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AN EFFICIENCY OF PROFITABILITY AND LIQUIDITY IN INDIA'S SELECT CEMENT COMPANIES DURING THE DECADE 2004-2005 TO 2013-2014

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Abstract
In India, since independence, great emphasis has been laid on the development of cement industry. It is one of the key basic industries in India. It plays dominant role in the national economy. Cement industry ranks second after the Iron and steel industry. Cement is indispensable in building and construction works. The production and consumption of cement, to a large extent, indicates a country's progress. The development of transport, infrastructure, irrigation and power projects etc. depends to a very large extent on the availability of the cement. Profitability is an indication of efficiency with the operations of cement companies. Liquidity is the ability to meet its short-term obligations like payment of creditors, bills payable and outstanding expenses. Profitability and Liquidity are two different aspects. A company may be profitable but yet not liquid. Liquidity in a way is more important than profitability. A Company which is not liquid may sooner or later find itself in situation of insolvency.

Introduction

The primary objective of a business undertaking is to earn profit and it is considered fundamental for the survival of any business. A business needs profits not only for its existence but also for expansion and diversification. Profit to the management is the test of efficiency and a measurement of control; to the owners, a measure of worth of their investment; to the creditors, the margin of safety; to the employees, a source of fringe benefits; to the government, a measure of taxpaying capacity and the basis of legislative action; to the customers, a hint to demand better quality and price cuts; to an enterprise, a less cumbersome source of finance for growth and existence; and finally to the country, an index of economic progress.

A business enterprise can discharge its obligations to the various segments of the society only through earning of profits. Therefore, profit is the engine that drives the business enterprise to achieve its objectives, and is the reward for entrepreneurship. A well organized profit-planning programme will help towards maintaining a desirable level of profit, which will ensure the continuation of the business and fulfillment of other responsibilities. Certainly, the ability to maintain reasonable profits helps towards ensuring that shareholders receive adequate dividend and preserve the asset worth of the business. Generating funds out of profits for expansion and for development of new products is possible through profit maximization.

Operational Definition

Profitability: According to Eljelly (2004), profitability is the ability to create an excess of revenue over expenses in order to attract and hold investment capital. Four useful measures of firm's profitability are: the rate of return on firm's assets (ROA), the rate of return on firm's equity (ROE), operating profit margin and net firm income. The ROA measures the return to all firm's assets and is often used as an overall index of profitability, and the higher the value, the more profitable the firm. ROA is therefore an indicator of managerial efficiency as it shows how the firm's management converted the institution's assets under its control into earnings (Falope and Ajilore, 2009).

Liquidity: Liquidity is the ability to meet expected and unexpected demands for cash through ongoing cash flow or the sale of an asset at fair market value. Liquidity risk is the risk which at some time and entity will not have enough cash or liquid assets to meet its cash obligations.

Sources of Data: The data collected for this study were obtained through the Secondary source. The data used for analysis were extracted from the audited annual financial reports and accounts of the sampled cement companies for the period 2005 to 2014.

Sample Size of the Study: A sample of four (5) cement companies have been used in the study. The sampled companies are: ***India Cements, Chettinad Cements, Ramco Cements, Zuari Cements, and Ultratech Cements.*** The choice of these four cement companies is because they have the relevant data for all the years of the study (2005 to 2014). The sample selection was purposive to include the all five cement companies.

Objectives of the Study

1. To evaluate profitability of the select cement companies during the study period,
2. To analyze liquidity of the select cement companies during the study period,
3. To study the various factors affecting profitability requirements in cement industry.
4. To suggest, on the basis of conclusion, innovations in the management of profitability and liquidity in select cement companies in India.

Data Analysis

Mean: One of the most important objectives of statistical analysis is to get one single value that describes the characteristic of the entire mass of unwieldy data.

Standard Deviation: The standard deviation measures the absolute dispersion, the greater standard deviation, for the greater will be the magnitude of the deviation means a high degree of uniformity of the observation and the large standard deviation, for the large will be the magnitude of the deviation means a low degree of uniformity of the observation.

Co-Efficient of Variation: The corresponding relative measure is known as the coefficient variation. That series for which the coefficient of variation is greater is said to be more variable or conversely less consistent and less is said to be more consistent.

