

**A Study on the Financial Performance of Cement Companies in Asset Management in South India from 1995-96 to 2013-14**

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**Abstract**

This article focuses on the analysis of financial performance in Asset Management of South Indian Cement Companies from 1995-96 to 2013-14. Financial metrics have been applied such as fixed asset to total asset, current asset to total asset and capital work in progress to total asset and various forms of profit have been compared with capital employed. By using these metrics financial performance of South Indian Cement companies were studied. Out of the net outcome it has been understood that Madras Cements and Chettinad Cements have been managed properly by yielding sufficient profit to withstand the shocks in cement industry.

**Key words:** Asset Management, deregulation, asset structure.

**Introduction**

India is the second largest cement producing country in the world next to China. The cement industry has been going through a boom period with sustained utilization of over 90 per cent. Demand in 2009 largely was driven by the pass through effect of the stimulus packages announced by the government for housing and infrastructure sectors. Although cement manufacturing is both capital and energy intensive and India is a net importer of both, it is economical and efficient by international standard. India's comparative advantage is attributable to its relative abundant limestone and coal resources, established labour force with technical and managerial experience and a well established and competent cement machinery manufacturing industry with long standing foreign technology. Indian government liberalised the cement industry in the phased manner. At present 100 per cent foreign direct investment is permitted. Lafarge was the first multinational company that entered into the cement industry in India by acquiring two million tonnes of cement operation of TISCO. HDFC, S.B.I and I.C.I.C.I bank funded 50M dollar for this acquisition. Simultaneously it acquired the plant in many places of eastern region and with that it become major player in eastern region. It also expanded its operation in Bangladesh and Nepal.

Due to deregulation in the cement industry created the imbalance in demand and supply that in sequence increases the closing stock of the cement companies. This leads to the reduction in the utilization of installed capacity. Adding fuel to this fire some of the cement companies are in need to implement cost reduction strategy and some of the cement companies are in need to replace their worn out assets which further require additional investment in updated technology.

In this juncture researcher made an attempt to study the asset structure of selected major cement companies in South India and their competitive advantage and to measure the effectiveness of asset management in these cement companies. Asset Management is the practice of managing a business so that decisions and actions taken with respect to assets are co-ordinated.

**Research Methodology**

This research depends wholly on secondary data which is exclusively related with financial report of cement industry. The main data source for the study is PROWESS created by Centre for Monitoring Indian Economy (CMIE). PROWESS provides all kinds of financial information of the companies from their annual balance sheet. Out of ten major cement companies five cement companies have been selected as sample for the following reasons. They have not lost its identity by way of merger and acquisition and consolidation activities. All selected companies' shares have been listed both in NSE and BSE stock market. Only these five companies are following the consistent accounting period or

financial period after globalization. The accounting period of the sample companies for the study is starting from April to March. These five major cement companies are belonging to domestic Indian players in South India. The companies are Chettinad Cements, India Cements, Madras Cements, K.C.P Cements and Andhra Cements. The accounting year 1996 has been chosen as the initial year of the period under study. Government introduced complete globalization for the cement industry in this year. This period has been classified into four phases. The first phase from the year 1996 to 2000; the second phase starts from the year 2001 to 2005; the third phase of study starts from 2006 to 2010 and remaining period falls on the fourth phase.

Financial metrics have been used to analyse the performance in asset management by analysing the financial efficiency of selected cement companies. Financial ratios have been applied to measure the performance in asset management of cement companies under reference.

### **Review of Literature**

Reddy (2007) focused on the objective of knowing one of the internal measures, which could influence the Market Value Addition. Therefore, MVA was taken as a dependent variable and the eight other independent variables such as return on net worth, capital productivity, labour productivity, earnings per share, economic value added return on sales or turnover, return on total assets, and cash profit. By analyzing these factors the researcher came to the conclusion that apart from above mentioned independent factor, modernization, cost reduction, control and taxes were necessary to increase the MVA. At the same time they also mentioned that government of India could play a pivotal role in extending financial support to the cement industry at concessional rates and should take suitable policy measures for its development.

