

Analysis of Financial Health of Steel Authority of India Limited

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The research is financed by UGC-RGNF Reference no. [F.14-2 (ST)/2010 (SA-III)].

Abstract

India's economic growth is contingent upon the growth of the Indian steel industry. India's GDP growth rate was 7.2% by 2011. The steel sector is contributing about 2% in India's GDP. Consumption of steel is taken to be an indicator of economic development. India occupies a central position on the global steel map. Steel production in India has increased by a compounded annual growth rate (CAGR) of 8 percent over the period 2002-03 to 2006-07. But the financial progress of this sector is not satisfactory. Thus, the present paper is an attempt to review the financial performance of one of the most popular and renowned company in the field of steel sector. That is Steel Authority of India Limited (SAIL), one of the leading steel making company of the country. The study is purely based on secondary data. A period of five year from 2005-06 to 2009-10 has been selected for the study. The data have been tabulated, analyzed and interpreted with the help of various financial ratios and Multivariate Discriminate Analysis (MDA) as developed by Prof. Edward I. Altman (1968). It is observed from the analysis of various ratios that the profit earning capacity, liquidity position and long-term solvency position of SAIL is quite good during the study period and the level of bankruptcy position is also very low.

Keywords: Financial Analysis, Ratio Analysis, Steel Industry, Multivariate Discriminate Analysis (MDA).

INTRODUCTION

The importance of financial management practices have excelled in every area of business. The success of any business is largely depends on its effective financial management practices which starts with the procurement of funds and ends with effective utilization of funds. Therefore, continuous financial analysis of financial position and results is required to take corrective measures to meet the short-term and long-term requirements adequately. Financial statements are the sources for financial information, based on which the financial planning and decision making is done. The profit and loss A/c provides data about the operating activities whereas balance sheet provides the value of acquired assets and liabilities of the concern at a particular point of time. The absolute figures reported in the financial statements do not serve the purpose of measuring the financial health of the company. Hence, the financial analyst has to analyze the financial data in order to ascertain the strength and weaknesses of the company.

Financial analysis is a process of evaluating the relationship between component parts of financial statements to obtain a better understanding of the company's position and performance. A short-term creditor will be interested in the current financial position of a company while a long-term creditor will pay more attention to the solvency of the company. The long-term creditor will also be interested in the profitability of the company. The equity shareholders are generally concerned with their return. Analysis of a company is done not only when it is facing problems, but also when the evaluation of its performance is concerned or when the company is in good health, but improvement is considered.

Despite, the financial analyst had many analytical tools; Ratio Analysis is most powerful tool to ascertain the financial health of the company. Alone a single ratio does not serve the purpose. Therefore, it is necessary to combine the different ratios into a single measure of the probability of sickness or failure. Multiple Discriminant Analysis (MDA) is useful tool in such situations. The use of MDA helps to consolidate the effect of all ratios. The present study is carried out with the objective of analysis of overall financial health of Steel Authority of India Limited (SAIL).

OBJECTIVE OF THE STUDY

1. To evaluate the financial efficiency and performance of SAIL.
2. To forecast financial health of SAIL.

REVIEW OF LITERATURE

Discriminant Analysis may be applied for prediction of sickness, market research, credit rating portfolio

selection identification of growth and classification of officers/managers or personals. Discriminant Analysis has been widely used to identify and to predict financial health of industrial units. "Multiple Discriminant Analysis (MDA) is a straight forward statistical technique for calculating how much weight to put on each variable in order to separate the sheeps from the goats"¹. William H. Beaver (1967) selected five ratios out of thirty financial ratios to study the financial health of 79 successful units and 79 unsuccessful units. The ratios were: (1) Cash flow to total debt (2) Net income to total assets (3) Total debt to total assets (4) Networking capital to total assets (5) Current assets to current liabilities" as expected, failed firms had more debt and lower return on assets. They had less cash but more receivables as well as low current ratios. They also had fewer inventories. It was observed that cash flow to total debt had maximum prediction power among different ratios in the study. Prof. Edward I. Altman (1968) selected five ratios of twenty two initially considered. He took 33 successful firms and 33 bankrupt firms and developed a model popularly known as Altman's Z-Score model. The model comprises the five ratios viz.,