Annual Compound Growth Rate (CGR): The compound growth rate measures average growth of an amount over time. In other words, the compound growth rate assumes a constant rate of growth, thus smoothing the expansion rate. The advantage of the compound growth rate is that it expresses growth as one number. The downside of the compound growth rate is that it can hide sharp growth fluctuations.

Table – 1-Net Sales – Summary of Statistics [Rs.In Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	11,621,400	4,286,000	7,333,300	995,400	26,810,500
MAX	45,970,400	24,507,800	38,308,000	60,906,000	202,798,000
AVG	31,789,040	**13,341,750**	24,034,080	26,388,100	**101,915,770**
SD	11863441.27	7213772.235	10662676.6	20660232.5	71129783.8
CV%	**37.32****	54.07	44.36	**78.29**	69.79
CAGR	16%	20%	20%	-23%	**25%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 1 shows that the mean of amount of net sales ranges from Rs. **13,341,750** to Rs. **101,915,770** during the study period among the cement companies. The UTC had higher mean amount net sales and CC had least mean amount of net sales during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the net sales and the ZC highest coefficient of variation indicating the inconsistent performance of the net sales. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that net sales is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 2-Total Income – Summary of Statistics [Rs.In Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	12,486,400	4,324,000	7,564,000	1,285,700	26,464,100
MAX	46,344,400	24,809,400	39,175,200	63,068,400	206,031,500
AVG	32,240,040	**13,526,060**	24,382,060	27,622,300	**103,626,730**
SD	11868771.26	7296739.001	10869729.4	21017455.17	72376512.3
CV%	**36.81****	53.95	44.58	**76.09**	69.84
CAGR	15%	20%	19%	-15%	**26%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 2 enlighten that the mean of amount of total income ranges from Rs. **13,526,060** to Rs. **103,626,730** during the study period among the cement companies. The UTC had higher mean amount total income and CC had least mean amount of total income during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the total income and the ZC highest coefficient of variation indicating the inconsistent performance of the total income. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that total income is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 3-Total Expenses – Summary of Statistics [Rs.In Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	10,261,100	3,371,400	5,955,000	943,300	23,307,300
MAX	39,667,000	18,461,800	31,006,700	61,026,200	163,549,200
AVG	25,287,690	**9,406,740**	17,680,370	26,056,970	**78,999,470**
SD	10516234.15	5519654.225	8525222.39	20084582.81	56748758.9
CV%	**41.59****	58.68	48.22	**77.08**	71.83
CAGR	16%	20%	20%	-16%	**24%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 3 learned that the mean of amount of total expenses ranges from Rs. **9,406,740** to Rs. **78,999,470** during the study period among the cement companies. The UTC had higher mean amount total income and CC had least mean amount of total expenses during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the total expenses and the ZC highest coefficient of variation indicating the inconsistent performance of the total expenses. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that total expenses is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 4-Operating Profit – Summary of Statistics [Rs.In Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	1,422,900	948,400	1,503,500	-2,148,700	3,712,200
MAX	10,925,900	6,817,500	10,059,100	2,236,100	46,754,800
AVG	6,608,650	4,026,350	6,440,330	**774,410**	**23,111,710**
SD	3100623.268	1994121.066	2876768.25	1246418.288	14811618.9
CV%	46.92	49.53	**44.67****	**160.95**	64.09
CAGR	15%	20%	16%	-13%	**30%**

Source: Annual Reports ** Consistent performance (Ramco Cement)

The above table 4 analyzed that the mean of amount of operating profit ranges from Rs. **774,410** to Rs. **23,111,710** during the study period among the cement companies. The UTC had higher mean amount operating profit and ZC had least mean amount of total expenses during the period of study. The RC showed least coefficient of variation indicating the consistent performance of the operating profit and the ZC highest coefficient of variation indicating the inconsistent performance of the operating profit. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that operating profit is not performed well during the study period except RC where as UTC, CC, IC and ZC.