Ghosh (2007) attempted to examine the efficiency of working capital management of the Indian cement companies during 92-93 to 2001-02. The study was based on a sample of 20 large cement companies operating in India. These companies constitute a large part of the cement industry in terms of market sharing within the country. This study focused on the purpose of examining the efficiency of working capital management practices of the selected firms in cement industry. And to test how fast the sample firms have been able to improve their respective level of efficiency in working capital management with respect to a target level. For measuring the efficiency of working capital management three index values i.e. performance index, utilization index and overall efficiency index were calculated. Efficiency index measures the ultimate efficiency of firm's working capital management. Large gap between the maximum and minimum values of efficiency index revealed the degree of inconsistency associated with the management. Finally it concluded that the occurrence of the most successful year followed by the most unsuccessful year and the reverse may be considered to be the outcome of the firms' inefficiency in adopting a sound working capital management policy.

S.J. Bhayani (2010) this article focused mainly on the profitability of the firm in Indian cement industry. Profitability of the firm was greatly influenced by internal and external variables. Internal variables such as size of organizations, liquidity, management, growth of organizations, component of costs and external variable like inflation rate influenced the profitability. This study attempted to identify which variables were influenced more on the profitability of Indian cement industry. This study covered all the listed cement firms working in India for the period of 2001-2008. Regression analysis was made to analyze the cause and effect of profitability. It found out that liquidity, age of the firm, operating profit ratio, interest rate and inflation rate has played a vital role in the determination of the profitability of Indian cement industry.

Gautam Bandyopadhyay (2011) applied over audited financial data of selected cement companies of India for a period of 10years. In the beginning 44 financial ratios grouped in 7 categories were selected for the study namely earnings and profitability, liquidity, cash flow, cash balance, long term solvency, asset management operating efficiency. Factor analysis was conducted over the selected variables, which identified eight underlying categories. Furthermore, multiple regression analysis was conducted taking the factor scores for each such factor as dependent variable and constituent variables as

independent variables. Statistically insignificant variables, evident from the regression analysis were eliminated from the study. Again, factor analysis was conducted over the remaining 25 variables, resulted in 8 underlying categories with a few changes in their composition. To authenticate the results of factor analysis, cluster analysis was performed. Factors were named and representative ratios were identified for each of them. Conversely, it was to be noted that this study was industry as well as country specific and to some extent time specific.

Dabasish Sur (2011) searched to reexamine the interrelationship between working capital management and profitability of ten selected multinational companies in the Indian pharmaceutical industry during the period 1996-1997 to 2007-08. Sample had been taken using purposive sampling procedure. The objective of the study was to assess the influence of working capital management on the profitability of the selected multinational pharmaceutical companies. Although the liberalization process started in India in July 1991, it was obvious that its effect could not be reflected immediately after its inception. Thus for accounting for the effect of liberalization, the financial year 1996-97 had been treated as the initial year of period under study. This study used various ratios like current ratio, inventory turnover ratio and debtor turnover ratio. This study considered profit before interest and tax margin and return on capital employed as dependent variables and current ratio, inventory turnover ratio and debtor turnover ratio as independent variable.

Ramaratnam (2012) made an attempt to study the trend and progress of corporate dividend to the shareholders so as to highlight the importance of dividend decision to make use of the available resources at the firm's disposal for future growth and for the wealth of shareholders. This study focused on the research questions like 1. Did the companies belonging to the cement industry declare similar percentage of dividend? What was the growth rate of dividend?. Through ANOVA test it has been proved that there was significant difference in declaring dividend and also in growth rate. Further it has been proved that cement companies exercised precautions measures in declaring dividend decision and in fact the companies have maintained consistent dividend pay out and earning per share. Atlast it concluded its study that liberal dividend decision brought satisfaction to the shareholders who expect a regular income from their investment but at the other end the firms financing decision was affected by the decision when the cement companies find an opportunity to reinvest its surplus.

Financial performance of cement companies was studied through the variables like working capital to total asset, profit to sales, cost to sales, market value addition of equity to total book value of debt, performance index, utilisation index and overall efficiency index. Some of the review also incorporated the external variable like inflation rate. Further through factor analysis, the research work categorised seven variables like profitability, liquidity, cash flow, cash balance, long term solvency, asset management and operating efficiency to assess financial performance of cement companies.

