Industrial Engineering Letters
ISSN 2224-6096 (Paper) ISSN 2225-0581 (online)
Vol.4, No.4, 2014

A Study To Measures The Financial Health Of Selected Firms With Special Reference To Indian Logistic Industry: AN APPLICATION OF ALTMAN'S Z SCORE

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ABSTRACT
The Main and utmost important primary objective of any business organization is to maximize
Profit, return and wealth. Profit important not only for survival but also for expansion and pay obligations to the contributories. This paper or present study analyze or investigate the financial health of logistic industry in India with special reference to Container Corporation, Gati Ltd., All Cargo, Aegis etc. For the study period 2005-06 to 2011-2012. Present study reveals that Indian logistic industry was on the range of Healthy and too healthy in our study, Average Z value of all the selected firms for 7 Years were in between 1.82 to 3.39 (2005- 06 to 2011-12). It is good that average Z score value increases from 2006 to 2010 (2.54 to 3.01) when Indian economy hit by global recession. This indicates the overall performance of Indian logistic industry was good. In this regard the present study has investigates the answer of the following questions:
Q-1- Is there any improvement in profitability in Indian logistic industry.
Q-2- Is there any efficiency in return in Indian logistic industry.
KEYWORDS: Altman's Z – Score, Financial performance Financial Ratios.

INTRODCUTION

Like the importance of blood in human body, finance is also important for any organization. Finance is all about acquiring and investing funds in organization. It is important for commencing, conducting and expanding the business of the organization whether the company is new or existing. The decision regarding financing and investing has an important role for achieving organization goals.
To know about the organization financial position and health financial analysis is required. Financial analysis is a process of critical examination of the financial information contained in the financial statement in order to understand and make decision regarding the operation of the firm. The financial statement is a study of the relationship among various financial facts and figures as given in a set of financial statements. The analysis of financial statement is the process of establishing and identifying the financial weakness and strength of the firm. It is indicative of two aspects of a firm i.e. Profitability and financial position. For analyzing financial position and profitability ratio analysis one of the most important and widely used technique, which is relevant in assessing the firm performance in relation to profitability, Liquidity and solvency etc. with this it also help to know about the financial distress of business organization. In this study we attempt to know or examine the financial health of logistic industry in India

REVIEW OF LITERATURE

From the various studies the most appropriate studies available on this subject was given by **Altman, E.I. "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy." Journal of Finance 23(4), (1968):** In his work he analyzed the financial position with the help of ratio analysis, which was further analyzed with the help of multiple discriminant analysis, through which a discriminant coefficient was determined. The model was formulated to determine the bankruptcy of any company.

Richard D. Gritta, Bahram Adrangi, Brian Adams, and Nina Tatyanina Journal of the Transportation Research Forum, Vol. 47, No. 2 (Summer 2008) In his work analyzed the financial health of the major U.S. air carriers has worsened throughout the first decade of the 21st century. With the exception of Southwest, carriers experienced a decline in their financial health as measured by the Altman Z'' Score Model.

M.S.Ramaratnam, R.Jayaraman, A Study On Measuring The Financial Soundness Of Select Firms With Special Reference To Indian Steel Industry – An Empirical View With Z Score, Asian Journal Of Management Research, Issn 2229 – 3795, This study was conducted to analyze, predict and compare the financial performance of sample firms drawn from Indian Steel industry. The study revealed that all the selected companies are financially sound during the study period.

Sarbapriya Ray, Assessing Corporate Financial Distress in Automobile Industry of India: An Application of Altman's Model Research Journal of Finance and Accounting ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online) Vol 2, No 3, 2011 analyzed in this paper is that corporate failure is a process commencing with poor management decisions and that the trajectory of this\ process can be tracked using accounting ratios. This study tries to examine the combined effect of various financial ratios with the help of Multiple Discriminate Analysis (MDA).

Nilanjana Kumari, Evaluation Of Financial Health Of MMTC of India: A Z Score Model: European Journal of Accounting Auditing and Finance Research Vol.1 No. 1, March 2013, The Z-Score of MMTC based on Altman's model of Z score is much higher than 3.00. So, it can be predicted that bankruptcy is unlikely to occur for MMTC in the next two years. Finally, it can be concluded that the overall financial health of MMTC is good, and it can be quoted as an investor friendly company.

