

HOW TO DIAGNOSE WEALTH HEALTH OF SUGAR MILLS? – A COMPARATIVE STUDY

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ABSTRACT

Financial health is the pivotal point of all economic activities of every business institution. Financial health determines the longevity of the sugar mills. Now-a-days financial analysts diagnose the 'Wealth Health' of sugar mills by peeping deep into the annual reports of the concerns. In this paper an attempt has also been made to study the degree of financial health of the selected units with the help of Edward Altman's Z-score Model and the comparison of 'Wealth Health' among the selected units with the help of statistical tools 'Mean', 'Standard Deviation' and 'Coefficient of Variation'.

Professor Edward Altman, Professor of Finance in School of Business in New York University developed a new model of consolidated ratios to predict business failures. Professor Altman observed that a large number of business houses have failed especially in large and medium scale organizations in America. The business failures phenomenon has received a great exposure during 1970s. Between 1972 and 1979 about 35,200 firms a year were petitioned by the courts to liquidate or to reorganize under the protection of the nation's bankruptcy laws. He also observed that the corporate failure was no longer the exclusive province of the small business houses but occurs increasingly among the large industrial and financial corporations.

In any economic system, the continuous entrance and exit of productive entities are natural phenomena, but any entrance and the exit put a burden on society. The resources of society go waste. Hence there was a need of concrete theory, which could predict business failure in near future so that the corporate leaders can take appropriate action to reorganize their capital structure. In the late 1960, professor Altman came up with a new theory known as Altman's Z-score model.

The Z-score model is a linear analysis. In order to arrive at a final profile of variables, in the formula, the list of 22 potentially helpful variables of traditional ratios have been condensed into five standard ratios viz., Liquidity, Profitably, Leverage, Solvency and Activity. This variable further modified and tested with 66 businesses corporate in which equal number of

bankruptcy units was there. Based of the empirical study, Professor Altman invented the following formula with Standard Variables and Standard Rates :

$$Z\text{-score} = 1.2 x_1 + 1.4 x_2 + 3.3 x_3 + 0.6 x_4 + 0.999 x_5$$

Now-a-days many researchers in Japan, West Germany, Brazil, Australia, England, Canada, France, etc., have been using this formula with different variables and fixed rates which suits their economic conditions.

In case of traditional ratio analysis every ratio gives its own judgment that cannot be consolidated to arrive final decision, whether the firm is really sick or not but the Z-score model gives final judgment. Hence the academicians all over the world have accepted the Z-score model as a credible model. The capital analysts and financial experts prefer to predict financial health of a business unit through the Z-score model, which is superior to traditional ratio analysis.

The study is confined to the issues relating to the financial performance only. Non-financial aspects like marketing, personnel, etc. are not taken into consideration. The objective of the study is to ascertain the degree of financial health condition of the selected units, in other word the 'Degree of Sickness'.

In order to get more accurate result of the health conditions of the select units :

- (i) The dominating figures of the annual reports have been grouped into seven major components; and
- (ii) The performances of the major components for the last ten years (from 1994-95 to 2003-04) have been considered for study,

INTRODUCTION

In India, the financial health of sugar factories is severely affected by a number of reasons. All the major problems of the sugar sector are inter-linked. One problem leads to another problem. The low percentage of sugar in sugarcane leads to low recovery rate; the obsolete technology leads to high production cost; the accumulation of sugar stock leads to high interest burden; the State Advised Prices leads to additional burden of temporary loan. All these factors ultimately

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pull down the profit line on performance graph of the sugar factories.

Now-a-days the financial performances of corporate bodies is generally evaluated with the help of 'Ratio Analysis', which is a universally accepted accounting tool. The major draw back of the traditional financial ratios is that each ratio gives a verdict of one particular area, which cannot be consolidated. Hence one cannot analyse and compute the consolidated effect of various ratios with the help of the traditional financial ratios.

In this paper an attempt has been made to analyse and compute the consolidated effect of various ratios to ascertain the degree of financial health with the help of a universally accepted hybrid ratio, which is suggested by Edward Altman.

METHODOLOGY

Objectives of the Study

1. To ascertain the degree of financial health of selected cooperative sugar factories.
2. To make comparative performance analysis of selected cooperative sugar factories.

Description of the Selected Units

For the purpose of the study, three units from three different States have been selected viz., Chatrapati Shahu Sahakari Sakhar Karkhana Limited, Maharashtra; Shri Malaprabha Sakkare Karkhane Niyamit, Karnataka; Sanjivani Sahakari Sakhar Karkhana Maryadit, Goa; hereafter called as Maharashtra Unit, Karnataka Unit and Goa Unit.

Period of the Study

Present study encompasses the performance of ten financial years of selected units from 1994-95 to 2003-04.

Nature and Source of Data

The study is based on secondary data. The required secondary data have been gathered from the published Annual Reports, Manufacturing Reports and Agriculture Reports (from 1994 to 2004) from the selected sugar factories.

