



## Financial Performance of Cement Industry in India – A Special Reference To Select Cement Companies

**M. SENTHILKUMAR**

Ph.D., Research Scholar, Poompohar College, Poombuhar, Tamilnadu.

**Dr.A.PANNEERSEL-VAM**

Principal (Retd.), Poompohar College, Poombuhar, Tamilnadu.

### ABSTRACT

The study analysed financial performance of the selected cement companies in India using Altman's Z-score model. The period of the study was ten years from 2004-05 to 2013-14. The study found that financial soundness of Ambuja Cements Ltd. was good during the study period, since its overall Z-score was more than the standard during all the years of the study period. Financial position of ACC Ltd. and Ultratech Cements Ltd. were also good, since their overall Z-score was more than the standard during seven years and it was at moderate level during other three years. Financial soundness of Shree Cements Ltd. was satisfactory during the study period, its Z-score was more than the standard during six years and it was moderate during other four years. Financial soundness in terms of Z-scores of JK Cements Ltd. and India Cements Ltd. was not good since in no year their calculated Z-score was more than the standard. It was also observed that financial soundness of Barak Valley Cements Ltd. and Ramco Cements Ltd. was also not satisfactory during the study period.

### KEYWORDS

#### Introduction

Cement industry is one of the basic industries in India. This industry supports for the development of economy, since it provides raw material to all infrastructure of the country. In India there are many cement units in various sizes such as small, medium and large. But most of the cement products are being produced by joint large units such as joint stock companies. Cement industry provides employment opportunities to people both directly and indirectly and it provides continues supply of cement for construction. Joint stock companies are invested by industrialists and public by buying shares. Long survival of the companies will help the investors to get return on their investment and capital appreciation of their investment. Long survival of a company is possible only by earning stable and continues profit, it is possible with efficient financial management. So study of financial performance of cement companies is becoming importance. A study of financial management includes both short term and long term financial management. Some methods propounded by earlier researchers to study efficiency of financial management of manufacturing companies. Altman's Z-score model is one of the popular models to study financial performance of manufacturing companies. The study has applied the above method for the present study.

#### Literature Review

Sarangarajan.V et al (2013) in their study found that madras cement was the most efficient firm. Overall performance through maximization of shareholder wealth was concerned the cement industry performance was good in Tamil Nadu during 1997,1998 and 2004. Rajesh.M et al (2012) evidenced that ACC limited, Grasim cement limited, Panyam cement limited and Shree cement limited were having satisfactory performance with consistent returns to the shareholders. Geetha.T.N and Ramasamy.S (2014) identified that the cement companies' performances were good during the study period. The CAGR of the operating cost was 14.01% per year, the CAGR of the total expenses was 15.55 per year. There was an improvement in the performance efficiency of the Indian cement industries. Venkataramana.N et al (2012) found that liquidity, working capital turnover efficiency and solvency position

of the selected cement companies were not satisfactory. In this study the Z-score analysis result showed that KCP limited and Kesoram industries limited had poor financial performance and Dalmia Bharat limited was at the edge of bankruptcy.

#### Objective

To study financial performance of selected cement companies in India using Altman's Z-score model.

#### Methodology

The present study has analysed financial performance of nine cement companies in India namely, ACC Ltd. (ACC), Ambuja Cements Ltd. (AMC), Barak Valley Cements Ltd. (BVC), Chettinad Cements Corporation Ltd. (CC), India Cements Ltd. (INC), JK Cements Ltd. (JKC), Ramco Cements Ltd. (RC), Shree Cements Ltd. (SHC) and Ultratech Cements Ltd. (UTC). The period of the study was ten years from 2004-05 to 2013-14. The study required accounting data, which were collected from financial reports of the concerned companies and they were extracted from annual reports. The study used ratio analysis and Altman's Z-score model for analysis.

#### Altman's Z-Score Model

The Z-score is a linear combination of five common business ratios, weighted by coefficients. Overall Z-score was calculated as follows,

$$Z = 1.2T_1 + 1.4T_2 + 3.3T_3 + 0.6T_4 + 0.99T_5.$$

Here,

$T_1$  = Working Capital / Total Assets.

$T_2$  = Retained Earnings / Total Assets.

$T_3$  = Earnings Before Interest and Taxes / Total Assets.