N.R.V. Ramana Reddy, K. Hari Prasad Reddy: Financial Status Of Select Sugar Manufacturing Units-Z Score Model, International Journal Of Education And Research Vol. 1 No. 1 January 2013: In this the Z-score analysis shows the poor financial performance leading to bankruptcy of Chittoor co-operative sugars Ltd. However, the Z-score was in increasing trend from the year 2004 to 2010 indicating the company became aware of the financial performance and taken corrective measures to increase its financial performance. Comparatively the financial performance of Sri Venkateswara Sugars Factory Ltd. performance is good. All the three companies are facing financial distress.

Dr.D.Maheswara Reddy And Mr.K.V.N.Prasad,Financial Health Of Hdfc: A Case Study, Asian journal of research in banking and finance, Volume 1, Issue 3 (December, 2011) ISSN: 2249-7323, In this study an attempt has been made to determine the combined effect of various financial ratios with the help of Z-score analysis. The Z score of HDFC Bank Ltd based on the modified Altman's model is between 4.05 and 5.09 during the study period (i.e. 2006 to 2010). HDFC Bank Ltd is having a good financial health throughout the five years.

Ms.S.Praveena, , Dr.K.Mahendran, & Tmt.S.Moghana Lavanya, , Assessing the Financial Health of Seed industry in India – An Application of Altman's Model, Research journal of economics and business studies,Volume-1, No.09, Issue July 2012,ISSN-2251-1555, In this study an attempt was made to determine the combined effect of various financial ratios with the help of Z-score analysis. Andhra Pradesh seeds, Ajeet seeds, Kumaon seeds and Unicorn seeds were found to have a good financial health. These companies have to maintain an appropriate balance between the equity and the debt.

Mr. Y. M. Satish & B. Janakiram "Turnaround Strategy Using Altman Model as a Tool in Solar Water Heater Industry in Karnataka", International Journal of Business Management, Vol. 6, No. 1, January 2011. In this study, the major apart from quantitative factors, some qualitative factors such as Character, Capacity, Capital and Condition of customers
should also be considered in assessment of creditworthiness. This study also indicates that company should introduce assessment of creditworthiness before providing credit sales and changes should be made in the present credit policy.

M. KANNADHASAN (2007) , Measuring financial health of a public limited company using Z score Model- A case Study, An attempt has been made in the present study to have an insight into the examination of financial health of a watch company in India. To evaluate the financial conditions and performance of a company, this study, uses Z score model.The study concludes that the company's overall financial health was good.

REASERCH METHODOLOGY

The study was concerned with Indian Logistic Industry. The study was on the secondary data, which was obtained from the online sources for a period of 07 years from; 2005 to 2012.The collected data was analyzed with the help of ratio analysis. Accounting ratios were used to predict the financial performance of the company

and also the Z score analysis has been adopted to measure financial health of the companies to predict as well as to avoid business failure and subsequent bankruptcy. In addition to that, the study used statistical tool like Mean & Standard Deviation.

OBJECTIVES OF THE STUDY

- To measure the financial performance of the Indian logistic industry.
- To know the efficiency in financial operations of selected logistics companies.

MEASURING FINANCIAL HEALTH

Ratio analysis is typically used to measure liquidity, leverage, activity, profitability and growth. No single ratio calculation can provide a meaningful complete picture of a company's financial position. Keeping the above point in mind, this study uses 'Z' score model, which captures
the predictive viability of a company's financial health by using a combination of financial ratios that ultimately predicts score, which are used to determine the financial health of a company.

'Z' SCORE MODEL

About 40 years ago, Edward I, Altman, a financial economist at New York University's Graduate School of Business, developed a model for predicting the likelihood that a company would go bankrupt. This model uses five financial ratios that combine in a specific way to produce a single number. This number, called the Z= score, is a general measure of corporate financial health. The most famous failure prediction model is Altman's Z-Score Model. Based on Multiple Discriminate Analysis (MDA), the model predicts a company's financial health based
on a discriminate function of the firm.

$$\mathbf{Z = 1.2\ T1 + 1.4\ T2 + 3.3\ T3 + 0.6\ T4 + 1.0\ T5}$$

Where:

Z = Discriminate function score of a firm
T1= Working Capital / total assets
T2= Retained earnings / total sales
T3= Earnings before interest and taxes / total assets
T4= Market value of equity / book value of total liabilities or reciprocal of debt- equity ratio,
T5= Sales / total assets.

ALTMAN GUIDELINES FOR HEALTHY ZONE

With the help of Altman guidelines, the financial health can be measured.

