

## **FINANCIAL PERFORMANCE AND BANKRUPTCY ANALYSIS FOR SELECT PARAMEDICAL COMPANIES AN EMPERICAL ANALYSIS**

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### **AREA OF STUDY: COMMERCE**

#### **ABSTRACT**

The global financial crisis and the increased number of corporate defaults emphasize the importance of credit risk management. It has been widely acknowledged that the lack of understanding of credit exposures may lead to incorrect use of risk management tools, which in turn might cause major losses by financial institutions triggering their bankruptcies. Consequently, the field of bankruptcy forecasting has gained significant attention in economic research and among practitioners alike. Small or large companies, private or public undertaking, no companies can run without borrowed fund, even non profit organisations look for financial aid from some sources to exist successfully. Bankruptcies seem to unfold rapidly and news about them seems unexpected,

although the signs may have been in evidence for years before the filing takes place. Naturally, many organizational stakeholders are interested in finding a reliable method to predict bankruptcy and financial distress. To date, the methods designed to predict bankruptcy events have had mixed reviews. One common bankruptcy prediction method is Altman's Z-Score formula. The objective of this study is to apply Altman's Z-Score in an empirical analysis taking into consideration the top three shipping firms of India. Bankruptcy is a situation where the liabilities exceed the assets in the company, generally it happens due to under capitalization, not maintain sufficient cash, sources are not utilize properly, in efficient management in all activities, sales decline and market situation etc. Predicting bankruptcy is a dire vital for taking curative and corrective

measures for better financial planning, profitability, liquidity and solvency efficiency of the firm. In this study an attempt has been made to know the financial performance and also to predict the risk of bankruptcy for selected paramedical companies. To achieve these

objectives a few financial ratios are calculated viz., Liquidity Ratios; Working Capital Ratios, Solvency Ratios and Altman Z-Score Analysis was made to diagnose the problem of bankruptcy.

**KEY WORDS:** Financial performance, Bankruptcy, ALTMAN Z score, Liquidity

## **INTRODUCTION**

The paramedical industry is one of the most rapidly emerging sectors in India with a boom in health sector & emergence of many high tech hospitals. The shortage of professional paramedical manpower exists. At present, India is the leading country in the paramedical industry in the Asia Pacific region. Beside the established metros, states like Haryana, UP, Rajasthan, Bihar, Punjab, Madhya Pradesh, Jharkhand, Jammu & Kashmir and new small tier II cities have emerged as the prominent paramedical destinations. The problem of bankruptcy can be caused by poor management, improper sales forecasting, inexperienced management, fraud changes in tastes and preferences of customers and rapid technological advances in the field of business and other variables. So, there are many forms of business failures. The first one is economic failure, this occurs when an organization is not able to generate profit/revenue that would be sufficient enough to meet creditor's obligations and various costs/expenses associated with the operations of the firm. Financial failure may take the form of bankruptcy or insolvency. Insolvency refers to where a firm is unable to meet its current obligations as and when they fall due. These happen when the current liability exceeds the current assets. Bankruptcy, in other hand, refers to where the total liabilities exceed the total assets. Financial statement is normally used to assess the performance of the firm in terms of profitability and solvency. There is a need for predicting financial failure on time for taking corrective measures in relating to investment and lending. These huge profit making institutions face cost of financial distress which leads to bankruptcy where the companies require management to reduce financial distress and credit risk. Sluggish demand, a growing mountain of debt and a radically changing marketplace, listed companies in the global paramedical industry as a whole face a greater risk of financial distress, including possible bankruptcy. It is also for the investors, to study recommends paying close attention to the

widening chasm between the haves and have-nots, and working with experts to determine the level of bankruptcy before investing.

## **REVIEW OF LITERATURE**

In this section an attempt have been made to study the empirical studies relating financial performance and predicting the risk of bankruptcy.

Altman's Z-score, the popular ones being predicting bankruptcy of private firms (Altman, 1993), no manufacturers'Z-score model, and the Emerging MarketsScore of Altman, (Altman, Hartzell, & Peck, Emerging Market Corporate Bonds: A Scoring System,, 1995).Altman and Narayanan (1997) present a review on international studies conducted in 22 countries in which half of them are on developing countries. The major conclusion of all these studies is that the multivariate techniques such as multiple discriminant analysis, logistic regression, and profit models built on the basis of accounting ratios are effective tools for predicting default companies. In many cases, accounting ratio-based credit scoring models have shown that they can perform quite well over many different time periods and across many different countries (Altman, Narayanan , & Paul, 1997). Among them, multiple discriminant analysis is found to be a superior and a more acceptable technique.

