Current Ratio**

Current ratio expresses the relationship between current assets and current liabilities. In the words of Schall and Haley, "The simplest measure of the firm's ability to raise fund to meet short-term obligations is the current ratio. It is the ratio of current assets to current liabilities." The current ratio is a measure of the firm short-term solvency. It gives a crude measure of liquidity. A ratio of greater than one means that the enterprise has more current assets than current claims against them. A current ratio of 2:1 has come to be recognized as a standard of liquidity for a business enterprise. Current ratio is a test of liquidity but not of quality

The following table shows the current ratio of select private sector cement companies in India.

**Table 4.1, Current Ratio of Selected Private Sector Cement Companies in India during 2001-2002 to 2014-2015 (Ratios in times)**

Year	ACCL	BCCL
2010-11	0.99	1.24
2011-12	1.00	1.72
2012-13	0.72	1.96
2013-14	0.73	1.49
2014-15	0.99	1.63
<b>Mean</b>	<b>1.25</b>	<b>1.59</b>
<b>Median</b>	<b>1.24</b>	<b>1.49</b>
<b>SD</b>	<b>0.35</b>	<b>0.40</b>
<b>CV (%)</b>	<b>27.73</b>	<b>25.48</b>
<b>skewness</b>	<b>0.30</b>	<b>0.60</b>
<b>Kurtosis</b>	<b>-0.39</b>	<b>-0.45</b>
<b>Minimum</b>	<b>0.72</b>	<b>1.03</b>
<b>Maximum</b>	<b>1.92</b>	<b>2.45</b>
<b>Range</b>	<b>1.19</b>	<b>1.41</b>
<b>ACGR(%)</b>	<b>-5.97</b>	<b>-2.05</b>

Source: Compiled and Calculated from the Annual Reports of the companies

The current ratio is a measure of the firm's short term solvency. It indicates the ability of the company to meet its current obligations. Some authors consider 2:1 as standard norms for current ratio. As will be seen from Table 4.1 the current ratio of Indian private sector cement companies has been showing erratic trend. The highest average current ratio was recorded by the BCCL with 1.59 times followed by the average ratio of ACCL are above 1:1 but below the standard norm. It is seen from the table that all these companies are very near to standard norm. The Current Ratio of selected sample companies showed a fluctuating trend during the period under study. The coefficient of variation in current ratio lies between 25.48 per cent and 27.73 per cent in the selected private sector cement companies under study. The coefficient of variation indicates that there was a high degree of uniformity and more consistent in the current ratio of ACC and BCCL. To judge whether there was any difference in the average current ratio between the sample companies the following hypothesis is framed and tested.

H<sub>0</sub>: There is no significant difference among the sample companies in their current ratio.

**TABLE 4.1(a) ANOVA**

Source of Variation	SS	DF	MS	F	P-Value	F-crit
<b>Between in Group</b>	47.277	3	4.728	10.083	0.000	1.893
<b>Within Group</b>	72.206	154	0.469			
<b>Total</b>	119.4823	157				

It is evident from Table No. 4.1(a) that the difference between current ratio in between the sample firms is significant because the calculated value of 'F' (10.083) is more than the table value of 'F' (1.893) at 5% level of significance. Hence, the null hypothesis there is no significant difference in the current ratio of the sample firms is rejected.

### **Inventory Turnover Ratio**

Inventory Turnover ratio tend to measure the liquidity of the inventory. This ratio, usually establish relationship between the costs of goods sold and average inventory outstanding during the period. In the words of Foulke, "The turnover of inventory is a term measuring the ratio of cost of sales to the inventory." It indicates the number of times the average stock held rotates in a period of one year and measures the effectiveness of the enterprise's investment of funds in working capital.

The inventory turnover ratio of the select private sector cement companies has been presented in the following table.

**Table 4.3, Inventory Turnover Ratio of Selected Private Sector Cement Companies in India during 2001-2002 to 2014-2015 (Ratios in times)**

Year	ACCL	BCCL
2010-11	38.77	42.50
2011-12	40.41	39.37
2012-13	35.42	48.05
2013-14	43.28	60.94
2014-15	42.53	66.57
<b>Mean</b>	<b>44.23</b>	<b>45.20</b>
<b>Median</b>	<b>42.53</b>	<b>43.23</b>
<b>SD</b>	<b>8.05</b>	<b>10.12</b>

It measures the firm's 44.23 times in ACCL and 45.20 times CCL. To judge whether there was any difference in the average debtor's turnover ratio between the sample companies the following hypothesis is framed and tested.

Ho: There is no significant difference among the sample companies in their debtor's turnover ratio.

**Table 4.3 (a) ANOVA**

Source of Variation	SS	DF	MS	F	P-Value	F-crit
<b>Between in Group</b>	18736.7	3	1873.67	5.939308	0.000	1.892653
<b>Within Group</b>	48582.3	154	315.4695			
<b>Total</b>	673190.1	157				

It is evident from Table No.4.3 (a) that the difference between debtor turnover ratios in between the sample firms is significant because the calculated value of 'F' (5.939) is more than the table value of 'F' (1.893) at 1% level of significance. Hence, the null hypothesis there is no significant difference in the debtor turnover ratios of the sample firms is rejected.

### Summary of Findings, Suggestions and Conclusion

The aim of the present study is to analyze the working capital efficiency and profitability of the selected private sector cement companies in India during the period from 2010-2011 to 2014-15. Having identified the factors which are like to influence the profitability, they were statistically tested. The study is mainly based on secondary data. The data thus collected were subdivided into suitable tabular form for the purpose of analysis and drawing inferences. Statistical techniques like mean, median, standard deviation, co-efficient of variation, skewness, kurtosis, range, growth rate, correlation and regression were applied appropriately wherever found necessary. This concluding chapter is an attempt to recapitulate the main findings and conclusion emerging from the entire study. In addition, suitable suggestions have been made for the improvement in the performance of the selected private sector cement companies in India. In order to maintain sequence and continuity, chapter-wise conclusion is presented.

### Summary of Findings

Current Ratio As regards individual companies the average current ratio was less than the standard norms in six out of ten companies namely viz., ACCL and BCCL, In the case of the average current ratio were more than the standard norms of 2:1. The growth in current assets investment declined in all the firms except ACCL.

Inventory Turnover Ratio from the analysis it is found that the average inventory turnover ratio of the sample firms is more than the standard norms, which implies the fast moving of inventories. But the ITR recorded a decline trend in more of the cases.

### Suggestions

The following suggestions are being provided to the private sector cement companies to improve their working capital efficiency and profitability. The sample should Optimize working capital investments to avoid over-investment with its attendant inventory costs, lost returns on excess cash holdings and receivables; and under investment with its attendant stock out, illiquidity and bad debts costs; The sample firm should determine its working capital policies ensuring it improves corporate profitability and they should appraise investments in working capital using capital investment models, determining ahead the viability of such investment.



### **Conclusion**

Working capital Management is important part firm in financial management decision. The present study point out that the overall position of the working capital of select private sector cement companies is satisfactory, but there is a need for improvement in certain factors. Research results show that returns on improved working capital position of private sector cement companies in India are less than the cost of working capital of these firms indicating inefficiency in the use of working capital by these firms; affecting negatively their profitability. This negative result from the working capital returns and costs equation indicate low levels of returns to shareholders. Working capital decisions provide a classical example of the risk-return nature of financial decision making. Increasing a firm's working capital reduces risk of illiquidity and increases overall profitability.