Situation	Z-Score	Zone
I	Below 1.8	Not Healthy
II	Between 1.8 to 2.99	Healthy
III	More than 3.00	Too Healthy

ANALYSIS & RESULTS:

Table 1- T1= Working capital to Total assets ratios.

Years	Gati	CC	All Cargo	Aegis	Mean	SD
2005-06	0.22	-	0.2	-	0.21	0.02
2006-07	0.21	0.45	0.19	0.96	0.45	0.36
2007-08	0.17	0.41	0.24	0.18	0.25	0.11
2008-09	0.15	-0.17	0.31	-0.08	0.05	0.22
2009-10	0.17	-0.18	0.23	-0.17	0.01	0.22
2010-11	0.12	-0.19	0.28	-0.1	0.03	0.21
2011-12	0.24	-0.2	0.36	-0.13	0.07	0.28
Mean	0.18	0.02	0.26	0.11		
SD	0.04	0.32	0.06	0.43		

Inference: This ratio is a good test for corporate distress. A firm with negative working capital is likely to experience problems meeting its short-term obligations because they simply are not enough current assets to cover those obligations. From the above table it is observed that Container Corporation and Aegis ratio percentage is negative from 2008 to 2012 indicating the firm's is not able to meet its current obligations. Average percentage of T1 is highest in all cargo that is 0.26.

Graphical presentation of mean and S.D. of working capital to total assets ratio.

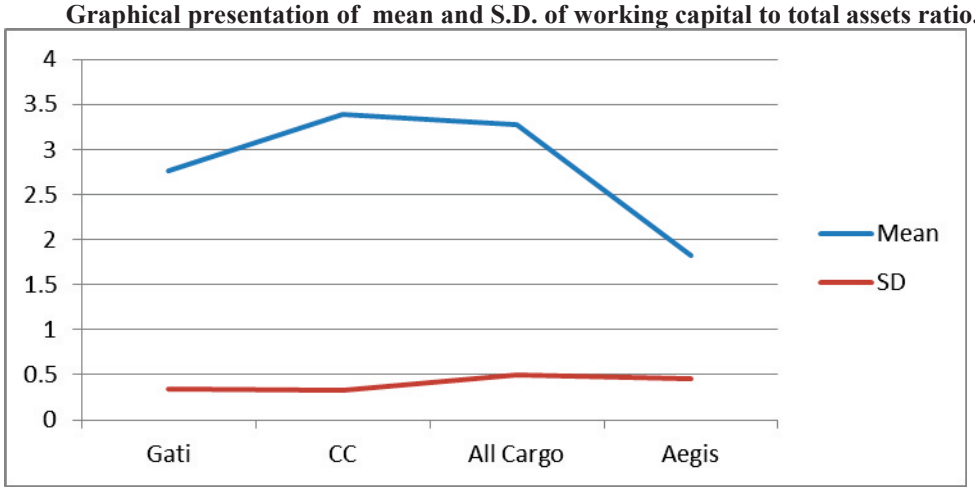

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Table 2- T2 = Retained earnings to total assets ratios.

Years	Gati	CC	All Cargo	Aegis	Mean	SD
2005-06	0.12	-	0.17	-	**0.14**	**0.04**
2006-07	0.08	0.17	0.12	0.01	**0.09**	**0.07**
2007-08	0.05	0.19	0.15	0.12	**0.13**	**0.06**
2008-09	-0.03	0.19	0.17	0.14	**0.12**	**0.10**
2009-10	0.02	0.22	0.17	0.10	**0.13**	**0.09**
2010-11	0.03	0.24	0.14	0.16	**0.14**	**0.09**
2011-12	0.07	0.29	0.30	0.13	**0.20**	**0.12**
Mean	**0.05**	**0.22**	**0.17**	**0.11**		
SD	**0.05**	**0.04**	**0.06**	**0.05**		

Inference: This ratio measures the amount of reinvested earnings or losses, which reflects the extent of the company's leverage. Companies with low RE/TA are financing capital expenditure through borrowings rather than through retained earnings. Companies with high RE/TA suggest a history of profitability and the ability to stand up to a bad year of losses. From the above table
It is observed that the average highest retained earning percentage is maintained by Container Corporation that is 22% and after that All cargo is 17%.

Graphical presentation of mean and S.D. of retained earnings to total assets ratio.