1. Net working capital to total assets
2. Retained earnings to total assets
3. Earnings before interest and tax to total assets
4. Market value of equity to market value of debt
5. Sales to total assets

The ratios were given weight aged and combined to produce a single number which was termed as Z-Score. "Jonah Aiyabei (2002) applied Z-Score model to examine the financial performance of small business firms based in Kenya and discussed the theoretical aspect of a financially distressed firm based on a cyclical concept"². In the Indian context, "L.C Gupta (1979) attempted a refinement of Beaver's method with the objective of building a forewarning system of corporate sickness. A simple non-parametric test for measuring the relative differentiating power of the various financial ratios was used. The test is based on taking a sample of sick and non-sick companies, arraying them by the magnitude of each ratio to be tested, selecting a cut-off point which will divide the array into two classes with the minimum possible number of misclassification and then computing the percentage classification error. The cut-off point is determined by visual inspection. The percentage classification error is determined as number of classifications divided by the number in samples. The ratios will results into the lower percentage classification error are the most efficient ratio"³. Mansur Mulla (2002) conducted a study to evaluate financial health of textile mills by using Z-Score model. "Selvam M. and others (2004) made a study to predict the financial health and viability of India Cements Ltd. They concluded that the Cement Company under the study was just on the range of financial collapse. Further, they write that the financial health of Cement Companies has been subject to empirical investigation"⁴. "V. Dheenadhyan (2008) adopted Z-Score model to predict the corporate failure of Steel Authority of India Limited. The Z-Score of SAIL showed a rising trend throughout the study period and it was concluded that the financial health of SAIL was good"⁵.

"Altman (1968) used financial ratios to predict corporate bankruptcy. He found that the bankruptcy model has an accuracy rate of 93% and is very successful in predicting failed and non-failed firms"⁶. "Sina and Arshed Ali (1998) used financial ratios to test the financial strengths and weaknesses of Khulna Newsprint Mills Ltd. He found that due to lack of planning and control of working capital, operational inefficiency, obsolete store, ineffective credit policy, increased cost of raw materials, labor and overhead, the position of the company was not good"⁷. "Saleh Jahur and Parveen (1996) used Altman's MDA model to conclude the bankruptcy position of Chittagong Steel Mills Ltd. They found that absences of realistic goals, strict govt. regulation are the main

¹ Brealey,R.A. and Myers S.C. (1991), "Principles of Corporation Finance" Tata Mc-Graw-Hill Publishing Co. Ltd;New Delhi,p.754 quoted by Sahu, R.K. (2002), A simplified model for liquidity analysis of paper companies in "The Management Accountant", Nov. Vol.37, No.11, p.806.

² Jonah Aiyabei (2002), "Financial Distress: Theory, Measurement and Consequence". *The Eastern Africa Journal of Humanities and Sciences*,vol.1 no.1 quoted by M. Kannadhasan (2007), "Measuring Financial Health of A Public Limited company using 'Z' Score Model – A case study" in *The Management Accountant*, June.

³ Gupta L.C., "Financial Ratios as Forewarning Indicators of Corporate Sickness". Bombay ICICI 1979 quoted by Pandey, I.M. op.cit, p.184. Ibid.

⁴Selvam M. Vanitha S. and Babu M. (2004), "A Study on Financial Health of Cement Industry – "Z" Score Analysis",*The Management Accountant*, July, Vol.39, No.7.

⁵V.Dheenadhyan (2008), "Financial Health of Steel Authority of India Limited: A Z-score Approach", *Indian Journal of Accounting*, Dec., Vol.XXXVI(I), Pp.48-52.

⁶ Altman, E.I. (1968). "Financial Ratios, Discriminate Analysis and the Prediction of Corporate Bankruptcy", *The Journal of Finance*, Vol.4, Pp. 589-609.

