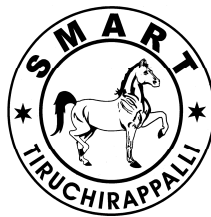


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A STUDY ON FINANCIAL HEALTH OF THE SELECTED INDIAN STEEL COMPANIES

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Abstract

Iron and Steel Industry forms an indispensable part of the large scale Industrial Sector of India. It contributes to 2% of the GDP and 10% of the total industrial output. Further, with a share of approximately 10% of the Iron and Steel Sector, it is amongst the largest contributor to Central Excise. India's rapid economic growth and soaring demand by sectors like infrastructure, real estate and automobiles at home and abroad has put Indian Steel Industry on the global map. The objective of this paper is to analyse the financial health of the selected steel companies in India and offer various suggestive measurements for the improvement of financial health of the steel companies.

Keywords: Financial Health- 'Z' Score, 'Grey Zone', Financial Distress, Debt-Equity Position.

Introduction

Industries play an important role in the economic development of any nation. Industries make the country self reliant by fulfilling the various needs of the people. In a developing economy like India, industries are indispensable. India is rich in natural and human resources required for the development of industries. In India, industrial economy is dominated by various industries like, automobile, iron and steel, real estate, cement, tourism, energy, textile, airlines, medical, biotechnology, electronics, hardware and power industry. Of them, Iron and Steel Industry is one of the fastest growing sectors. It forms the base for all industrial activities.

Iron and Steel Industry forms an indispensable part of the large scale Industrial Sector of India. It contributes to 2% of the GDP and 10% of the total industrial output. Further, with a share of approximately 10% of the iron

and steel sector, it is amongst the largest contributor to Central Excise. India's rapid economic growth and soaring demand by sectors like infrastructure, real estate and automobiles at home and abroad has put Indian Steel Industry on the global map. According to the latest report by International Iron and Steel Institute (IISI), India is the fifth largest steel producer in the world and likely to become the second largest producer of steel within the year 2016. The growth of Indian Steel Industry was 4.6% in 2010. Its weight in the index of industrial production is 75%.

A good financial analysis will help to identify the strengths and weaknesses of a company and to take effective management decisions. The company will be able to improve its financial image, thereby enhancing its chances while applying for a bank loan for various activities. Through financial analysis, companies can easily identify the financial problems before they have a major impact on the business. The

financial health plays an important role in the successful functioning of a company. Poor financial health threatens very survival and leads to business failure.

Review of Literature

Dheenadhayalan (2008) made a study on financial health of Steel Authority of India Limited through 'Z' Score Approach". A ten year data between 1998-99 and 2007-08 were used and the Z score of the SAIL showed a rising trend throughout the study period and it was ranging from 4.537 to 2.97 during the study period. The Z score of the SAIL showed 2.65 and above, in all the years and it also showed a tremendous change in the liquidity and solvency of SAIL. Hence it was concluded that the financial health of SAIL was good.

Reddy and Annie Rodregues (2008) conducted a study on "Measuring Financial Health - A 'Z'-Score Analysis, with special reference to Geno Pharmaceutical Company Ltd.". They used Bankruptcy Prediction Model, developed by Edward Altman and Ratio Analysis for the purpose of predicting its financial health. The ratios used in this study were Liquidity Ratios, Solvency Ratios and Activity Ratios. Liquidity Ratios measure the firm's ability to meet its obligations in the short run, Solvency Ratios measure the firm's debt-servicing capacity in the long run and Activity Ratios measure the firm's ability to utilize its assets in an efficient manner. It is found that the 'Z' score of the company remained in the grey area till 2005-06. However, increase in the score in 2006-07 indicates that the company was financially sound and healthy and it was not likely to slip into bankruptcy. It is suggested that the company needs to maintain an increasing trend which will help the company to avoid any damage to its liquidity and solvency position, thereby avoiding financial distress and bankruptcy.

Dheenadhayalan and Devianbarasi (2009) made a study on the financial health of Co-

operative Sugar Mills. The study covered a ten year period from 1997-98 to 2006-07. Financial tools like Ratios and Altman's 'Z' score were used for the data analysis. It was found that the financial health of sugar mill was severely affected by a number of problems such as high interest burden, transport cost, accumulation of stock, outdated technology, and high cost of production. It is suggested that the company must avoid the aspects affecting its liquidity and solvency position, thereby improve its financial efficiency.