Table – 5 - Profit before Depreciation Interest and Tax [Rs.In Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	2,225,300	952,600	1,609,000	-1,569,400	3,156,800
MAX	10,929,600	6,905,000	10,473,000	4,731,000	49,804,800
AVG	6,946,350	4,119,320	6,701,690	**1,565,330**	**24,600,260**
SD	3087546.363	2046741.578	2934473.41	1710734.56	16183767.1
CV%	44.45	49.69	**43.79****	**109.29**	65.79
CAGR	8%	20%	17%	-6%	**33%**

Source: Annual Reports ** Consistent performance (Ramco Cements**)**

The above table 5 demonstrated that the mean of amount of PBDIT ranges from Rs. **1,565,330** to Rs. **24,600,260** during the study period among the cement companies. The UTC had higher mean amount PBDIT and ZC had least mean amount of PBDIT during the period of study. The RC showed least coefficient of variation indicating the consistent performance of the PBDIT and the ZC highest coefficient of variation indicating the inconsistent performance of the PBDIT. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that PBDIT is not performed well during the study period except RC where as UTC, CC, IC and ZC.

Table – 6 - Profit before Depreciation and Tax [Rs.In Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	890,300	740,800	1,237,400	-1,677,100	1,876,300
MAX	9,830,100	5,980,100	8,687,900	4,270,200	47,707,700
AVG	5,065,530	3,569,540	5,623,620	**1,214,720**	**22,917,220**
SD	3249143.076	1747002.505	2516360.91	1611216.494	15577465.5
CV%	64.14	48.94	**44.75****	**132.64**	67.97
CAGR	3%	21%	16%	2%	**40%**

Source: Annual Reports ** Consistent performance (Ramco Cements)

The above table 6 explained that the mean of amount of PBDT ranges from Rs. **1,214,720** to Rs. **22,917,220** during the study period among the cement companies. The UTC had higher mean amount PBDT and ZC had least mean amount of PBDT during the period of study. The RC showed least coefficient of variation indicating the consistent performance of the PBDT and the ZC highest coefficient of variation indicating the inconsistent performance of the PBDT. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that PBDT is not performed well during the study period except RC where as UTC, CC, IC and ZC.

Table – 7- Profit before Tax **[Rs.In Crore]**

SUMMARY	IC	CC	RC	ZC	UTC
MIN	-1,624,000	-91,400	604,000	-1,738,200	-341,500
MAX	84,446,500	2,512,000	6,167,600	4,073,300	38,254,000
AVG	10,731,520	1,251,180	3,934,570	**1,075,940**	**17,638,930**
SD	26031151.7	838875.4825	2151622.11	1562512.371	12471469.1
CV%	**242.57**	67.05	**54.69****	145.22	70.70
CAGR	#	11%	**12%**	8%	#

Source: Annual Reports ** Consistent performance (Ramco Cements) (#value is not positive)

The above table 7 observed that the mean of amount of PBT ranges from Rs. **1,075,940** to Rs. **17,638,930** during the study period among the cement companies. The UTC had higher mean amount PBT and ZC had least mean amount of PBT during the period of study. The RC showed least coefficient of variation indicating the consistent performance of the PBT and the IC highest coefficient of variation indicating the inconsistent performance of the PBT. Among the cement companies, RC had highest compound annual growth rate during the study period. It is reveals that PBT is not performed well during the study period except RC where as UTC, CC, IC and ZC.

Table – 8 - Net Profit **[Rs.In Crore]**

SUMMARY	IC	CC	RC	ZC	UTC
MIN	-1,624,000	-42,100	137,700	261,400	28,500
MAX	6,375,400	1,880,000	4,082,900	3,935,500	26,554,300
AVG	2,315,000	**945,670**	2,581,960	1,037,720	**12,743,080**
SD	2489566.393	609624.0227	1554484.72	1149137.948	8942369.9
CV%	107.54	64.46	**60.21****	**110.74**	70.17
CAGR	#	**16%**	-14%	0%	#

Source: Annual Reports ** Consistent performance (Ramco Cements) (#value is not positive)

The above table 8 shows that the mean of amount of NP ranges from Rs. **945,670** to Rs. **12,743,080** during the study period among the cement companies. The UTC had higher mean amount NP and CC had least mean amount of NP during the period of study. The RC showed least coefficient of variation indicating the consistent performance of the NP and the ZC highest coefficient of variation indicating the inconsistent performance of the NP. Among the cement companies, CC had highest compound annual growth rate during the study period. It is reveals that NP is not performed well during the study period except RC where as UTC, CC, IC and ZC.