⁷Sina, Md. Abu & Matubber, Md. Arshed Ali (1998). "Financial Statement Analysis of Khulna Newsprint Mills Ltd.", *Islamic University Studies (part C)*, Vol. 1, No. 2, December.

reasons for the lowest level of bankruptcy”.¹ “Ohlson (1980) employed financial ratios to predict a firm’s crisis. He found that there are four factors affecting a firm’s vulnerability. These factors are the firm’s scale, financial structure, performance and liquidity”.² “Hye & Rahman (1997) conducted a research to assess the performance of the selected private sector general insurance companies in Bangladesh. The study revealed that the private sector insurance companies had made substantial progress. The study found that the insurance companies were keeping their surplus funds in the form of fixed deposits with different commercial banks due to absence of suitable avenues for investment. These studies attest that the ratio analysis and MDA are the good method to evaluate firm performance”.³

Research Methodology

1.Data for the study: The study is based on secondary data collected from the published Annual Reports of SAIL. For the purpose of the study, Journals, conference proceedings and other relevant published literatures have been also consulted to supplement the data.

2.Period of the study: The study will cover the period of five years from 2005-06 to 2009-10.

3.Methodology: The data have been tabulated and then analyzed and interpreted with the help of Altman’s Z-Score Model as developed by Prof. Altman.

4.Limitations of the study:

- (a) The study is completely relied on secondary source of data.
- (b) The study is confined to a period of 10 years.

Briefing about SAIL

Steel Authority India Limited (SAIL) is a company registered under the Indian Companies Act, 1956 and an enterprise of the Government of India. It has five integrated steel plants at Bhilai (Chattisgarh), Rourkela (Orissa), Durgapur (west Bengal), Bokaro (Jharkhand) and Burnpur (West Bengal). SAIL has three Special and Alloy Steel plants viz., Alloy Steel plant at Durgapur (West Bengal), Salem Steel Plants at Salem (Tamilnadu) and Visvesvaraya Iron and Steel Plant at Bhadravati (Karnataka). In addition, a Ferro Alloy producing plant, Maharashtra Elektros melt Limited at Chandrapur, is a subsidiary of SAIL.

SAIL has Research and Development centre for Iron and Steel (RDCIS), centre for Engineering and Technology (CET), SAIL safety Organization (SSO) and Management Training Institute (MIT) all located at Ranchi; Central Coal Supply Organization (CCSO) at Dhanbad; Raw Material Division (RMD), Environment Management Division (EMD) and Growth Division (GD) at Kolkata. The Central Marketing Organization (CMO), with its headquarter at Kolkata, coordinates the country-wide marketing and distribution network.

SAIL is the leading steel-making company in India. It is a fully integrated iron and steel maker, producing both basic and special steel for domestic construction, engineering, power, railway, automotive and defense industries and for sale in export market. The Government of India owns about 86% of SAIL’s equity and retains voting control of the company. However, SAIL, by virtue its “Maharatna” status enjoys significant operational and financial autonomy. SAIL is ranked amongst the top ten public sector companies in India in terms of turnover. SAIL manufactures and sells a broad range of steel products including hot and cold rolled sheets and coils, plates, bars, rods, stainless steel and other alloy steel.

Z-Score Model

The Z-Score Model for predicting bankruptcy was published in 1968 by Edward I. Altman. The Z-Score Model can provide a significant idea about the financial soundness of the company. The number produced by the model is referred to as the company’s Z-Score, to represent the likelihood of a company going bankruptcy in the next two years. The Model uses corporate income statement and balance sheet values to measure the financial position. It is a linear combination of five ratios, weighted by coefficient. It utilizes seven pieces of data taken from company’s Balance Sheet and Income Statement. Five ratios are then extrapolated from these data points. To calculate Z-Score, the results of each of five ratios are multiplied by a set of factor (i.e, a coefficient developed by Prof. Altman). The results of the multiplication are then added together to determine the company’s Z-Score.

The Model is specified as:

¹ Jahur, Mohammad Saleh & Parveen, Jannat Ara. (1996). “An analysis of financial performance of public enterprises- A case study of Chittagong Steel Mills Ltd.”, *Chittagong University Studies (Commerce)*, Vol. 12.

² Ohlson, J.A (1980). “Financial Ratios and the Probabilistic Prediction of Bankruptcy”, *Journal of Accounting Research*, Vol.19, No. 1.

³ Hye, D.M.A. & Rahman, M.A. (1997). “Performance of Selected Private Sector General Insurance Companies in Bangladesh”, *Chittagong University Studies (Commerce)*, Vol. 13.

$$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 1.0 X_5$$

Where,

Z = Score

X₁ = Working Capital / Total Assets

X₂ = Retained Earnings / Total Assets

X₃ = Earning Before Interest and Tax / Total Assets

X₄ = Book Value of Equity / Book Value of Debt

X₅ = Sales / Total Assets

X₁ Shows liquidity position to the total capitalization.