Venkat Janardhan Rao and Durga Prasad (2009) examined the health of two private sector companies i.e., Mahindra and Mahindra Limited (M&M) and Eicher Motors. The required information about two companies for the 'Z'-score analysis were obtained from the Prowess Database for a period of five years. They applied 'Z' Score Model and five financial ratios like Working Capital to Total Assets, Retained Earnings to Total Assets, Earning Before Interest and Tax to Total Assets, Market Value to Book Value and Sales to Total Assets, for their analysis. It was found that the contents of the working capital to total assets was more in M&M Motors Ltd., which shows the unfavourable financial position of that company. It was concluded that the financial performance of Eicher Motors Limited was better than M&M.

Raiyani and Bhatasna (2011) conducted a study to analyse the financial health of Indian Textile Industry. A 'Z' Score Approach was used to analyse the financial statements of all four major players in Textile Industry - Siyaram Silk Mills Ltd. (SSML), Shri Dinesh Mill Ltd. (SDML), Welspun India Ltd. (WIL) and S.Kumars Nationwide Ltd. (SKNL). The period of study covered seven years from 2002-03 to 2008-09. The data were collected from Accord Fintech (P) Ltd., database and the Annual Report of the respective companies. To study the financial health of the sample units, different ratios like Retained Earning to Total Assets Position, Networking Capital Position, Debt Equity

Position, Return on Total Assets Position and Net Sales Turnover Position of the sample companies. It was found that sample companies like SDML and WIL were financially sound enough during the study period, barring SSML and SKNL which had slightly lower 'Z' score on the basis of average scores during the study period.

Methodology of the Study

Statement of the Problem

The Indian Steel Industry is facing hard times these days with many financial problems. Most of the steel companies are operationally viable but suffering from financial distress. Hence it is the need of the hour to evaluate the financial health of steel industry and improve its financial efficiency to stay in the stiff competitive market in the years to come. By keeping this mind, it was decided to examine the financial health of selected Indian steel companies. The required data were collected from the Prowess Database and they were analysed with the Altman 'Z' score model.

Need for the Study

By considering the significance of infrastructure in the Indian Economy, it was decided to examine the financial health of selected Indian steel companies. Hence the present study is an attempt to analyze the financial health of the steel companies and offer various constructive suggestions. It is hoped that all these suggestions would be useful in revamping selected Indian steel companies.

Objectives of the Study

The following is the objective of the study:

To analyse the financial health of selected Indian steel companies.

Hypothesis of the Study

The following null hypothesis was framed on the basis of review of literature, objectives of the study and consulting experts.

H₀: There is no significant difference between the size of companies and financial health.

Sample Selection

The present study was purely based on secondary data. Required data were collected from the Prowess Database. Out of 118 companies quoted in the Bombay Stock Exchange List, 38 steel companies (which constitute 32.2 per cent of total listed companies) were selected for the analysis.

Period of the Study

Data of selected steel companies available from 2000-01 to 2009-2010 were used.

Tools for Analysis

Financial health of selected steel companies, with reference to liquidity, leverage, activity and profitability, was identified with 'Z' Score. This method gained wide acceptance from Auditors, Management Accountants, Courts and Database Systems used for loan evaluation. The 'Z' score examines liquidity, profitability, reinvested earnings and leverage which are integrated into a single composite score. This concept is both simple and intuitive. It was originally developed on a sample of manufacturing companies. The model uses common financial information such as 'sales revenue' and 'total assets' to derive five basic financial ratios. Each ratio is assigned a weight and summed together to produce the 'Z' Score. Based on the Multi Discriminant Analysis (MDA), the Model predicts a company's financial health based on a discriminant function of the firm.

The financial health of selected steel companies were examined in terms of Working Capital to Total Assets Position, Retained Earning to Total Assets Position, Equity Debt Position, Return on Total Assets Position and Net Sales Turnover Position. Further, the difference between the size of the companies and 'Z' Scores was also examined by framing

null hypothesis and the same was tested with ANOVA at 1% level of significance. To analyse the financial health, tools like Mean, Standard Deviation, Co-efficient of Variation (CV), Compound Annual Growth Rate (CAGR), Linear Growth Rate (LGR) and 't' test were used..