## **Analysis of Financial Performance of Cement Companies in Asset Management**

### **1.1. Asset Structure of Cement Companies**

The major three component of asset structure of cement companies have been taken viz, fixed asset, net current asset, and capital work in progress. To assess the financial performance of these five companies individual asset ratio like fixed asset to total asset, net current asset to total asset and capital work in progress to total asset ratios have been computed analyzed and inferences have been drawn.

#### **1.1.1. Ratio of Fixed Asset to Total Asset**

This ratio indicates proportion of fixed asset investment in cement companies. Fixed asset includes plant and machinery, buildings, freehold land, railway sidings and furniture and fixtures. This ratio shows the capital intensity of the company and also shows the liability of the company in capital formation. Higher ratio indicates the higher committed charges that accelerate the fixed cost. The following table explains the ratio of fixed asset to total asset for the sample cement companies in South India.

**Table - 1.1.1-Ratio of Fixed Asset to Total Asset**

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minimum	0.071	0.490	0.482	0.160	0.736
Maximum	1.298	1.000	0.678	0.836	1.056
I Phase	1.031	0.881	0.588	0.321	0.791
II Phase	0.943	0.869	0.565	0.490	0.949
III Phase	0.209	0.776	0.654	0.403	0.847
IV Phase	0.088	0.811	0.620	0.708	0.975
Grand Mean	0.638	0.835	0.606	0.469	0.886
S.D	0.443	0.147	0.064	0.168	0.107

**Source:** Compiled from secondary data

In Andhra Cements the fixed asset to total asset ratio ranged from 0.071 to 1.298 in 2013 and 1996 respectively. With regard to Chettinad Cements the ratio ranged from 0.49 to 1 in 2001 and 2006 respectively. In India Cements the investment in fixed asset was consistent when compared with all other cement companies in South India. In India Cements fixed asset to total asset ranged from 0.482 to 0.678 in 2001 and 2009 respectively. In KCP Cements fixed asset to total asset ratio was lower than all other companies and it ranged from 0.16 to 0.836 in 1998 and 2012 respectively. In Madras Cements fixed asset to total asset ratio ranged from 0.74 to 1.056 in 2008 and 2013 respectively.

From the above inferences it could be interpreted that there is no standard benchmark for fixed asset to total asset ratio in cement industry. It is varying among the firm and also varying between the years. It was because of inconsistency in investment policy followed by Andhra Cements, Chettinad Cements, KCP Cements and Madras Cements. In India Cements fixed asset to total asset ratio was stable throughout the study period.

In Andhra Cements a part of fixed assets was invested through current liability in 1996, 2000 and 2001. In 2006, Chettinad Cements invested its fixed asset through its current liability and in all other years a portion of fixed liability has been used for current asset also. India Cements and KCP Cements never invested its fixed asset through current liability and also did not suffer any liquidity crunch. Madras Cements invested meagre portion of 0.01 and 0.02 of fixed asset through current liability. India Cements investments in fixed asset never cross the upper band ratio of 0.68 and lower band ratio of 0.48. The standard deviation was at 0.443 for Andhra Cements. The standard deviation of Chettinad Cements was 0.147. Risk measurement was lower for India Cements compared to all other cement companies. In Madras Cements the standard deviation was 0.107 which was higher than India Cements. This shows that in India Cements and Madras Cements, the fixed asset investment policy was very consistent. In KCP Cements investment in fixed asset was lower and in Madras Cements the investment in fixed asset was higher than all other cement companies.

The ratio of fixed asset to total asset was more than one, which means that fixed asset was financed by current liability. That was not desirable for the financial solvency of the corporate hence Madras Cements changed its composition of asset mixture from 2004 but in the year 2013 again its ratio was more than one.

### 1.1.2. Ratio of Net Current Asset to Total Asset

It is an indicator of the firm's commitment to meet out its day to day expenditure. It studies the relationship between net current asset and total asset. It shows the liquidity of the concern.