Analysis of variance -ANOVA

Analysis of Variance, abbreviated as ANOVA, was developed by R.A.Fisher; in fact the F-test was named in his honour. R.A.Fisher emphasized the important of randomness, that is, identical sample size is not required for single-factor ANOVA, but the sample sizes should be nearly equal as possible. The single factor ANOVA is said to represent a **completely randomized experimental design.**

$$f_c = \frac{\textit{between samples variance}}{\textit{within samples variance}}$$

H_o: all population means are the same (or effects of all treatments are the same)
H_1: all population means are not the same (or effects of all treatments are not the same)

One Way ANOVA: Under the one-way ANOVA, consider only one factor and then observe the reason for said factor to be important is that several possible types of can occur within that factor.

F-RATIO: This F-ratio works as the test statistic and follows snedico's f-distribution with (k-1), (n-k) degree of freedom. A distributed the test is a right tailed test. Therefore reject the null hypothesis that all the population means (0r the effects of all the treatments) are the same at given level of significance when the computed value of F-ratio is greater than the critical value.

Hypotheses of the Study

H_0: Null Hypothesis:

1. *There is no significant difference in the mean net sales among different cement companies during the study period.*
2. *There is no significant difference in the mean total income among different cement companies during the study period.*
3. *There is no significant difference in the mean total expenses among different cement companies during the study period.*

4. *There is no significant difference in the mean operating profit among different cement companies during the study period.*
5. *There is no significant difference in the mean PBDIT among different cement companies during the study period.*
6. *There is no significant difference in the mean PBDT among different cement companies during the study period.*
7. *There is no significant difference in the mean profit before tax among different cement companies during the study period.*
8. *There is no significant difference in the mean net profit among different cement companies during the study period.*
9. *There is no significant difference in the mean EPS among different cement companies during the study period.*

ANOVA -Table 9

1.NET SALES						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	5.05E+16	4	1.2626E+16	10.89	0.00	2.58**
Within Groups	5.21E+16	45	1.1586E+15			
Total	1.03E+17	49				
2.TOTAL INCOME						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	5.21E+16	4	1.3015E+16	10.86	0.00	2.58**
Within Groups	5.39E+16	45	1.1985E+15			
Total	1.06E+17	49				
3.TOTAL EXPENSES						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	3E+16	4	7.5088E+15	9.78	0.00	2.58**
Within Groups	3.45E+16	45	7.6751E+14			
Total	6.46E+16	49				
4.OPERATING PROFIT						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	3.01E+15	4	7.5137E+14	15.47	0.00	2.58**
Within Groups	2.19E+15	45	4.8561E+13			
Total	5.19E+15	49				
5.PBDIT						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	3.01E+15	4	7.5137E+14	15.47	0.00	2.58**
Within Groups	2.19E+15	45	4.8561E+13			
Total	5.19E+15	49				
6.PBDT						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	3.32E+15	4	8.2934E+14	14.44	0.00	2.58**
Within Groups	2.58E+15	45	5.7435E+13			
Total	5.9E+15	49				
7.PBD						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	3.02E+15	4	7.5483E+14	14.23	0.00	2.58**
Within Groups	2.39E+15	45	5.3039E+13			
Total	5.41E+15	49				
8.NET PROFIT						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	9.94E+14	4	2.4842E+14	13.76	0.00	2.58**
Within Groups	8.12E+14	45	1.8055E+13			
Total	1.81E+15	49				

5% level of significance **** rejected (*F> F crit)***

1. The above table shows that the calculated value of F is 10.89 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the

null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean net sales among different cement companies during the study period.

2. The total income observes that the calculated value of F is 10.86 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean total income among different cement companies during the study period.
3. The Total expenses narrates that the calculated value of F is 9.78 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean total expenses among different cement companies during the study period.
4. The Operating proves that the calculated value of F is 15.47 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean operating profit among different cement companies during the study period.
5. The PBDIT shows that the calculated value of F is 15.47 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean PBDIT among different cement companies during the study period.
6. The PBDT describes that the calculated value of F is 14.44 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean PBDT among different cement companies during the study period.
7. The PBT proves that the calculated value of F is 14.23 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean PBD among different cement companies during the study period.
8. The NP analyze that the calculated value of F is 13.76 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean NP among different cement companies during the study period.
9. The EPS observes that the calculated value of F is 2.23 which is less than the table value of 2.58 at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to insignificant. This analysis is supports the null hypothesis of indifference is sample means and alternative hypothesis is rejected. Researcher concludes that, there is significant difference in the mean EPS among different cement companies during the study period.