X₂ Indicates cumulative profitability overtime and leverages.

X₃ Expresses operating performance and productivity of assets.

X₄ Presents the long-term solvency position. It shows how much assets of an enterprise can decline in value before the liabilities exceeds the assets and the concern becomes insolvent.

X₅ Reveals the sales generating capacity of the assets.

The higher is the score, the healthier will be the company.

- ❖ If Z-Score is below 1.8, then the company is considered to be in bankruptcy zone.
- ❖ If Z-Score lies between 1.8 to 3.0, then the company is considered to be in grey zone (safety zone).
- ❖ If Z-Score is more than 3.0, the company is said to be in good financial health zone.

Theoretical Discussion of Financial Ratios

Financial Analysis is a process of evaluating the relationship between component parts of financial statement to obtain a better understanding of the company's position and performance. The analysis of financial statement can be best done by various yardsticks of which, the important is known as ratio analysis. Ratio is a numerical or an arithmetical relation between two figures. It is expressed when one figure is divided by another. Accounting ratios show inter-relationship which exist among various accounting data. Ratio analysis is certainly a very admirable device because it is simple and it has a predictive value. Management and other users thus, rely substantially on the financial ratios based on accounting data for making assessments and predictions of past performance, present position and probable future potentials. One important way for diagnosing the financial health is to measure the profitability, liquidity, activity and solvency and the level of the bankruptcy of enterprise.

Profitability Ratio

Profitability is a measure of efficiency. The profitability ratios measure the performance of profit of an enterprise. The analysis of the profitability ratio is important for the shareholders, creditors, prospective investors, bankers and the government alike. Gross profit margin ratio, return on investment, net profit margin ratio and operating profit ratio can be used to measure the profitability position of the enterprise.

Liquidity Ratio

The liquidity ratios measure the ability of an enterprise to meet its short-term obligations and reflect the short-term financial strength of an enterprise. Analysis of liquidity is very important in knowing the liquidity status, movement of funds, idle fund (if any) which will not only help financial management to keep the liquidity position of the company in order but also make sure of payment to short-term creditors, interested in short-term solvency of the company. Current ratio, quick ratio and cash ratio can be used to measure the liquidity position of the enterprise.

Activity Ratio

Activity ratios indicate the effectiveness of an enterprise with which different assets are managed and utilized in a business. The efficiency in assets management is measured by activity ratio which involves the comparisons between the level of sales and investment in various assets accounts, inventories, bill receivables, fixed assets

and others. The activity can be measured by the use of activity ratios such as Inventory turnover, Debtors turnover and Working capital turnover.

Solvency Ratio

The long-term solvency of a company is an important aspect to the present and future long-term creditors, banks, debenture holders etc. Before sanctioning loan or buying a debenture or preference share, they are interested to see whether the company has ability to pay the interest regularly as well as repay the installment of the principal on due date or in one lump sum at the time of maturity. The long-run solvency of a company can be measured by the use of solvency ratios named debt to total equity, proprietary ratio, fixed assets to net worth and Interest Coverage ratio.

ANALYSIS AND FINDINGS

The Tables no. 01, 02, 03, 04 and 05 depict various financial ratios covering profitability, liquidity, activity and solvency position of SAIL for the period under study.

Table 1: Analysis of General Profitability Position of SAIL

Year	Gross profit ratio	Net profit ratio	Operating profit ratio
2005-06	20.48	14.41	26.41
2006-07	27.78	18.28	32.32
2007-08	29.03	19.07	32.79
2008-09	21.79	14.37	25.35
2009-10	24.90	16.65	29.27

Source: Annual Report of SAIL (2005-06 to 2009-10)

Table-1 depicts various general profitability ratios of SAIL for the period from 2005-06 to 2009-10. The ratios taken are Gross profit ratio, Net profit ratio and operating profit ratio. The Gross profit margin reflects the effectiveness of pricing policy and of production efficiency. Some author considers a ratio ranging from 20% to 30% as the standard norm for any concern. Net profit ratio indicates the managements' efficiency in manufacturing, administering and selling of the products. The company maintained a significant level of profit margin.