**Table - 1.1.2\_Ratio of Net Current Asset to Total Asset**

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minimum	-0.53	0.06	0.18	0.07	-0.18
Maximum	0.46	0.24	0.46	0.55	0.17
I Phase	-0.14	0.09	0.26	0.32	0.14
II Phase	-0.16	0.12	0.38	0.33	0.12
III Phase	0.22	0.14	0.26	0.42	0.14
IV Phase	-0.04	0.12	0.21	0.12	-0.12
Grant Mean	-0.06	0.12	0.28	0.31	0.08
S.D	0.23	0.05	0.08	0.14	0.11

**Source:** Compiled from secondary data

From the above table it is understood that all the Cement companies under reference had positive net current asset except Andhra Cement and Madras Cements for meeting out the day to day expenditure. In Andhra Cements, the ratio of net current asset to total asset ranged from a negative value of 0.53 to 0.46 in 1996 and 2008 respectively. Its average mean in the first phase of the study was -0.14 that was negative net current asset and in the second phase of the study also showed negative net current asset and its mean was -0.16. But in the third phase of the study the sign has changed and the net current asset was 0.22. Again in the last phase of the study it faces aggressive net working capital that leads to negative net working capital to total asset in an average with high standard deviation.

Chettinad Cements net current asset to total asset ratio ranged from 0.06 to 0.24 in 2008 and 2010 respectively. This ratio was gradually increased from the initial phase to third phase of the study, but it was reduced in the final phase of the study. In India Cements, the ratio of net current asset to total asset ranged from 0.18 to 0.46. Its mean in the first and the third phases of the study were 0.26 and in the second phase of the study it was higher at 0.38, again it was reduced to .21 in the final phase of the study.

In KCP Cements, ratio of net current asset to total asset ranged from 0.07 to 0.55. The mean in the first, second, third and fourth phases were at 0.32, 0.33, 0.42 and 0.12 respectively. KCP Cements faced a gradual increase up to third phase but after the third phase it was declined. In Madras Cements, the ratio of net current asset to total asset was consistent when compared to all other cement companies in South India. Its ratio ranged from -0.18 to 0.17. It's first, second, third and fourth phases mean were at 0.14, 0.12, 0.14 and -0.12 respectively. Its grand mean was reduced in the fourth phase which resulted in the reduction of grand mean to 0.08. It could be concluded that Madras Cements followed consistent policy up to third phase but it adopted aggressive policy in the net current asset management in the final phase.

There was huge deviation occurred in net current asset to total current asset among the study period and also among the firm especially in Andhra Cements.

### 1.1.3. Ratio of Capital Work in Progress to Total Asset

Capital item which is not under operation and company does not utilise its economic use in the accounting year are coming under capital work in progress. Capital work in progress includes capital advance, pre operative expenditure, development expenses, asset in transit and other capital work in progress. Higher ratio indicates the higher burden on operative assets to yield minimum profit.

**Table-1.1.3 Ratio of Capital Work in Progress (C.W.I.P) to Total Asset**

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minimum	0.025	0.001	0.001	0.001	0.002
Maximum	1.305	0.427	0.161	0.402	0.223
I Phase	0.099	0.025	0.108	0.098	0.043
II Phase	0.031	0.094	0.061	0.002	0.021
III Phase	0.452	0.160	0.086	0.115	0.123
IV Phase	0.948	0.093	0.085	0.072	0.062
Grand Mean	0.341	0.087	0.080	0.085	0.068
S.D	0.411	0.129	0.050	0.104	0.063

**Source:** Compiled from secondary data

From the above table it is clear that only Andhra Cements capital work in progress (C.W.I.P) to total asset was abnormally higher compared to all other cement companies. In Andhra Cements it ranged from 0.025 to 1.305 in 1998 and 2014 respectively. In the first phase of the study this ratio was only 0.099. It was declined further to 0.031 in the second phase of the study and in the third and fourth phase of the study it has risen to 0.452 and 0.948. In Chettinad Cements C.W.I.P to total asset ratio ranged from 0.001 to 0.427. Its mean in the first, second, third and fourth phases were 0.025, 0.094, 0.160 and .093 respectively.