Altman's Z is one of the best known, statistically derived predictive models used to forecast a firm's impending bankruptcy (**Moyer, 2005**). Edward Altman, a financial economist and professor at New York's Stern School of Business, developed Altman's Z (the Z-Score) in 1968.The Z-Score gained acceptance by auditors, management accountants, and database systems beginning in the mid-1980s. Although, Altman originally developed the Z-Score based on a small sample of manufacturing firms, some research seems to show that it is useful in other areas, such as healthcare, with some modifications (**Al-Sulaiti & Almwajeh, 2007**).Altman's Z-Score formula is a multivariate formula used to measure the financial health of a company and to diagnose the probability that a company will go bankrupt within a two-year period. Studies of Altman's Z have yielded mixed results, and recent literature questions whether or not the formula, tested in the mid-twentieth century on manufacturing firms, is useful in today's marketplace.

## **OBJECTIVES OF THE STUDY.**

- To analyse the liquidity position using traditional financial metrics and to forecast firm's impending bankruptcy
- To make the investors aware and to suggest them ALTMAN Z scores as an

investment checklist.

- To suggest the firms in general to take efforts to increase the liquidity position and to take measures to avoid financial distress

### NEED FOR THE STUDY

The purpose of this study is two-fold. The unique characteristics of business failures are examined in order to specify and quantify the variables which are effective indicators and predictors of corporate distress where Z-scores are used to predict corporate defaults and an easy-to-calculate control measure for the financial distress status. The study also aims in providing information to the investors and making them aware to use Z score model as an investment check list to be on the safer side. The study also helps to provide suggestions to the firms to avoid financial distress.

### Altman Z-Score

The **Altman Z-Score** is an analytical representation created by Edward Altman in the 1960s which involves a combination of five distinctive financial ratios used for determining the odds of bankruptcy amongst companies. Most commonly, a lower score reflects higher odds of bankruptcy.

### Formula for Z-Score

This formula for Altman Z-Score is helpful in calculating and predicting the probability that a company will go into bankruptcy within two years.

### 5-factor model of the Altman Z-score (a for private manufacturing firms):

$$Z\text{-score} = 0.717T_1 + 0.847T_2 + 3.107T_3 + 0.42T_4 + 0.998T_5$$

Factor	Ratio	Objective
X <sub>1</sub>	= Working Capital / Total Assets	Measure the liquidity of the company's asset base
X <sub>2</sub>	= Retained Earnings / Total Assets	Measure cumulative profitability relative to firm size
X <sub>3</sub>	= EBIT / Total Assets	Measure how efficiently the company uses its assets to generate earnings from operations
X <sub>4</sub>	= Market Value of Equity / Book Value of Total Liabilities	Consideration of the market's view of the company relative to its liabilities
X <sub>5</sub>	= Sales / Total Assets	Measure asset turnover

### Zones of Discrimination:

- 1.23 or less – “Distress” Zone
- from 1.23 to 2.9 – “Grey” Zone
- 2.9 or more – “Safe” Zone

### Interpretation of Altman Z-Score

The Z-Scores are helpful in predicting corporate defaults as well as an easy-to-calculate measure of control for financial distress status of companies in academic studies. A Z-Score above 2.6 (2.9) indicates a company to be healthy. Besides, such a company is also not likely to enter bankruptcy. However, Z-Scores ranging from 1.1-2.6 (1.23-2.9) are taken to lie in the grey area.

#### ANALYSIS AND INTERPRETATION

##### Dr.Reddy's Lab

(Rs in Crores)

Particulars	2014	2013
Net Sales	9671.80	8370.40
Total Assets	12033.40	9916.00
Working capital	5491.90	4424.20
Retained earnings	110.51	71.98
Total liabilities	12033.40	9916.00
Market value of equity	85.10	84.90
EBIT	2454.40	1753.20
Z Score value	1.7738	1.7214

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range for both the years, though the company is out of crisis zone. It is mandatory to take precautionary steps and keep tab of the figures to avoid bankruptcy.

##### Cipla

(Rs in Crores)

Particulars	2014	2013
Net Sales	9380.29	8202.42
Total Assets	11073.03	9912.81
Working capital	3299.35	3458.27
Retained earnings	16.95	18.43
Total liabilities	11073.03	9912.81
Market value of equity	160.58	160.58
EBIT	1818.34	2011.86
Z Score value	1.5767	1.7149

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range for both the years, though the company is out of crisis zone. It is mandatory to take precautionary steps and keep tab of the figures to avoid bankruptcy.

##### Sun Pharma

(Rs in Crores)

Particulars	2014	2013
Net Sales	2828.79	2432.14
Total Assets	12342.46	7964.51
Working capital	3010.34	1829.63
Retained earnings	0.00	4.14
Total liabilities	12342.46	7964.51
Market value of equity	207.12	103.56
EBIT	-2801.09	663.03
Z Score value	-0.2945	0.7340

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the low range for both the years. The company is highly vulnerable to bankruptcy. Analyze the weak zones of the company and take necessary steps to avoid the same.