Table 2: Analysis of overall profitability position of SAIL

Year	ROI	ROE	ROCE	EPS	CTR
2005-06	0.31	0.88	27.27	9.72	1.62
2006-07	0.35	1.27	39.88	15.02	1.61
2007-08	0.32	1.51	42.54	18.25	1.60
2008-09	0.22	1.29	29.85	14.95	1.45
2009-10	0.20	1.40	26.54	16.35	1.14

Source: Annual Report of SAIL (2005-06 to 2009-10)

Table 2 depicts overall profitability ratios which include Return on Investment, Return on Equity, Earning per Share, Capital Turnover and Return on Capital Employed. Out of these, Return on Capital Employed is most important indicator of profitability and it ranges from 26.54 to 42.54 which can be considered as reasonable for the selected company. All the ratios related to the profitability performance shows a fluctuating trend but with a positive impact on the overall performance.

Table 3: Analysis of Liquidity Position of SAIL

Year	Current Ratio	Liquid Ratio	Cash Ratio
2005-06	1.39	0.89	0.49
2006-07	1.86	1.25	0.87
2007-08	1.99	0.97	1.04
2008-09	2.01	1.42	1.06
2009-10	2.27	1.30	1.30

Source: Annual Report of SAIL (2005-06 to 2009-10)

Table 3 presents various financial ratios covering liquidity position of the company for the period under study. These ratios are the measures of the company's short-term solvency position. They indicate the ability of the company to meet its current obligations. Standard norm for current ratio is 2:1. The average current ratio of the company is 1.51 which indicates that the liquidity in terms of current ratio had been quite adequate for the company under study. Again, the average liquid ratio is calculated as 0.93 and standard norm for the liquid ratio is 1:1. So, it can be viewed from the table that liquidity position in terms of liquid ratio is quite good and SAIL is

enough competent to pay its most immediate liabilities.

Table 4: Analysis of Activity/ Efficiency position of SAIL

Year	Inventory Turnover Ratio	Debtors Turnover Ratio	Working Capital Turnover Ratio
2005-06	5.33	14.6	6.10
2006-07	5.27	16.1	4.71
2007-08	5.84	14.7	3.49
2008-09	5.09	14.2	2.82
2009-10	4.22	12.4	2.05

Source: Annual Report of SAIL (2005-06 to 2009-10)

Table 4 depicts various ratios relating to the efficiency position of SAIL. They are also known as turnover ratios. They indicate the efficiency with which the capital employed is rotated in the company. The overall efficiency position of SAIL is not in a good position during the study period.

Table 5: Analysis of Solvency position of SAIL

Year	Debt Equity Ratio	Proprietary Ratio	Fixed Assets to Net Worth	Interest Coverage Ratio
2005-06	0.34	1.04	0.97	18.3
2006-07	0.24	1.49	0.67	36.6
2007-08	0.13	1.99	0.50	56.5
2008-09	0.27	2.28	0.44	47.2
2009-10	0.50	2.45	0.41	32.8

Source: Annual Report of SAIL (2005-06 to 2009-10)

Table 5 shows the ratios covering the solvency ratios which indicate the proportion of owners' stake in the business. Excessive liabilities tend to cause insolvency. The ratio indicates the extent to which the firm depends upon outsiders for its existence. Debt-Equity ratio of SAIL is good in the year 2009-10 as 0.50 is considered as an ideal ratio for debt-equity composition. In case of proprietary ratio, an ideal ratio is considered to be 50% or 0.50 times. It can be observed from the table that the proprietary ratio of all the taken years is in good condition.

Table 6: Z-Score ingredients of SAIL

Year	Net Working capital	Total Assets	Retained Earnings	EBIT	Net Sales	Book Value of Equity	Book Value of Debt
2005-06	9276	30304	8255	8588	27837	12601	4297
2006-07	13879	33176	13054	12177	33923	17313	4180
2007-08	16879	40279	18874	14190	39508	23063	3045
2008-09	22398	53531	24018	12234	43150	27984	7538
2009-10	28037	67722	29234	13208	40551	33316	16511

Source: Annual Reports of SAIL (2005-06 to 2009-10)

Table 6 shows the Z-Score ingredients of SAIL. The Z-Score model involves the following terms - Net working capital, Retained earnings, Earnings before interest and tax, Market value of equity, market value of debt and Sales.

