

## EMPLOYMENT OF ZETA MODEL ON THE LISTED TEXTILE COMPANIES OF PUNJAB

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### ABSTRACT

The present study is being undertaken to find out the applicability of Zeta model on the listed textile companies of Punjab. Earlier studies found that Zeta model is very reliable model which can be used in today's time to predict bankruptcy. In the present research, it was found that the model hold good in majority of the cases i:e around 86% but not in all the cases.

**KEYWORD:** Z-Score, Financial distress, discriminant model

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### Introduction

The main purpose of any business is to earn profits. Measurement of financial health of any business is indispensable. From many years, many researchers have been trying to develop a method to know in advance the success and failure of any business. Knowing in advance whether the business will fail or succeed led to the formulation of various theories. (Beaver, 1966) recognized six most important ratios which are important to evaluate financial soundness of the companies. In 1968, Altman devised multivariate linear discriminant model (Altman, 1968). Logit model was evolved in 1980 (Ohlson, 1980). The last model was developed in 2005 named IN05 (Neumaier and Neumaierova, 2005). Five stages of business failure was determined by Fitzpatrick in 1932 namely incubation, financial embarrassment, financial insolvency, total insolvency and confirmed insolvency (Fitzpatrick, 1932). Further (Karels and Parkash, 1987) in their study explained the reasons behind business failure by recognizing some of the factors like negative net worth, inability to pay debts, over drawn accounts, non-payment of dividend etc. A new view point was given by (Aharony, Jones and Swary, 1980) who said that business failure is the result of misallocation of resources.

(Robert, 1972) developed model for testing bankruptcy of small businesses based on financial ratios and combinatorial analysis of ratio trends and current level. (Shepherd, 1994) gave importance to four strategic factors which organizational success or death namely corporate strategy, market share strategy, cooperative strategy and financial strategy.

## Review of literature

Altman (1968) assessed the quality of ratio analysis and discriminant analysis as an analytical tool regarding corporate performance on the manufacturing companies. It was found out that ratios are no longer regarded as an analytical technique as compare to discriminant analysis. Discriminant ratio model was found to be 94% correct in assessing the corporate health.

Altman, Haldeman and Narayanan (1977) in their research constructed, analyzed and tested new model of bankruptcy. It was appeared in their research that a new Zeta model is accurate to the extent of 90% on their sample upto five years of prior of failure.

Bandyopadhyay (2006) in its research work tried to enroot a model to signify an early warning regarding default in corporate bond in India by using regression. Z-score model proved to have high predictive power as compare to other models to discover bad firm in the sample. Such warning signal could be very helpful in checking firm's solvency status.

Kpodoh (2009) in his study tested the applicability of Z-score on the mobile telecom industry. He came up with strong reliability and applicability of Z-score in predicting bankruptcies especially in context of mobile telecom industry.

Miller (2009) in his study tested two bankruptcy models namely distance to default model and Z-score model. The research showed that Distance to default model has more strong cardinal and ordinal prediction as compare to Z-score model. But as far as stable ratings are concerned, Z-score model had an upper edge.

Hayes, Hodge and Hughes (2010) in their study apply Z-score it to several pairs of firms from a variety of specialty retail industries spanning two consecutive years. The study showed that 94% of bankruptcies were predicted accurately using Z-score model.

Pitrova (2011) conducted research on Czech firms to find out the applicability on Zeta model. It was found the model is more reliable in case of bankrupt companies. It was also found that Altman model cannot predict bankruptcies sooner than two years.

Anjum (2012) explained various studies, carried out to anticipate bankruptcies, conducted by Altman. The research was conducted in order to summarize various researches of Altman. It was found that Altman's Z-model can be used to predict about company's health ver confidently.

The present research focuses on the applicability of Zeta Model on the listed textile companies of Punjab. The main objectives are:-

- To study the ratios of the companies under study
- To find out the applicability of Zeta model on the companies under study

## Research Methodology

### Research Design

The proposed research design for this study is descriptive in nature. The information required to undertake the present study is definite and the research is pre arranged and preplanned.

### Data Collection

Secondary Sources were used to gather the information. Secondary information was collected with the help of journals, annual reports and previous researches. Analysis is being done on the last ten years data from the annual report starting from 1999-2010.