$T_4$  = Market Value of Equity / Book Value of Total Liabilities.

$T_5$  = Sales/ Total Assets.

The score may be interpreted as follows.

$Z > 2.99$  - "Safe" Zones

$1.81 < Z < 2.99$  - "Grey" Zones

$Z < 1.81$  - "Distress" Zones

**Results and Interpretation**

This section of the paper has given the results of Altman's Z-score analysis for the sample companies. Table 1 presents the results of various components and overall score of Altman's Z-score model for the selected companies.

**Table 1**  
**Altman's Z-Score Results of Selected Cement Companies**

Results	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
<b>ACC</b>										
T1	0.04	0.08	0	0	-0.09	-0.09	0	0.12	0.1	-0.01
T2	0.32	0.5	0.55	0.56	0.58	0.57	0.59	0.6	0.63	0.64
T3	0.12	0.28	0.27	0.21	0.24	0.14	0.14	0.13	0.11	0.1
T4	1.46	2.49	1.92	1.83	1.07	1.61	1.7	2.14	1.8	2.06
T5	0.88	0.98	0.98	0.86	0.8	0.7	0.79	0.95	0.92	0.93
Z-Score	2.65	4.2	3.79	3.42	2.92	2.79	3.08	3.65	3.34	3.35
<b>AMC</b>										
T1	0.05	0.09	0.06	0.11	0.03	0.07	0.1	0.18	0.21	0.2
T2	0.47	0.59	0.67	0.69	0.7	0.68	0.67	0.68	0.71	0.7
T3	0.15	0.35	0.43	0.26	0.21	0.17	0.15	0.16	0.12	0.13
T4	13.3	2.88	2.48	2.36	1.23	1.77	1.97	2.13	2.07	2.24
T5	0.64	1.15	0.87	0.8	0.8	0.72	0.74	0.78	0.7	0.71
Z-Score	9.81	4.96	4.77	4.14	3.21	3.36	3.49	3.75	3.58	3.72
<b>BVC</b>										
T1	0.32	0.23	0.24	0.26	0.28	0.25	0.29	-0.06	-0.06	-0.05
T2	0.21	0.26	0.34	0.44	0.46	0.47	0.42	0.35	0.35	0.32
T3	0.25	0.21	0.21	0.13	0.09	0.11	0.03	0	0.05	0.04
T4	1.58	1.22	1.04	0.62	0.27	0.42	0.27	0.16	0.08	0.08
T5	0.84	0.7	0.83	0.6	0.73	0.79	0.59	0.56	0.63	0.56
Z-Score	3.28	2.75	2.9	2.33	2.17	2.37	1.79	1.09	1.25	1.12
<b>CC</b>										
T1	0.14	0.11	0.06	0.24	0.14	0.19	0.1	-0.14	-0.03	0.03
T2	0.19	0.22	0.32	0.35	0.19	0.41	0.38	0.41	0.44	0.48
T3	0.1	0.12	0.25	0.25	0.02	0.1	0.07	0.14	0.1	0.07
T4	0.58	1.48	1.77	1.32	0.77	1.03	0.79	0.84	1	1.05
T5	0.63	0.73	0.98	0.89	0.65	0.68	0.65	0.81	0.93	0.86
Z-Score	1.75	2.46	3.37	3.28	1.61	2.44	2	2.16	2.42	2.43
<b>INC</b>										
T1	0.27	0.28	0.27	0.18	0.14	0.2	0.22	-0.11	-0.09	-0.1
T2	0.36	0.44	0.41	0.48	0.48	0.49	0.48	0.46	0.43	0.41
T3	0.04	0.05	0.13	0.15	0.11	0.09	0.03	0.08	0.06	0.02
T4	0.28	0.88	0.89	0.83	0.42	0.52	0.37	0.41	0.29	0.21
T5	0.35	0.45	0.55	0.48	0.47	0.46	0.43	0.49	0.5	0.48
Z-Score	1.46	2.1	2.41	2.36	1.91	1.98	1.68	1.5	1.37	1.12
<b>JKC</b>										
T1	0.1	0.22	0.19	0.2	0.27	0.11	0.16	0.1	0.03	0.06
T2	0.29	0.41	0.46	0.52	0.52	0.43	0.39	0.41	0.42	0.33
T3	0.03	0.08	0.19	0.2	0.13	0.13	0.06	0.12	0.12	0.06
T4	0.63	0.83	0.62	0.6	0.13	0.42	0.29	0.31	0.47	0.33
T5	0.28	0.6	0.75	0.77	0.69	0.61	0.61	0.71	0.74	0.55
Z-Score	1.27	2.17	2.61	2.74	2.24	2.01	1.7	1.97	2.05	1.46
<b>RC</b>										
T1	0.11	0.07	0.11	0.11	0.1	0.11	0.09	-0.08	-0.06	-0.07
T2	0.23	0.27	0.33	0.28	0.27	0.29	0.3	0.33	0.36	0.36
T3	0.07	0.1	0.23	0.16	0.11	0.11	0.08	0.12	0.12	0.05
T4	0.86	1.84	1.67	1.19	0.04	0.55	0.42	0.6	0.93	0.74
T5	0.52	0.69	0.78	0.57	0.53	0.51	0.44	0.52	0.57	0.52
Z-Score	1.71	2.59	3.15	2.33	1.41	1.74	1.46	1.64	1.95	1.55
<b>SHC</b>										
T1	0.10	0.07	0.28	0.25	0.22	0.13	0.11	0.12	0.14	0.11
T2	0.40	0.33	0.27	0.26	0.35	0.37	0.40	0.45	0.62	0.64
T3	0.06	0.04	0.12	0.17	0.24	0.19	0.04	0.15	0.21	0.13
T4	1.50	3.29	1.87	1.51	0.73	1.63	1.48	1.86	2.30	2.68
T5	0.74	0.71	0.80	0.83	0.80	0.74	0.72	1.00	0.83	0.80
Z-Score	2.53	3.36	3.01	2.94	2.76	3.01	2.42	3.40	3.93	3.86
<b>UTC</b>										
T1	0.11	0.06	0.04	0	0.02	0.02	0.02	0.1	0.06	0.11
T2	0.26	0.25	0.35	0.41	0.45	0.54	0.52	0.55	0.55	0.57
T3	0.04	0.1	0.27	0.25	0.19	0.2	0.1	0.16	0.15	0.1
T4	1.22	2.35	2.06	1.55	0.89	1.73	1.55	1.8	1.87	2.02
T5	0.74	0.91	1.05	0.88	0.83	0.84	0.66	0.8	0.73	0.67
Z-Score	2.1	3.08	3.71	3.22	2.64	3.32	2.67	3.28	3.16	3.15