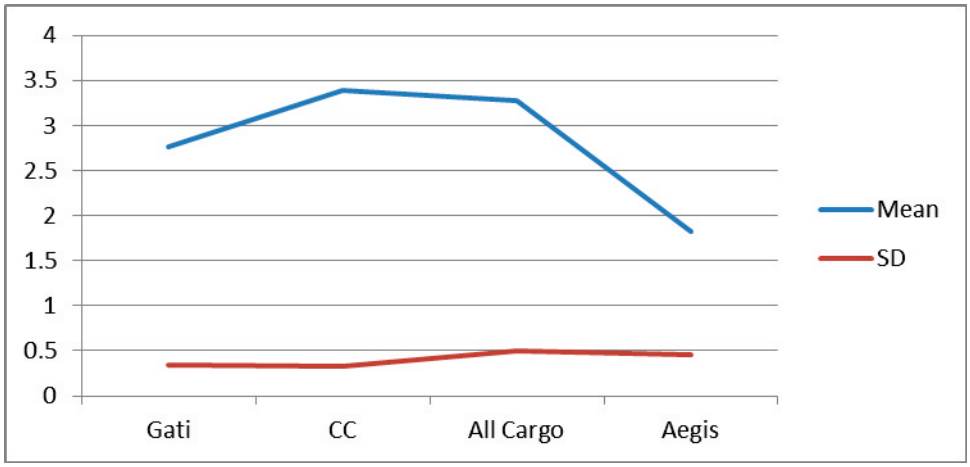


Table 3- T3 = Earnings before Interest and taxes to total assets ratios.

Years	Gati	CC	All Cargo	Aegis	Mean	SD
2005-06	0.55	-	0.75	-	**0.65**	**0.14**
2006-07	0.39	0.60	0.58	-0.01	**0.39**	**0.28**
2007-08	0.30	0.67	0.61	0.66	**0.56**	**0.18**
2008-09	0.22	0.73	0.78	0.82	**0.64**	**0.28**
2009-10	0.36	0.81	0.78	0.74	**0.67**	**0.21**
2010-11	0.40	0.90	0.57	0.90	**0.69**	**0.25**
2011-12	0.27	1.11	1.12	0.57	**0.77**	**0.42**
Mean	**0.36**	**0.80**	**0.74**	**0.61**		
SD	**0.11**	**0.18**	**0.19**	**0.33**		

Inference: This is a version of return on assets (ROA), an effective way of assessing a firm's ability to squeeze profits from its assets before factors like interest and tax are deducted. A firm's ability to earn is measured by the EBIT with which the firm enjoys over the period like in case of Container Corporation, All cargo, Aegis 80%, 74% and 61% return on its investments respectively.

Graphical presentation of mean and S.D. of EBIT to total assets ratio.

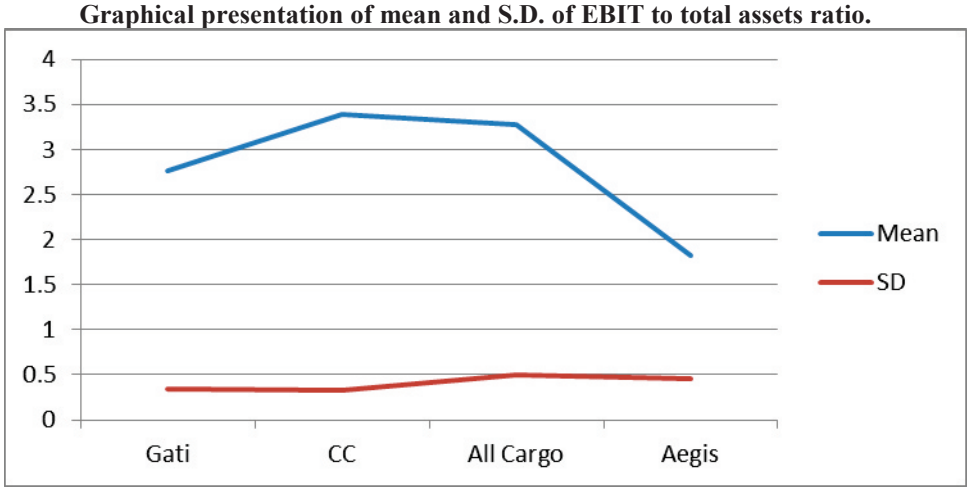


Table 4- T4 = (Market Value of Equity/Book value of total liability): Reciprocal of Debt Equity Ratio:

Years	Gati	CC	All Cargo	Aegis	Mean	SD
2005-06	0.28	-	0.02	-	**0.15**	**0.19**
2006-07	0.68	1.50	0.04	0.08	**0.58**	**0.68**
2007-08	0.49	1.65	0.07	1.33	**0.89**	**0.73**
2008-09	1.10	1.84	0.04	0.87	**0.96**	**0.74**
2009-10	1.03	1.60	0.10	1.05	**0.95**	**0.62**
2010-11	1.01	0.78	0.16	0.90	**0.71**	**0.38**
2011-12	0.57	1.28	0.48	1.05	**0.85**	**0.38**
Mean	**0.74**	**1.44**	**0.13**	**0.88**		
SD	**0.31**	**0.37**	**0.16**	**0.42**		

Inference: Debt to equity ratio is a long term solvency ratio that indicates the soundness of long-term financial policies of the company. It shows the relation between the portion of assets provided by the stockholders and the portion of assets provided by creditors. It is calculated by dividing total liabilities by stockholder's equity. Among the companies CC is not much dependent on debt so that the average ratio stands at 1.44 whereas other companies have relied on debt as a source of their investment.

Graphical presentation of mean and S.D. of reciprocal of debt equity ratio

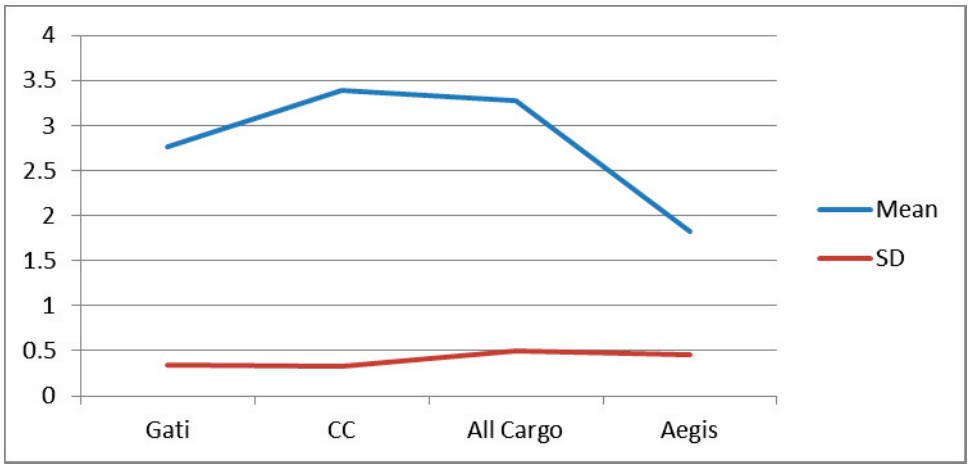


Table 5- T5 = Showing the Total assets turnover ratios.

Years	Gati	CC	All Cargo	Aegis	Mean	SD
2005-06	1.35		1.87		**1.61**	**0.37**
2006-07	1.57	0.73	1.81	-0.01	**1.02**	**0.83**
2007-08	1.25	0.78	1.72	0.09	**0.96**	**0.69**
2008-09	1.06	0.86	2.39	0.17	**1.12**	**0.93**
2009-10	1.34	0.91	2.66	0.13	**1.26**	**1.06**
2010-11	1.56	1.05	1.87	0.18	**1.16**	**0.74**
2011-12	2.00	1.15	1.48	0.10	**1.18**	**0.80**
Mean	**1.45**	**0.91**	**1.97**	**0.11**		
SD	**0.30**	**0.16**	**0.41**	**0.07**		

Inference: This ratio tells investors how well management handles competition and how efficiently the firm uses assets to generate sales. From the above table it is clearly observed that the average total assets turnover ratio is highest in **all cargo & Gati**, and also an increasing trend in GATI and Container corporation ltd. during the study period.

Graphical presentation of mean and S.D. of total assets turnover ratio.