Analytical Tools Employed

So as to ascertain the degree of financial health of the selected units, Edward Altman's Z-Score Model ($Z\text{-score} = 1.2x_1 + 1.4x_2 + 3.3x_3 + 0.6x_4 + 0.999x_5$) has been used. The financial consistency of the selected units has been evaluated with the help of 'Mean', 'Standard Deviation' and 'Coefficient of Variation'.

Keywords used

1. Working Capital – The difference between Current Assets and Current Liabilities.

2. Total Assets – Total fixed assets as given in the schedule and working capital.
3. Net Profit – As given in the Profit & Loss Account.
4. Net Sales – As given in the Profit & Loss Account.
5. Equity Capital – As given in the schedule 1 or 'A' in Balance Sheet.
6. Total Debts – As given in the schedules of secured loans and unsecured loans.
7. EBDIT – Earning Before Depreciation Interest and Tax as given.

RESULTS AND DISCUSSION

Variables of Ratios of Selected Units have been tabulated in Tables 1 to 3.

Further the arrived ratios (x_1, x_2, x_3, x_4 and x_5) have been multiplied with the standard values given in the Z-score model. The computed figures have been tabulated in the Table 5. All the products of standard values and ratios have been added to arrive Z-score for each year.

Comparative Z-scoring Analysis of Selected Units

In order to get a comparative picture, the Z-scores of the selected units have been tabulated in Table 10 and the same have been plotted in the Chart No. 1.

In order to analyse which unit is actually financially sound and which unit has shown consistency in maintaining its financial soundness, the computed Z-scores have been analysed with the help of statistical tools viz., (i) Mean; (ii) Standard Deviation and (iii) Co-efficient of Variation. The computed figures have been tabulated in Table 11.

Consistency in Financial Health

The Co-efficient of Variation of Maharashtra unit was 6.09 per cent, followed by Karnataka unit 19.09 per cent and Goa unit was 46.42 per cent. It indicated that the Maharashtra Unit has maintained a high degree of financial consistency followed by Karnataka unit and Goa unit.

In terms of mean value of Z-scores, Karnataka unit scored more (2.20) as compared to Maharashtra unit (2.06) and Goa unit (2.05). On an average all the selected units fall under 'likely to become sick category' according to the standard specified by Edward Altman in his Z-score model. This is because ratios of net profit to net sales and debt equity are very weak so far Indian sugar co-operative sector is concerned.

FINDINGS

1. On an average the financial health of Indian co-operative sugar factories are affected by the

similar types of problems viz., low sugar percentage in sugarcane, low recovery rate, age-old technology, accumulated sugar stock, huge interest burden on temporary borrowings and SMP.

- II. Net profits to sales relations were very poor. It is evident that the relation between these two ratios was less than 0.001 per cent in all three units. All India level situations are not different. The profit ratio of the co-operative sugar sector is less than 0.001 per cent but this is not the case with the private and public sector sugar units.
- III. Capital structure of all units always showed upward trends.
- IV. Performance of previous year influenced current year's profits and sales.
- V. The huge capital investments in modernization, which is in the form of fixed assets, reduced the Z-scores of x_1 , x_2 and x_3 variables.
- VI. Mean value of Z-score does not give correct picture hence the Standard Deviation and Co-efficient of Variation is computed for accurate analysis, which kept them at accurate distance as per their performance.
- VII. Z-scores of the Maharashtra unit indicated that the unit was 'likely to become sick' for nine years and 'sick' for one year during the study period.
- VIII. The average net profit to sales ratio of Karnataka has shown less than 0.0003 per cent during the study period.
- IX. Z-scores of the Karnataka unit indicated that the unit was 'financially good' for one year, 'likely to become sick' for seven years and 'sick' for two years during the study period.

X. Z-scores of the Goa unit indicated that the unit was 'financially good' for 4 years, 'likely to become sick' for 3 years and 'sick' for 3 years during the study period.

SUGGESTIONS

- (i) Even though the mean value of Karnataka unit (2.20) and Goa unit (2.0055) was higher, both the units need to improve their consistence in financial health.
- (ii) All the units should improve their net profits to net sales ratios because presently it is (less than 0.003) negligible. It is evident that only Goa unit has shown higher rates (0.07) for 2 years.
- (iii) All the units need to create and make use of internal source finance as far as possible for payment of their sugarcane bills rather than all the time borrowing from banks.
- (iv) As soon as farmers receive their cane bills, they spend a part of it and the rest they keep in banks. These farmers can be asked to keep their earnings in the factory itself as a deposit instead of keeping them in other banks. The management can pay interest on their deposits, which may be lesser than the rate payable to the banks on temporary loans to hold sugar stock throughout the year. In India farmers demand their due cane bills immediately due to their bitter experience with the factory in past. Top management can take them into confidence and can sort out the differences by giving them a full proof and guaranteed assurance of payment on demand.
- (v) It is advised to every sugar unit to go for 'Wealth Health Check Up'.