Liquidity of the Select Cement Companies

Liquidity plays a significant role in the successful functioning of a business firm. A firm should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business. Liquidity requirement of a firm depends on the peculiar nature of the firm and there is no specific rule on determining the optimal level of liquidity that a firm can maintain in order to ensure positive impact on its profitability.

Table – 10-Networth – Summary of Statistics [Rs.in Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	3,769,200	1,474,600	3,348,500	3,769,800	10,382,700
MAX	36,585,700	12,785,000	24,820,800	12,203,900	170,975,100
AVG	26,065,750	**6,676,700**	13,804,330	7,411,570	**70,635,110**
SD	12457376.4	4444807.6	7870056.9	2783679.2	62489849.6
CV%	47.79	66.57	57.01	**37.56**	**88.47**
CAGR	28%	27%	25%	6%	**36%**

Source: Annual Reports * Consistent performance (Zuari Cements)

The above table 10 shows that the mean of amount of net worth ranges from Rs. **6,676,700** to Rs. **70,635,110** during the study period among the cement companies. The UTC had higher mean amount net worth and CC had least mean amount of net worth during the period of study. The ZC showed least coefficient of variation indicating the consistent performance of the net worth and the UTC highest coefficient of variation indicating the inconsistent performance of the net worth. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that net worth is not performed well during the study period except ZC where as UTC, CC, RC and IC.

Table – 11-Total Debt – Summary of Statistics [Rs.in Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	15,252,400	2,313,600	6,024,500	1,100,000	14,518,300
MAX	27,540,000	9,970,300	25,665,100	10,825,300	48,727,800
AVG	21,029,410	**6,463,960**	16,956,530	7,596,775	**25,827,140**
SD	3783113.5	2959831.2	7624218.3	3243806.6	13138657.3
CV%	**17.99**	45.79	44.96	42.70	**50.87**
CAGR	3%	10%	14%	-17%	**14%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 11 explains that the mean of amount of total debt ranges from Rs. **6,463,960** to Rs. **25,827,140** during the study period among the cement companies. The UTC had higher mean amount total debt and CC had least mean amount of total debt during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the total debt and the UTC highest coefficient of variation indicating the inconsistent performance of the total debt. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that total debt is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 12-Total Liabilities – Summary of Statistics [Rs.in Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	23,641,600	4,741,400	9,956,300	5,776,200	24,901,000
MAX	64,125,700	20,796,600	47,260,500	21,909,800	219,702,900
AVG	47,075,160	13,160,660	30,760,860	**12,983,210**	**96,462,250**
SD	14911170.7	6878989.7	14618139	6010449.9	75302220
CV%	**31.68**	52.27	47.52	46.29	**78.06**
CAGR	11%	18%	18%	-3%	**27%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 12 narrates that the mean of amount of total liabilities ranges from Rs. **12,983,210** to Rs. **96,462,250** during the study period among the cement companies. The UTC had higher mean amount total liabilities and ZC had least mean amount of total liabilities during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the total liabilities and the UTC highest coefficient of variation indicating the inconsistent performance of the total liabilities. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that total liabilities is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 13- Current Assets – Summary of Statistics [Rs.in Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	3,862,600	1,235,100	1,996,100	533,100	5,119,200
MAX	9,764,900	7,650,700	10,341,000	16,305,100	39,268,800
AVG	7,410,440	**3,651,830**	5,395,960	5,829,330	**17,994,110**
SD	2017328.38	2364448.3	3018311.6	5349350.7	13264235.7
CV%	**27.22**	64.75	55.94	**91.77**	73.71
CAGR	11%	21%	19%	-10%	**25%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 13 observes that the mean of amount of current assets ranges from Rs. **3,651,830** to Rs. **17,994,110** during the study period among the cement companies. The UTC had higher mean amount current assets and CC had least mean amount of current assets during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the current assets and the ZC highest coefficient of variation indicating the inconsistent performance of the current assets. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that current assets is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 14 - Total Assets – Summary of Statistics [Rs.in Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	23,641,500	4,741,400	9,956,200	5,776,200	24,901,000
MAX	64,125,700	20,796,600	47,260,500	21,909,800	219,702,900
AVG	47,095,070	13,160,660	30,760,840	**12,983,180**	**96,462,250**
SD	14914657.3	6878989.7	14618168	6010483.4	75302220
CV%	**31.67**	52.27	47.52	46.29	**78.06**
CAGR	11%	18%	18%	-3%	**27%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 5 proves that the mean of amount of total assets ranges from Rs. **12,983,180** to Rs. **96,462,250** during the study period among the cement companies. The UTC had higher mean amount total assets and ZC had least mean amount of total assets during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the total assets and the ZC highest coefficient of variation indicating the inconsistent performance of the total assets. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that total assets is not performed well during the study period except IC where as UTC, CC, RC and ZC.