With regard to India Cements, C.W.I.P to total asset ranged from 0.001 to 0.161 in 2005 and 2009 respectively. Its ratio in the first, second third and the fourth phases of the study were 0.108, 0.061 0.086 and 0.085 respectively. KC.P Cements investment in C.W.I.P to total asset ranged from 0.001 to 0.0402. Its ratio in the first, second third and the fourth phases were 0.098, 0.002, 0.115 and 0.072 respectively. With reference to Madras Cements investment in C.W.I.P to total asset ranged from 0.002 to 0.223. Its ratio in the first, second and third phases of the study were at 0.043, 0.021 and 0.123 respectively.

From the above inferences it could be interpreted that Andhra Cements investment in fixed asset was not in steady growth to its size. Except India Cements all other cement companies invested huge sum of money only in third phase in capital work in progress. This proved that cement companies were in the growth trajectory in third phase but this was not maintained in the fourth phase.

### 1.2 Analysis of Risk and Return of Cement Companies

Return of cement companies have been analysed by taking into account the profit on sales and the profit on capital employed. Simple risk measurement tool like standard deviation has been applied to analyse the consistency performance in asset management of cement companies in South India. All the major heads of reported expenditure have been taken to analyse the most influencing factor of return. Scenario analysis has been applied in both angles namely amount of profit earned for given level of sales and amount of profit earned for the given capital employed. Pessimistic, optimistic and most likely are three scenarios taken into consideration, for the scenario analysis of this study.

**1.2.1. Ratio of Operating Profit (EBIDT) to Capital Employed**

The capital employed basis provides a test of profitability related to the sources of long term funds. A comparison of this ratio with similar firms would provide sufficient insight into how efficiently the long term funds of owners and lenders are being applied. The higher the ratio, the more efficient is the use of capital employed. This ratio indicates return on investment without deducting interest and depreciation and tax.

**1.2.1. Ratio of Operating Profit (EBIDT) to Capital Employed**

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minimum	-0.08	0.10	0.01	0.08	0.14
Maximum	0.39	1.37	1.82	0.59	2.03
I-Phase	0.15	0.23	0.16	0.24	0.22
II-Phase	0.09	0.14	0.07	0.16	0.15
III-Phase	0.14	0.34	0.16	0.35	0.25
IV-Phase	-0.05	1.13	1.30	0.13	1.59
Grand mean	0.09	0.43	0.38	0.22	0.50
S.D	0.15	0.40	0.54	0.14	0.61

**Source:** Compiled from secondary data

Above table depicts the operating profit on capital employed ratio for the major cement companies situated in South India. Only for Andhra Cements this ratio was negative in 1999, 2000, 2004, 2011, 2012, 2013 and 2014. Its maximum loss has occurred in 2004 and maximum gain has occurred in 1997. Intra firm comparison shows that the third phase mean and the first phases mean were higher than second phase mean. In the fourth phase it incurred a loss. Its grand mean was at 0.09 times of capital employed with the standard deviation of 0.15.

With reference to Chettinad Cements this ratio ranged from 0.10 to 1.37 in 2003 and 2012. Its first, second, third and fourth phases mean were 0.23, 0.14 0.34 and 1.13 respectively. Its grand mean was 0.43 which was higher than the first, the second and third phase and lower than the fourth phase of the study with the standard deviation of 0.10.

With regard to India Cements, this ratio ranged from 0.01 to 1.82 in 2003 and 2012 respectively. The maximum range was applicable for inter firm comparison. Its first, second, third fourth phase mean and grand mean was 0.16, 0.07, 0.16, 1.30 and 0.38 respectively. The first, second, third phase were lesser and the fourth phase mean was higher than the grand mean while doing intra firm comparison. Its standard deviation was at 0.54.

With respect to KCP Cements this ratio ranged from 0.08 to 0.59 in 2003 and 1997. Its third phase mean was higher at 0.35 whereas second phase mean was lower at 0.16. Its grand mean was at 0.22 which was lower than first and third phase mean and higher than second phase mean and fourth phase mean with the standard deviation of 0.14.