Source: Computed from Annual Reports

Table 1 shows that Proportion of liquid assets of ACC Ltd. was very low during the study period. Company's age and earning power of the company was in increasing trend, it shows good earning capacity, since its retained earnings is increasing every year. Operating efficiency in terms of earnings before interest and taxes to total assets was in decreasing trend during the study period. Market value to book value of shares of the company was more than one during all the years of the study period. It shows during the study period its market value of the share was more than its book value. Size of business in terms of net sales to total assets was at moderate level. Z-score of the company was more than 2.99 during 2005-06 to 2007-08 and during last four years of the study period, it shows during the period financial soundness of the company was good and the company was in safe zone and during other years the ratio was less than 2.99 but more than 1.81, it shows that the company was in grey zone during the years and its financial soundness was in moderate level. The proportion of liquid assets of Ambuja Cements Ltd. was in increasing trend. Earning capacity of the company as its age of the company was good. Operating performance of the company also was found to be good. The proportion of market value of share to book value was more than its book value. Size of business in terms of net sales to total assets was at moderate level. Z-score of the company was more than 2.99 during all the years of the study period and the overall score was very high, therefore financial position of the company was good during the study period. The proportion of net current assets of Barak valley Cements Ltd. was in decreasing trend during the study period. The also had moderate earning power. T3 ratios showed uncertainty in earnings by the company. There was poor market valuation of shares of the company. The company had low level of sales during the study period. Z-score of the company was more than 2.99 during the first year of the study period, therefore its overall financial position was good during the first year. The ratio was less than 2.99 but more than 1.81 during the next five years of the study period, hence its financial position was at moderate level during the period. The ratio was less than 1.81 during the last four years of the study period, it indicates distress financial position during the period.