Table – 15 -Current Liabilities – Summary of Statistics [Rs.in Crore]

SUMMARY	IC	CC	RC	ZC	UTC
MIN	4,638,200	1,385,300	3,428,500	459,100	10,102,700
MAX	21,595,200	5,319,400	20,376,800	22,417,000	68,107,600
AVG	13,084,362	**2,746,760**	11,242,710	5,892,880	**34,012,000**
SD	6287550.03	1553113.6	6921461.7	6265117.2	25018359.3
CV%	**48.05**	56.54	61.56	**106.32**	73.56
CAGR	17%	15%	22%	-14%	**24%**

Source: Annual Reports ** Consistent performance (India Cements)

The above table 15 shows that the mean of amount of current liabilities ranges from Rs. **2,746,760** to Rs. **34,012,000** during the study period among the cement companies. The UTC had higher mean amount current liabilities and CC had least mean amount of current liabilities during the period of study. The IC showed least coefficient of variation indicating the consistent performance of the current liabilities and the ZC highest coefficient of variation indicating the inconsistent performance of the current liabilities. Among the cement companies, UTC had highest compound annual growth rate during the study period. It is reveals that current liabilities are not performed well during the study period except IC where as UTC, CC, RC and ZC.

Hypotheses

1. *There is no significant difference in the mean net worth among different cement companies during the study period.*
2. *There is no significant difference in the mean total debt among different cement companies during the study period.*
3. *There is no significant difference in the mean total liabilities among different cement companies during the study period.*
4. *There is no significant difference in the mean current assets among different cement companies during the study period.*
5. *There is no significant difference in the mean total assets among different cement companies during the study period.*
6. *There is no significant difference in the mean current liabilities among different cement companies during the study period.*

ANOVA – Table - 16

1.NET WORTH						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	2.8541E+16	4	7.135E+15	8.59	0.00	2.58**
Within Groups	3.7346E+16	45	8.299E+14			
Total	6.5888E+16	49				
2.TOTAL DEBT						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	2.8343E+15	4	7.086E+14	13.40	0.00	2.58**
Within Groups	2.3791E+15	45	5.287E+13			
Total	5.2134E+15	49				
3.TOTAL LIABILITIES						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	4.7736E+16	4	1.193E+16	9.64	0.00	2.58**
Within Groups	5.5709E+16	45	1.238E+15			
Total	1.0345E+17	49				

4.CURRENT ASSETS						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	1.3061E+15	4	3.265E+14	7.31	0.00	2.58**
Within Groups	2.0099E+15	45	4.467E+13			
Total	3.3161E+15	49				
5.TOTALASSETS						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	4.7739E+16	4	1.193E+16	9.64	0.00	2.58**
Within Groups	5.571E+16	45	1.238E+15			
Total	1.0345E+17	49				
6.CURRENT LIABILITIES						
Source of Variation	***SS***	***df***	***MS***	***F***	***P-value***	***F crit***
Between Groups	5.9946E+15	4	1.499E+15	9.92	0.00	2.58**
Within Groups	6.7952E+15	45	1.51E+14			
Total	1.279E+16	49				

5% level of significance ** rejected (*F> F crit)*

1. The networth observes that the calculated value of F is 8.59 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean net worth among different cement companies during the study period.
2. The Total debt explains that the calculated value of F is 13.40 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean total debt among different cement companies during the study period.
3. The total liabilities narrates that the calculated value of F is 9.64 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean total liabilities among different cement companies during the study period.
4. The current assets proves that the calculated value of F is 7.31 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean current assets among different cement companies during the study period.
5. The total assets shows that the calculated value of F is 9.64 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean total assets among different cement companies during the study period.
6. The current liabilities examines that the calculated value of F is 9.92 which is more than the table value of 2.58** at 5% level with d.f. being BG=4 and WG=45 and hence could have arisen due to significant. This analysis is not supports the null hypothesis of difference is sample means and alternative hypothesis is accepted. Researcher concludes that, there is significant difference in the mean current liabilities among different cement companies during the study period.