Madras Cements played exceptional role in earning return on capital employed, which ranged from 0.14 to 2.03 in 2005 and 2013 respectively. It never goes below 0.14. The first, second, third, fourth phases mean were 0.22, 0.15 0.25 and 1.59 respectively. Its grand mean was at 0.50 which was higher than first three phases but lesser than fourth phase mean with standard deviation of 0.61.

In nutshell it could be concluded that all leading cement companies under study were performed well in the fourth phase. But KCP Cements and Andhra cements are exception to reap the market profit

### 1.2.2 Ratio of Gross Profit to Capital Employed

This ratio indicates the relationship between gross profit and capital employed. Higher ratio is the sign of good management. It signifies the residual income meant for the stakeholders like supplier of capital item, government and share holder of the business.

#### 1.2.2 Ratio of Gross Profit to Capital Employed

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minium	-0.20	0.01	-0.10	-0.02	0.08
Maximum	0.20	1.20	1.27	0.55	1.75
I-Phase	-0.03	0.15	0.10	0.16	0.15
II-Phase	-0.01	0.07	0.00	0.10	0.10
III-Phase	0.11	0.30	0.13	0.32	0.22
IV-Phase	-0.03	1.00	0.81	0.15	1.34
Mean	0.01	0.35	0.23	0.18	0.41
S.D	0.10	0.37	0.37	0.15	0.53

**Source:** Compiled from secondary data

Above table shows the relationship between gross profit and capital employed. Andhra Cements gross profit on capital employed ratio ranged from -0.20 to 0.20, in 2004 and 2002, which was too meagre while doing inter firm comparison. Its grand mean was at -0.01 which was greater than the first, second, and fourth phase mean. But it was lower than the third phase mean, with standard deviation of 0.10.

With regard to Chettinad Cements this ratio ranged from 0.01 to 1.20. Its grand mean was at 0.35 which was greater than the first second and third phases and lesser than the fourth phase mean with standard deviation of 0.37.

With reference to India Cements, this ratio ranged from -0.10 to 1.27 in 2003 and 2012. The First three phases mean were lower than fourth phase and grand mean. Its standard deviation was at 0.37.

KCP Cements' gross profit to capital employed ratio ranged from -0.02 to 0.55 in 2000 and 1997. The first, second, third, fourth phases and grand mean ratio were 0.16, 0.10, 0.32, 0.15 and 0.18. Here third phase mean was higher than other three phases and the grand mean. Its standard deviation was 0.15.

Madras Cements' gross profit to capital employed ratio ranged from 0.08 to 1.75 in 2003 and 2013. The fourth phase mean was the highest at 1.34 and second phase mean was the lowest at 0.10 while doing intra firm comparison. Its grand mean was at 0.41 with the standard deviation of 0.53.

From this inference it could be concluded that Madras Cements, Chettinad Cements and India Cements were doing well when it was compared with Andhra Cements and KCP India Cements. This showed the pro action of Madras Cements, India Cements and Chettinad Cements. This helped in inclined growth from the first phase to fourth phase, where as in the case of all other cement companies, this ratio was declined drastically in the second phase. This clearly showed its reaction to others in defending the competitor's strategy.

### 1.2.3. Ratio of Profit before Tax (PBT) to Capital Employed

This shows the relation between the profit before tax and capital employed. It indicates the margin earned in the market economy which was subject to tax. This shows

the residual gain left out for the shareholders of the business and government taxation. The following table shows the profit before tax to sales in cement companies in South India.

### 1.2.3 Ratio of Profit before Tax (PBT) to Capital Employed

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minimum	-0.22	-0.05	-0.33	-0.08	0.02
Max	0.18	0.51	0.77	0.52	1.18
I-Phase	-0.10	0.07	0.06	0.13	0.10
II-Phase	-0.03	0.02	-0.03	0.04	0.04
III-Phase	0.10	0.15	0.10	0.29	0.18
IV- Phase	-0.03	0.31	0.28	0.09	0.80
Mean	-0.01	0.13	0.09	0.14	0.25
S.D	0.11	0.14	0.23	0.16	0.35

**Source:** Compiled from secondary data

Profit before tax to capital employed ratio was highest for Madras Cements in total. In the second and final phases of the study Madras cements performed well. In contrast to this performance Andhra Cements was in the last position in all the phases and also its maximum level was at 0.18. Its grand mean of the study was at -0.01 with the standard deviation of 0.11.