## Population

Population in the present study includes all textile companies in Punjab listed on any of stock exchanges. The present study includes thirteen such companies and research has been conducted on all the thirteen companies.

## Data analysis and Interpretation

The Z-score formula for predicting bankruptcy was published in 1968 by Edward I. Altman. The formula may be used to predict the probability that a firm will go into bankruptcy within two years. A z-score lower than 1.8 indicates that bankruptcy is likely, while scores greater than 3.0 indicate bankruptcy is unlikely to occur in the next two years. Companies that have a z-score between 1.8 and 3.0 are in the gray area, bankruptcy is not easily predicted one way or the other.

Table no-1 shows the Z-score of thirteen listed textile companies starting from 1999 till 2010. Companies in grey shade are those companies, whose score is between 1.8 to 3.0 and whose bankruptcy cannot be predicted as per Zeta model. Companies in red shade are those who score is less than 3 and whose bankruptcy is predictable within two years as per Zeta model. Companies in yellow shades are those, whose score is more than 3. The yellow ones are the companies which are safe as per Zeta model.

Companies	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Vardhman Textiles Ltd	1.73	1.41	1.48	1.74	2.24	2.61	2.46	2.04	1.97	2.16	2.25	2.17
Nahar Spinning Mills	1.96	1.76	1.68	2.06	1.78	1.91	2.00	1.92	2.07	2.18	1.87	2.33
Nahar Industrial Enterprise	1.75	1.66	1.48	1.82	1.95	2.14	1.90	1.80	1.49	2.15	2.14	2.03
Malwa Spinning mills	1.79	1.72	2.01	2.18	2.13	2.02	1.59	1.86	1.76	1.98	1.90	1.80
Winsome Yarns Ltd	0.24	0.33	0.88	0.94	1.65	1.54	1.49	1.98	1.81	1.79	1.90	1.32
JCT Ltd	0.92	0.88	0.95	1.37	1.84	2.82	1.94	2.06	1.60	4.69	2.79	1.91
Vardhman Polytex	1.42	1.06	1.27	2.15	1.98	1.86	1.96	2.51	2.11	2.11	2.03	2.20
Abhishek Industries Ltd	1.35	1.17	1.17	1.51	1.70	2.12	2.20	2.09	2.10	1.75	1.23	1.05
Saluja manufacturing Ltd	1.55	1.47	2.64	5.00	4.16	2.33	2.62	4.11	NA	NA	NA	NA
Oswal Yarns Ltd	1.51	1.45	1.38	1.63	1.84	1.81	2.04	1.59	2.18	1.78	1.73	1.86
Bhandari Hoseiry	5.90	5.66	4.58	4.25	3.33	4.02	2.91	2.16	1.54	1.87	1.73	2.03
Girnar fibres	NA	NA	0.23	1.23	1.21	0.81	0.73	0.97	0.04	0.55	1.08	0.55
Vardhman Acrylics	2.41	1.85	1.96	1.82	1.02	1.59	1.07	0.99	0.81	0.81	0.71	0.06

(Own Calculations)

As per grey companies are concerned, the bankruptcy cannot be predicted in their cases, as per Zeta model. In such case, model has hold well, because of the reason that these companies has not gone bankrupt till date.

Zeta model has not hold correct in the case of Winsome yarns Ltd, JCT Ltd, Vardhman Polytex, Abhishek Industries Ltd and Vardhman Acrylics.

It is apparent from the table above that Z-score of winsome yarns Ltd is less than 1.8 consistently from 2007 onwards. Although, Zeta model says that such company will go bankrupt in next two years, but the same has not happen till date. Taking another company under consideration namely JCT, its score is less than 1.8 in 2008 and continued the same in 2009 and 2010, but it has not gone bankrupt yet.

Same can witnessed from Table above regarding Vardhman Acrylics. The Z-score was less than 1.8 in 2004 and 2006. Instead of bankruptcy, the company's Z-score improved after 2006 in such a way that presently it lies between 1.8 to 3.0.

In the case of Girnar, the model hold good due to the reason that it got defunct after having Z-score consistently less than 1.8.

So, it can be witnessed that out of 150 observations under study, Z-model hold good in 130 observations, i.e 86.67%.

#### Conclusion

Zeta model hold good in most of the cases. It doesn't predict very accurate results especially within the time span of two years.

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