Suggestions of the Study

1. Sales are typically the starting point of the profitability performance. Most of profitability performances are projected in relation to the estimated level of sales. The cement companies should be adopted for relevant sales policy and improve sales for the following years.

2. Total Income is very essential and vital role of every companies of the financial performance in profitability. The cement companies should be implemented internal auditors, cost auditor, decrease advertisement costs, increase material supply for core industries like infrastructure companies and more concentrate total income, decrease costs.
3. Total Expenses is very crucial role of every companies of the financial performance of profitability because of income level increase based on reduction of cost control or minimize cost and reduce unwanted expenditure. The select cement companies will concentrate reduction of cost and adopt relevant cost policy of the further accounting period.
4. Operating Profit includes all expenses except interest and income tax expenses. The cement companies are evaluates firm fundamental earnings and determines the potential use of debt vs. equity. Operating profit should to focus and increase base on cost control and increase sales. Therefore, companies should increase and concentrate to increase operating profit for the subsequent accounting period.
5. PBDIT financial performance of firms potentially before any legally required payments, such as taxes and interest on debt are paid. The companies should to focus on analyzing and compare profitability between cement companies because it eliminates the effects on financing and accounting divisions. Therefore companies should internally change some mechanism and adopt new technology and reduce depreciation cost and increase to profitability for the following accounting period.
6. PBDT financial performance of firms potentially before any legally required payments, such as depreciation and interest on debt are paid. The companies should to focus on reduce interest and choose alternate payments. The companies should reduce outsider funds because payment of interest is high and profit is low therefore company should focus and increase own funds with limit borrowings.
7. Profitability of firms is determined PBT is very vital role of cement companies. Therefore, cement companies should to target increase sales, reduce interest payments and to lead a higher net profit.
8. Evaluate the potentially performance of the companies and also measure profitability of the companies. The cement companies should to increase strength increase net profit can potentially increase its profitability by taking steps to reduce cost and increase sales, altering the price of a product or service or improving advertising or distribution could potentially increase sales lead to a higher net profit.
9. The strength of the business, safety, to provide more dividends, to increase company's wealth and to increase EPS of the companies and also especially in times of economic uncertainty. The cement companies should focus to increase profit, reduce operating expenses, reduce interest, and maintain minimum level dividend and others.
10. Long-Term solvency of the companies during the study period is better India cements better performance in compare with other cement companies. The rest of the companies should to approach maximum use of outsider fund or debt with cheap rate of interest where as equity or preference shares dividend.
11. Long-Term solvency of the companies. Total liabilities is favour of respective companies based on thick or thin equity basis because of payment of interest and payment as dividend is high or low. Therefore, cement companies should be increase the strength of liabilities.
12. Short-Term solvency of the companies the value of all assets that can reasonably expected to be converted into cash within one year. Current assets are anything of value that is highly liquid. Current assets can be used to pay outstanding debts and cover liabilities without having to sell fixed assets. Therefore, cement companies are increased current assets position for the following accounting period.
13. Total assets are favour of respective companies based on permanent order or liquidity basis. In compare with value of permanent (fixed assets) is high where as liquid assets. The cement companies are not satisfactory level of liabilities except IC. Therefore, those companies should be increase the strength of total assets.
14. Short –term liabilities that can reasonably expected to pay within one year. The cement companies are decreased current liabilities position for the following accounting period.

Conclusion

Cement industry, which has been signed out from investigation in the present study, is indeed the backbone of economic growth in any country. A thick relationship has been found between the level of economic growth and the quantum of cement consumption in developed as well developing countries. Cement industry, through its forward linkages provides the maximum stimulus to growth in other industry also. One employee in cement manufacturing activity supports eight to ten persons in related activities. The profitability and liquidity position is very important role by the cement companies. Hence the companies should to increase EPS, Net worth, increase turnover, create demand for products with less cost.

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