With reference to Chettinad Cements PBT to capital employed ratio ranged from -0.05 to 0.51 in 2003 and 2012. The first phase mean was lesser than last two phases and grand mean. Its second phase mean was at 0.02 which was lowest of all the phases. Fourth phase mean was highest at 0.31 which raises its grand mean to the level of 0.13 with the standard deviation of 0.14.

With regard to India Cements this ratio ranged from -0.33 to 0.77 which was at both extreme happened in 2014 and 2012. The first phase mean was at 0.06 whereas in the second phase it reversed its performance to the level of -0.03. Again in the third phase of the study it went up to .01 and once again it went up to the top gear of its performance level of 0.28 which raised its grand mean to 0.09 with the standard deviation 0.23.

With reference to KCP Cements the ratio ranged from -0.08 to 0.52 in 2000 to 1997. The first, second, third and fourth phases mean were at 0.13, 0.04, 0.29 and 0.09 respectively. Its grand mean was 0.14 which was higher than the first phase mean and lower than the final phase mean with the standard deviation of 0.16.

With regard to Madras Cements, the ratio of PBT to capital employed ranged from 0.02 to 1.18, in 2003 and 2013. Madras Cements did not do well in the second phase of the study and its mean stands at 0.25. But in the final phase of the study it went up to the top at 0.80. Its standard deviation was 0.35.

In nutshell it could be concluded that leading cement companies like chettinad Cement, India Cements and Madras Cements under study performed well in the fourth phase of the study whereas lowest performance occurred in the second phase except Andhra Cements. On the whole Madras Cements achieved the first position, followed by KCP Cements. Madras Cements and KCP could increase its capital employed turnover ratio to more than one in most of the year hence it overtook the position of. All other cement companies were not nearer to these two companies.

### 1.2.4 Ratio of Profit after Tax (PAT) to Capital Employed

This ratio indicates the residual profit meant to the shareholders of the business. This shows the relationship between profit after tax and capital employed in cement companies.

**1.2.4 Ratio of Profit after Tax (PAT) to Capital Employed**

Performance Indicator	Cement Companies				
	ANDHRA	CHETTINAD	INDIA	KCP	MADRAS
Minimum	-0.21	-0.02	-0.33	-0.08	0.01
Maximum	0.18	0.38	0.59	0.45	0.81
I-Phase	-0.10	0.07	0.06	0.11	0.09
II-Phase	-0.02	0.01	-0.02	0.04	0.03
III-Phase	0.11	0.10	0.08	0.20	0.12
IV-Phase	-0.06	0.26	0.18	0.07	0.57
Mean	-0.01	0.10	0.07	0.10	0.18
S.D	0.11	0.11	0.18	0.12	0.24

**Source:** Compiled from secondary data

The ratio of PAT to capital employed ratio was the highest in Madras Cements and lowest in Andhra Cements. With reference to Andhra Cements this ratio ranged from -0.215 to 0.185 in 2004 and 2002. The first two phase's average was in negative at -0.10 and -0.02 and the third phase mean was at 0.11. Its grand mean was at -0.01 which was very low while doing inter firm comparison. Its standard deviation was at 0.121.

With reference to Chettinad Cements, this ratio ranged from -0.02 to 0.38, in 2002 and 2012. The first and second phases mean were lower than the third and fourth phase mean. Its grand mean was lower than Madras Cements and higher than Andhra Cements and India Cements while doing the inter firm comparison. Risk measure was lesser than all other cement companies

With reference to India Cements, both maximum and minimum ratio was at -0.33 to 0.59, in 2014 and 2012. In the second phase it went to last position among the cement companies under study. Grand mean was at 0.07 which was higher than Andhra Cements while doing inter firm comparison. This ratio was volatile, with standard deviation of 0.18.

With regard to KCP Cements, PAT to capital employed ratio ranged from -0.08 to 0.45 in 2000 and 1997. The first phase, second phase, third phase, fourth phase and grand mean were at 0.11, 0.04, 0.20, 0.07 and 0.10. Grand mean was lower than first and third phase mean and higher than second phase and fourth mean its standard deviation was at 0.12. This showed its low volatility compared to Madras Cements and India Cements.