Table 7: Statement showing the ratios used in Z-Score Analysis of SAIL

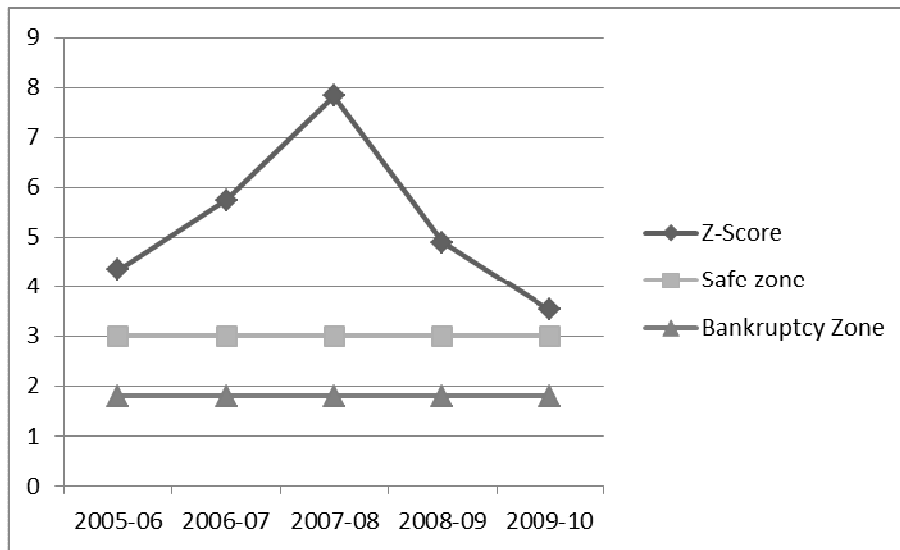
	Financial Ratios	2005-06	2006-07	2007-08	2008-09	2009-10
X ₁	NWC to Total Assets	0.305	0.418	0.419	0.418	0.414
X ₂	R.E to Total Assets	0.272	0.393	0.468	0.448	0.431
X ₃	EBIT Total Assets	0.283	0.367	0.352	0.228	0.195
X ₄	BVE to BVD	2.93	4.14	7.57	3.71	2.01
X ₅	Net Sales to Total Assets	0.91	1.02	0.98	0.80	0.59

Table 7 shows the ratios used in calculating Z-Score of SAIL. The Z-Score model comprises the following ratios - Net working capital to total assets, Retained earnings to total assets, Earnings before interest and tax to total assets, Market value of equity to market value of debt, Sales to total assets.

Table 8: Statement showing Z-Score of SAIL

Year	1.2 X_1	1.4 X_2	3.3 X_3	0.6 X_4	1.0 X_5	Z-Score
2005-06	0.366	0.380	0.933	1.758	0.910	4.347
2006-07	0.501	0.550	1.211	2.46	1.02	5.741
2007-08	0.502	0.655	1.16	4.54	0.98	7.837
2008-09	0.501	0.627	0.752	2.22	0.80	4.900
2009-10	0.496	0.603	0.643	1.20	0.59	3.532

Table 8 depicts the Z-Score of SAIL from 2005-06 to 2009-10. It is clear from the table that the Z-Score of Company varies from 3.532 to 7.837. It was highest in the year 2007-08. So it can be concluded that the company is in safe position as the Z-Score of any year did not fall below 1.8 which is considered to be the bankruptcy zone.