**Ranbaxy (Rs in Crores)**

Particulars	2014	2013
Net Sales	6864.94	6303.55
Total Assets	7783.23	8042.15
Working capital	443.29	4508.69
Retained earnings	0.00	0.00
Total liabilities	7783.23	8042.15
Market value of equity	211.66	211.46
EBIT	-848.42	-164.28
Z Score value	0.5938	1.1318

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the low range for both the years. The company is highly vulnerable to bankruptcy. Analyze the weak zones of the company and take necessary steps to avoid the same.

**Lupin Ltd (Rs in Crores)**

Particulars	2014	2013
Net Sales	8939.38	7122.51
Total Assets	7209.94	5595.14
Working capital	3528.00	2524.22
Retained earnings	51.28	27.48
Total liabilities	7209.94	5595.14
Market value of equity	89.68	89.51
EBIT	3139.09	1723.81
Z Score value	2.9522	2.5620

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range, though the company is out of crisis zone in the year 2013 and in 2014 it takes necessary steps and avoid bankruptcy and the Z score value is in the high range. The company is in stable condition and the chance of bankruptcy is nil with the current values.

**Aurobindo (Rs in Crores)**

Particulars	2014	2013
Net Sales	7110.71	5425.10
Total Assets	6945.85	5729.60
Working capital	3762.90	2668.38
Retained earnings	39.70	16.79
Total liabilities	6945.85	5729.60
Market value of equity	29.15	29.12
EBIT	1519.46	563.12
Z Score value	2.0964	1.5889

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range for both the years, though the company is out of crisis zone. It is mandatory to take precautionary steps and keep tab of the figures to avoid bankruptcy.

**Cadila health care (Rs in Crores)**

Particulars	2014	2013
Net Sales	4042.10	3527.40
Total Assets	5283.50	4759.00
Working capital	1202.20	1102.30
Retained earnings	42.79	23.38
Total liabilities	5283.50	4759.00
Market value of equity	102.40	102.40

EBIT	975.70	531.40
Z Score value	1.4978	1.2659

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range for both the years, though the company is out of crisis zone. It is mandatory to take precautionary steps and keep tab of the figures to avoid bankruptcy.

**Glen mark (Rs in Crores)**

Particulars	2014	2013
Net Sales	2393.86	2025.38
Total Assets	3311.22	3188.78
Working capital	823.29	498.74
Retained earnings	15.66	13.92
Total liabilities	3311.22	3188.78
Market value of equity	27.12	27.09
EBIT	501.92	379.96
Z Score value	1.3782	1.1235

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the low range for the year 2013, the company is highly vulnerable to bankruptcy and it analyzes the weak zones of the company and takes necessary steps to avoid the same in the next year. Hence, in 2014 Z score is in the medium range though the company is out of crisis zone.

**Divi's lab (Rs in Crores)**

Particulars	2014	2013
Net Sales	2513.25	2144.25
Total Assets	3056.02	2588.74
Working capital	1499.47	1178.89
Retained earnings	56.25	43.51
Total liabilities	3056.02	2588.74
Market value of equity	26.55	26.55
EBIT	1008.64	791.58
Z Score value	2.2173	2.1218

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range for both the years, though the company is out of crisis zone. It is mandatory to take precautionary steps and keep tab of the figures to avoid bankruptcy.

**Torrent pharma (Rs in Crores)**

Particulars	2014	2013
Net Sales	3364.87	2766.23
Total Assets	3505.49	2424.83
Working capital	1859.31	1352.35
Retained earnings	43.35	30.36
Total liabilities	3505.49	2424.83
Market value of equity	84.62	42.31
EBIT	958.32	665.32
Z Score value	2.2083	2.4088

Source: [www.coimbatorecapital.com](http://www.coimbatorecapital.com)

Z score is in the medium range for both the years, though the company is out of crisis zone. It is mandatory to take precautionary steps and keep tab of the figures to avoid bankruptcy.

### **Interpretation of Altman Z-Score**

The Z-Scores are helpful in predicting corporate defaults as well as an easy-to-calculate measure of control for financial distress status of companies in academic studies. A Z-Score above 2.6 (2.9) indicates a company to be healthy. Besides, such a company is also not likely to enter bankruptcy. However, Z-Scores ranging from 1.1-2.6 (1.23-2.9) are taken to lie in the grey area.

## **CONCLUSION**

Paramedical manufacturing firms being one of the major contribution to the Indian market and facilitating many business transactions through exports and imports deals with a huge sum of borrowed money which must be given back to the contributors and borrowed institutions within the stipulated time in order to avoid financial distress. The firms have a strong debt-equity mix which shows that they have strong strategic financial policies. It is a general opinion that the firms have to take little efforts to improvise on its liquidity to be on the safer side. Firms must make use of these various available models and make the best use of to predict their financial distress and take corrective actions. The debt-equity ratio has shown a positive growth which means that the firm is sound in term of financial policies and capital structure which must be sustained.

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