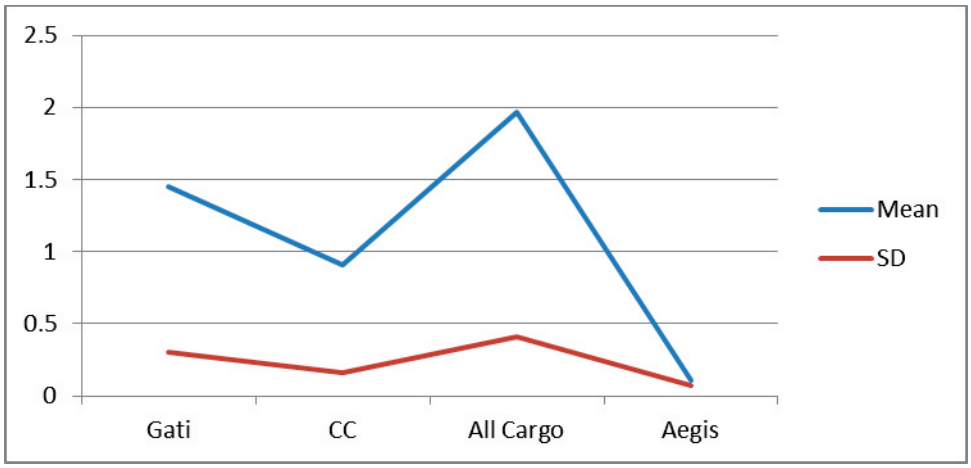
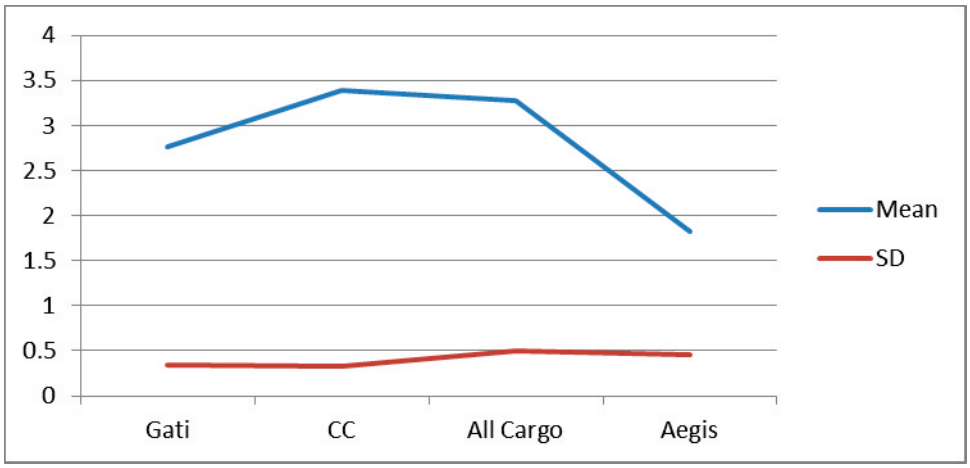


Table 6: Showing the Z score points of selected companies.

Years	Gati	CC	All Cargo	Aegis	Mean	SD
2005-06	2.51		3.00		**2.76**	**0.35**
2006-07	2.94	3.45	2.73	1.03	**2.54**	**1.05**
2007-08	2.26	3.70	2.79	2.39	**2.78**	**0.65**
2008-09	2.50	3.44	3.69	1.93	**2.89**	**0.82**
2009-10	2.92	3.36	3.93	1.84	**3.01**	**0.88**
2010-11	3.11	2.77	3.03	2.03	**2.74**	**0.49**
2011-12	3.14	3.62	3.75	1.71	**3.06**	**0.93**
Mean	**2.77**	**3.39**	**3.27**	**1.82**		
SD	**0.34**	**0.33**	**0.50**	**0.45**		

Inference: The Average Z score value of sample companies during the study period have been displayed in the table 11.The selected sample units have registered the Average score much above the suggested value of financial health over the period of time during our study period. Container Corporation Ltd. and All cargo have registered the Average Z score point 3.39 and 3.27 respectively. Whereas Gati and Aegis have registered the average scored 2.77 and 1.82 respectively, Aegis has scored 1.82 which is the lowest among the logistics companies.

Graphical presentation of mean and S.D. of Z scores.



Findings:

- Overall it is clear that all the selected companies of Indian Logistic industry are financially healthy during the study period.
- The average Z score was increasing during the study period i.e. from 2005 to 2012.
- Operating efficiency of the firms is good for CC, All Cargo and Aegis.
- The retained earnings ratio is satisfactory in CC & All Cargo which strengthens the financial position over the period of time.

Conclusion: Financial health of a firm is a key indicator for share holders. Any managerial decision of a firm is taken on the basis of financial health of a firm. In this context, Altman's Z score plays a vital role in deciding the financial bankruptcy of a firm and there by a firm can judge its financial position.

The present study was conducted to analyze, predict and compare the financial performance of Sample firms drawn from Indian Logistic industry. The study revealed that all the selected Companies are financially sound during the study period.

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