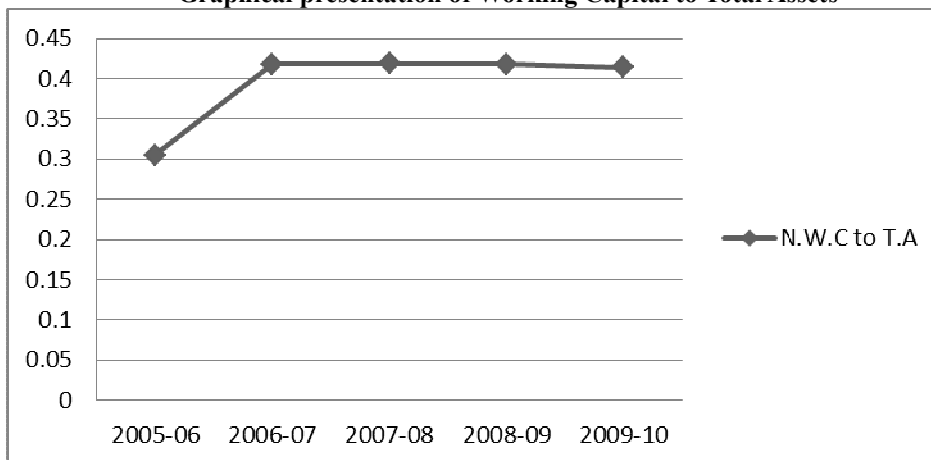
Findings

1. Working Capital to Total Assets

Working Capital is the excess of total current assets. The ratio of working capital to total assets shows liquidity position of relative to total capitalization. Consistent operating losses will cause current assets to shrink relative to total assets. A negative ratio, resulting from negative working capital, is a serious problem. The ratio of working capital to total assets of SAIL is furnished in the Table 7.

It is observed from the Table 7 that the Working Capital to Total Assets ratio of SAIL had been around 0.305 to 0.419. It indicates that the SAIL has a good level of investment in current assets. It does not block the funds in the form of current assets.

Graphical presentation of Working Capital to Total Assets



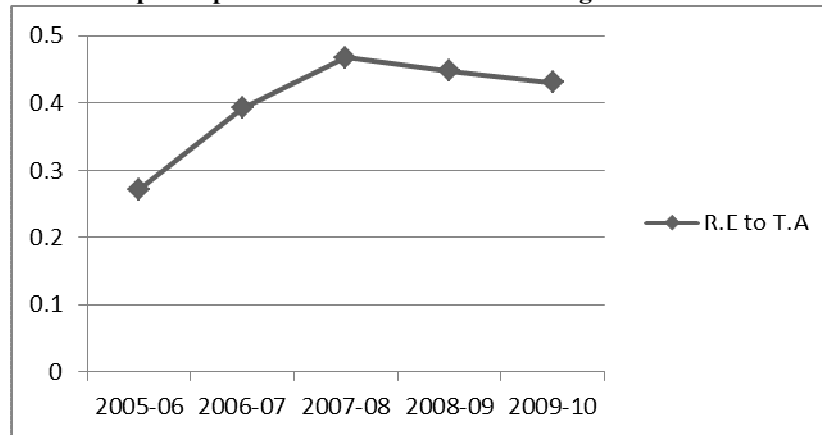
2. Retained Earnings to Total Assets

The ratio of retained earnings to total assets indicates that how much portion of total assets has been financed by

retained earnings. Higher the ratio, greater will be the financial stability of company at the time of low profitability period. Also, it depicts that the company is utilizing its own earnings as cheaper source of finance rather debt finance.

It is observed from the Table 7 that on an average 40.2% of total assets of SAIL are financed by its retained earnings during the study period. The study shows that SAIL is utilizing its retained earnings rather than debts. The increasing trend of retained earnings during the period indicates the sustainable growth of SAIL.