With regard to Madras Cements, this ratio ranged from 0.01 to 0.81. The first phase mean was at 0.09 which was higher than Andhra Cements, Chettinad Cements, and India Cements and lower than KCP Cements. The Second phase average was at 0.03 among the cement companies under study. The third phase mean was higher than Andhra Cements, Chettinad Cements, India Cements whereas lower than KCP Cements. Whereas in fourth phase Madras cements ratio was higher than all other cements companies. Its grand mean was at 0.18 with the standard deviation of 0.24.

In short it could be concluded that Madras Cements and KCP Cements performed well throughout the study period whereas Madras Cements performed well in the second phase and Andhra Cements gave poor performance in all the phases. In both PBT and PAT, Madras Cements and KCP Cements performed well because of high capital employed turnover.

## **Findings Related To Financial Performance of Cement Companies in Asset Management**

### **Asset Structure of Cement Companies in Asset Management**

1. Fixed asset to total assets ratio was higher for Madras Cements and lower for KCP Cements. Madras Cements and Chettinad Cements consistently invested approximately 80 percent of its total asset in fixed asset whereas KCP Cements invested in an average invested 47 percent of total asset in fixed asset; India cements invested 60 percent of its total asset in fixed asset. Fixed asset to total asset ratio was more than one in Andhra Cements and Madras Cements, because the composition of fixed asset was more than the total asset, which means that fixed asset was financed by current liability. That was not desirable to the financial solvency of the corporate hence Madras Cements and Andhra Cements changed its composition of asset mixture from 2004. In exception madras cement continues its stringent policy in the year 2013.

2. Net current asset to total asset ratio was higher in KCP Cements with the grand mean of 0.31, which was desirable aspect, due to investment in value added assets. The lowest net current asset to total asset ratio was at 0.53 in Andhra Cements in the form of negative current asset, which was not encouraging factor, because by sacrificing liquidity it invested more fund on non value added asset like debtors and inventories. The investment in net current asset to total asset was in moderate level at 0.31 of total asset in India Cements. Whereas in Chettinad Cements and Madras Cements the ratio of net current asset to total asset was lower by following the stringent policy. This clearly shows that liquidity risk was not present in India Cements whereas it was in Andhra Cements.

3. Capital work in progress to total asset ratio was higher in Andhra Cements in the third phase to the maximum extent of 0.735 in 2010. This was abnormal investment behaviour in cement industry which leads the Andhra Cements to be in the top most list of the highest investment in capital work in progress. It has not been well planned in advance to replace and modernise the plant for the operation to reduce the operational risk. This fact also did not encourage the asset liability management team. This clearly shows that capital work in progress to total asset ratio was the industry- specific rather than company- specific.

4. The operating profits in the first and third phases were higher than grand mean in the study period and the operating profit in the second phase was lower than grand mean. This happened due to decreased selling price. Madras Cements performed well in earning higher operating profit. Madras Cements, India Cements and Chettinad Cements earned higher operating profit in the fourth phase. Operating profit on capital employed was more in Chettinad Cements and Madras Cements when compared with other cement companies under reference. Operating profit on capital employed was very low in Andhra cements due to lower price charges of its cement product compared to all other cement companies.

5. Even in gross profit to capital employed ratio was high in Madras Cements, Chettinad Cements and India Cements, showing its proactive asset management during its study period. Profit before tax on capital employed is high in Madras Cements, KCP Cements and Chettinad Cements. Madras Cements was doing well in proactive asset and tax management in consistent and effective manner.

In this article asset structure have been analysed and also profitability analysis have been analysed with financial metric like asset to total asset ratio and profitability on capital employed ratio. In nutshell one can conclude that profitability of Madras and Chettinad Cements were higher than all other cement companies in south India under study. The reason behind this was higher capital employed turnover and optimum asset structure of cement companies. Both was higher in Madras Cements showing pro active management in asset structure and also tax planning which directly relate with need of the cement consumers and vendor of resources necessary to fulfil the need of the customers.

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