Table 1 also shows that net working capital to total assets of Chettinad Cements Corporation Ltd. was low during the study period and it was fluctuating. Retained earnings to total assets was at moderate level. Operating efficiency of the company was not good during the study period except during 2006-07 and 2007-08. Market valuation of shares of the company was less than its book value during four years. Performance of the company in terms of size of the firm was not good. Overall Z-score of the company was more than 2.99 during 2006-07 and 2007-08, during these years the company's long term financial position was good. The ratio was less than 2.99 but more than 1.81 during 2005-06 and during last five years of the study period, hence its financial position was at moderate level and the ratio was less than 1.81 during 2004-05 and 2008-09, it indicates poor financial position of the company during these years. Net working capital to total assets of India Cements Ltd. was high during first seven years and low during last three years. Age of the firm and earnings capacity of the company was at moderate level. Operating efficiency of the company was not good. Market value of equity shares of the company was less than book value during all the years of the study period. Size of the company was also not satisfactory. Overall Z-score of the company was more than 2.99, the score was between 1.81 and 2.99 during the period from 2005-06 to 2009-10, during the period its long-term financial position was satisfactory and during other years the ratio was less than 1.81, it indicates poor financial position of the company. Net working capital to total assets of JK Cements Ltd. was fluctuating during the study period. The results showed poor earning capacity of the company. Operating efficiency of the company was good during 2006-07 and 2007-08. Market valuation of equity shares of the company was also not satisfactory during all the years of the study period. Performance in terms of sales to total

sets was not satisfactory. Overall Z-score of the company was not more than 2.99 during any year of the study period, but it was between 1.81 and 2.99 during the period from 2005-06 to 2009-10 and during 2011-12 and 2012-13. It shows poor financial position of the company during the study period.

Net working capital to total assets of Ramco Cements Ltd. was fluctuating during the study period. Retained earnings to total assets of the company was increasing during the study period. Operating efficiency of the company was not satisfactory. Market valuation of equity shares of the company was more than one during 2005-06 to 2007-08 and during other years it was less than one. Sales to total assets of the company was also low during all the years of the study period. Overall Z-score of the company was more than 2.99 during 2006-07, during the year alone financial position of the company was good and it lied between 1.81 and 2.99 during 2005-06, 2007-08 and during last two years of the study period, it indicated their financial position was at satisfactory level during these years and during other years the score was less than 1.81, it indicated poor financial position of the company. Overall, financial soundness of the company was not good during the study period. Net working capital to total assets of Shree Cements Ltd. was fluctuating during the study period. The ratio of retained earnings to total assets (T2) was also fluctuating but earning capacity was good. Operating efficiency of the company was at moderate level. The results showed high market valuation of equity shares of the company than its book value. Sales to total assets of the company was low. Overall Z-score of the company was more than 2.99 during 2005-06, 2006-07, 2010-11 and during last three years of the study period, the ratio was between 1.81 and 2.99 during other years of the study period. These results show sound financial position of the company during the study period. Net working capital to total assets of Ultratech Cements Ltd. was low during the study period. The company had strong earning capacity. Operating efficiency of the company was high during 2006-07 to 2009-10 and it was at moderate level during other years. Market value of equity shares of the company was more than its book value. The results shows lower amount of sales to total assets during the study period. Overall Z-score of the company was more than 2.99 during the period from 2005-06 to 2007-08, 2009-10 and during last three years of the study period and during other years the score lied between 1.81 and 2.99. These results show sound financial position of Ultratech Cements Ltd. during the study period.

### Conclusion

The study analysed financial performance of the selected cement companies in India using Altman's Z-score model. The study found that financial soundness of Ambuja Cements Ltd. was good during the study period, since its overall Z-score was more than the standard during all the years of the study period. Financial position of ACC Ltd. and Ultratech Cements Ltd. were also good, since their overall Z-score was more than the standard during seven years and it was at moderate level during other three years. Financial soundness of Shree Cements Ltd. was satisfactory during the study period, its Z-score was more than the standard during six years and it was moderate during other four years. Financial soundness in terms of Z-scores of JK Cements Ltd. and India Cements Ltd. was not good since in no year their calculated Z-score was more than the standard. It was also observed that financial soundness of Barak Valley Cements Ltd. and Ramco Cements Ltd. was also not satisfactory during the study period.

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