Limitation of the Study

This study was based only on secondary data taken from CMIE reports of selected steel companies and Prowess Database. Hence findings depend entirely on the accuracy of such data.

Results and Analysis with Altman 'Z' Score Model

Altman introduced the Altman 'Z' Score Model, a technique designed to predict corporate bankruptcy. Over the past forty years, many academics and practitioners have used the 'Z' Score to test under a wide range of industries and economic environments. At the same time, many new methodologies were put forth that challenged the 'Z' Score as the premier indicator of corporate distress. Indeed, the Altman 'Z' Score has stood the test of time while undergoing the rigor of academic scrutiny and has secured its place in corporate finance history. The 'Z' Score Analysis focuses on fundamental financial attributes. It is an internationally recognized method, with wide universal acceptance, along with frequent use by investors, lenders and analysts.

Revised Altman's 'Z' Score Model

This original Insolvency Prediction Model, the 'Z' Score Model, was not intended for small, non-manufacturing or non-public companies. This original model incorporates market value of equity to book value of total debt. The original model was revised by substituting market value of equity with book value of equity where market value of equity is unavailable (there will not be market value of equity if the firms are unlisted or non-public). The revised 'Z' Score Model is follows:

$$Z = 0.717WC/TA + 0.847RE/TA + 3.107EBIT/TA + 0.420BV/TL + 0.998SALES/TA$$

Where,

WC/TA = (Current Assets-Current Liabilities) / Total Assets

RE/TA = Retained Earnings / Total Assets

EBIT/TA = Earnings before Interest and Taxes/ Total Assets

BV/TL = Book Value of Equity / Total Liabilities

SALES/TA = Sales/ Total Assets

A firm is considered to be in 'Safe Zone' (with future success or non-bankrupt) if $Z > 2.99$, 'Grey' (unpredictable future status) Zone if $Z > 1.23$ and ≤ 2.99 and in 'Distress' Zone (with future failure or bankrupt) when $Z \leq 1.23$. Based on this model, the financial healthiness (financial distress) of the small, medium and large and pooled steel companies was studied. The 'Z' Scores are based on the revised Altman's 'Z' Score Model mentioned above for small, medium and large size as well as pooled steel companies, as presented in **Table -1**. It shows that the 'Z' Scores of small, medium, large and pooled steel companies.

As per **Table- 1**, it is found that the financial health of small size steel companies was neither good nor bad on an average over the period (Mean Z score = 1.65, in between 1.23 and 2.99). The medium and large size steel companies were in distress zone on an average over the period (Mean Z score < 1.23).

From the year-wise observation of Z-score, it is understood that the small size companies were in grey zone (neither safe nor distress) in all years except for two years from 2001-02 to 2002-03. Financial health was neither distress nor safe in four years from 2006-07 to 2009-2010 for medium size steel companies and in five years from 2004-05 to 2008-09, for large size steel companies. When all the selected steel companies were pooled together regardless of size, it was found that

they were neither healthy nor unhealthy financially in five out of ten years from 2004-05 to 2008-09. In the last year of the study period (2009-2010), financial health was in grey zone for small and medium size steel companies while it was in distress zone for large size as well as pooled steel companies.

The CAGR and LGR of CR ratio were positive and significant at 5% and 1% level for small [(CAGR:6.40);(t'2.59) and (LGR:0.10); (t'3.55)] while it was positive and significant at 1% level for medium [(CAGR:16.78);(t'5.08) and (LGR:0.15);(t'7.36)], significant at 5% level for large [(CAGR:13.46);(t'3.07) and (LGR:0.11); (t'2.51)] and pooled steel companies [(CAGR: 13.43);(t'3.14) and (LGR:0.11); (t'2.61)].

It is identified that the selected steel companies were caught in various down cycle, facing a threat to their stability. The analysis of Altman's 'Z' Score reveals that the financial health of the selected steel companies was never in the safe zone during the study period. This may be due to failure to earn adequate supply to meet non operating activities or increase in EBIT did not match total assets. It is found that there was a notable improvement in the financial health of selected steel companies during the second half of the study period. It is also found that there was a meager improvement in the 'Z' Score results of small size companies. As financial health position varied to size of the companies, it was decided to examine the difference between these two with the help of framed null hypothesis. The details of the findings are shown in **Table-2**.