Graphical presentation of Retained Earnings to Total Assets

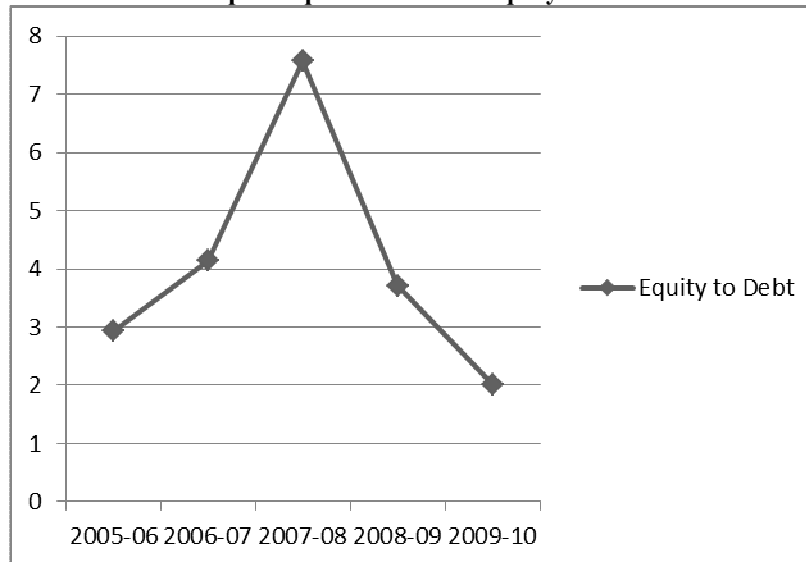


3. Book value of equity to book value of debt

This ratio is used to ascertain the soundness of long-term financial policies. The company having 1:1 equity debt mix is considered as quite good. Excessive debt tends to cause insolvency. If debt is more than the equity, it will reduce the profit of company, despite increases the profitability of the shareholders.

From the Table 7, it is observed that on an average 40.2% of capital structure is comprises of equity. The highest equity portion of total capital of SAIL is 7.57 in 2007-08. On the basis of the analysis it can be concluded that financial health of SAIL is quite good and it provides a measure of safety to its creditors in times of insolvency.

Graphical presentation of Equity to Debt



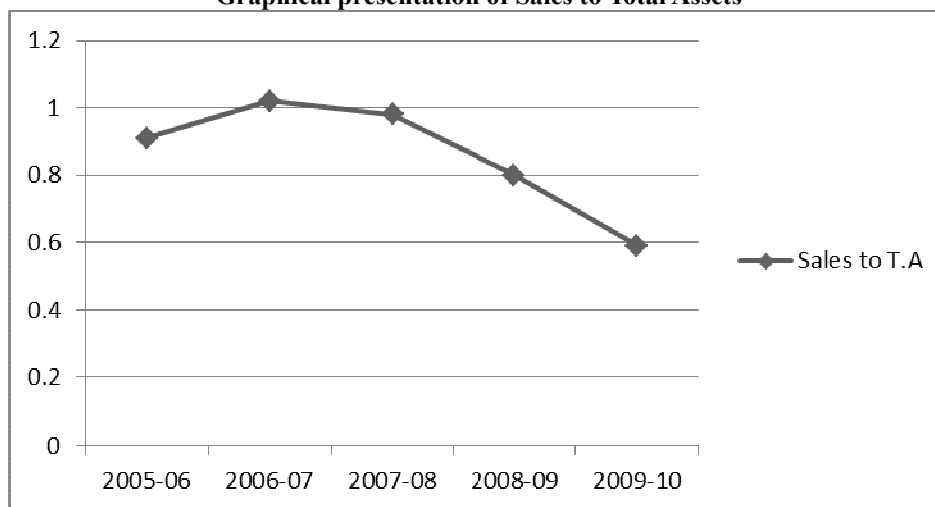
4. Sales to Total Assets

Sales revenue plays a pivotal role in overall performance of the company because all the operations are more or less depend on the sales revenue. Sales to total assets ratio measure the power of the assets in generating sales. Higher ratio indicates the better performance and poor ratio indicates the poor financial management of the company in the optimum utilization of assets.

From the information extracted in Table 7, it is clear that SAIL did not utilize its assets properly to

generate sales. The ratio ranges from 0.59 to 1.02 during the study period. It is suggested that SAIL should take measures in the optimum utilization of assets to generate sales.

Graphical presentation of Sales to Total Assets



CONCLUSION

It is very common for companies to go through ups and down in terms of performance because of the impact of business cycle and other macro-economic variables. If the situation continues for a longer duration, the company may go into bankruptcy. If the company has the ability to improve the financial position, then Altman's Z-Score is useful tool to predict failure early. It is a good idea to compare a company's Z-Score over a period of time to get a better idea as to how the company is doing. The lower the Z-Score, the more likely a company is go to bankrupt. A Z-Score lower than 1.8 indicates that bankruptcy is likely, while scores greater than 3.0 indicates bankruptcy is unlikely to occur in the next two years. Companies that have a Z-Score between 1.8 to 3.0 are in the gray zone (Safety zone).

From the analysis, it can be concluded that Z-Score of SAIL over a period of five years from 2005-06 to 2009-10 is lies between 3.5 to 7.8. So, it can be predicted that bankruptcy is unlikely to occur in the next two years. Finally, it can be concluded that the overall financial health of SAIL is good.

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