According to the **Table-2**, the calculated value (5.05) of 'F' is less than the theoretical value. Hence the framed null hypothesis is accepted and it can be concluded that there is no significant difference between the size of companies and financial health. An observation of the Table shows that F value of 5.05 for the difference in mean Z-Scores across steel companies under the grouping of small, medium and large asset size is significant at 1% level.

From the significant F value and mean Z-scores, it is found that solvency position was significantly better in small size steel companies than that of medium and large size steel companies in India during the period under study.

Findings of the Study

Major findings of the study are summarized below:

1. From the year wise observation of 'Z' Score, it is found that small size steel companies were in grey zone (neither safe nor distress) in all the years except for two years from 2001-02 to 2002-03.
2. It is found that the financial health was neither distress not safe in four years from 2006-07 to 2009-2010 for medium size steel companies and in five years from 2004-05 to 2008-09, for large size steel companies.
3. In the case of companies pooled together, it is found that they were neither healthy nor unhealthy financially in five out of ten years from 2004-05 to 2008-09.
4. In the last year of the study period (2009-2010), financial health was in grey zone for small and medium size steel companies while it was in distress zone for large size as well as pooled steel companies.
5. It is also found that there was no significant difference between the size of the companies and 'Z' Score Value of selected steel companies.
6. Finally, the analysis of Altman's 'Z' Score reveals that the financial health of selected steel companies was not in the safe zone during the study period. It is found that this may be due to failure to earn adequate surplus to meet non-operating activities and increase in EBIT did not match total assets and increased debt equity mix.

Conclusion and Suggestions

On the basis of the above analysis, it is clear that the financial health of small size steel

companies was not satisfactory during the study period (Mean Z score = 1.65, in between 1.23 and 2.99). On the other hand, the medium and large size steel companies were in distress zone on an average over the period.

It is found that there was a significant difference between the size of the companies and Gross Profit Margin and Operating Profit Margin. It is also found that there was no such significant difference between size of the companies and Net Profit Margin, Return on Capital Employed, Return on Assets and 'Z' score Value of the selected steel companies.

To improve the financial health of the selected steel companies, it is necessary to consider the following suggestions:

- It is suggested that all the selected steel companies need to put in efforts to increase the Z Score. This will help them to avoid any damage to its liquidity and solvency position, thereby avoiding financial distress and enhancing their overall financial health.
- The efficiency of the working capital management should be strengthened which would help the company to maintain financial health.
- The Earning Before Interest and Tax move on the same direction and it will adversely affect the financial health of the company. Hence the company can convert the EBIT into capital or reduce the fixed assets.

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Table -1
Financial Health of Selected Steel Companies: Altman's 'Z' Score

Size Year	Small	Medium	Large	Pooled
2000-01	1.60	0.61	0.50	0.51
2001-02	0.87	0.56	0.59	0.59
2002-03	1.22	0.34	0.42	0.42
2003-04	1.40	0.87	0.82	0.82
2004-05	1.60	0.98	1.27	1.25
2005-06	1.87	1.18	1.93	1.90
2006-07	2.06	1.48	1.41	1.41
2007-08	1.95	1.47	1.57	1.56
2008-09	2.07	1.76	1.31	1.33
2009-10	1.87	1.56	1.04	1.05
Mean	1.65	1.08	1.08	1.09
SD	0.39	0.48	0.50	0.49
CV	23.73	44.86	46.06	45.29
CAGR	6.40[?]	16.78*	13.46[?]	13.43[?]
t-Value	2.59	5.08	3.07	3.14
LGR	0.10*	0.15*	0.11[?]	0.11[?]
t-Value	3.55	7.36	2.51	2.61

Source: Prowess Database and Computed with SPSS 10 version, Note: Table value of 't' for 8 d.f @10% = 1.85; @5% = 2.30 @1% = 3.35; [?]Significant at 5% level; *Significant at 1% level.

Table -2
Size of the Selected Steel Companies and Financial Health: F - Test

Size	Altman's 'Z' Score		SV	SS	Df	MS	F - Value
	Mean	SD					
Small	1.65	0.39	Between	2.15	2	1.07	5.05
Medium	1.08	0.48	Within	5.74	27	0.21	
Large	1.09	0.50					

Source: Prowess Database and Computed with SPSS 10 version.