The Economics and Finance Letters
2020 Vol. 7, No.2, pp. 148-161.
ISSN(e): 2312-430X
ISSN(p): 2312-6310
DOI: 10.18488/journal.29.2020.72.148.161

DRIVERS BEHIND THE FINANCIAL INSOLVENCY: AN EMPIRICAL STUDY ON THE TEXTILE INDUSTRY IN BANGLADESH

Sonia Rezina[1+]
Md. Shahnawaz Mostofa[2]

[1]*Assistant Professor, School of Business, Uttara University, Dhaka, Bangladesh.*
Email: rezina.sonia@uttarauniversity.edu.bd Tel: +8801675548941
[2]*Senior Lecturer, School of Business, Uttara University, Dhaka, Bangladesh.*
Email: mostofa@uttarauniversity.edu.bd Tel: +8801914764742

(+ Corresponding author)

Article History
Received: 8 July 2020
Revised: 14 August 2020
Accepted: 2 September 2020
Published: 16 September 2020

Keywords
Insolvency
Altman Model
Financial health
Panel data
Textile industry
Bangladesh.

JEL Classification:
G30; G33; L67.

ABSTRACT

The main purpose of the research study is to assess the financial soundness of the textile industry in Bangladesh. The effects of financial ratios have also been examined. The research has been designed based on published quantitative data in the stock market. 35 listed companies that consist of A-Category, B-Category and Z-category companies were analyzed. In this research study, five financial ratios have been analyzed and tested using the Altman Z-score model. Statistical correlation among the financial ratio was examined to depict the picture of financial distress among the different categories of companies in Textile industries in Bangladesh. Most of the A category companies are in Safe Zone or financially sound, B category companies are into Grey Zone and Z category companies are in distress zone. The outcome of the study can be valuable for the financial managers to take important managerial as well as financial decisions, the shareholders to take appropriate investment decisions and bankers to evaluate the prospective borrowers' credit risk and renew loans of the concerned textile manufacturers of the country.

Contribution/Originality: This study is one of the very few studies which have examined the direct relationship of financial ratios with Z-score values regarding different categories of listed textile companies in the stock exchange by using panel data analysis.

1. INTRODUCTION

In the corporate world bankruptcy is an unfortunate circumstance. Business organizations always consider about profitability. Financial managers of the companies are interested in more and more use of debt capital to increase the profit but sometimes which leads to bankruptcy situations. To analyze the financial soundness of the companies and to predict bankruptcy is an issue of great responsibility of every financial manager.

The textile industry is the leading sector in the economy of Bangladesh. The textile industry of Bangladesh is divided into two: Backward linkage industries (include spinning, weaving/ knitting, dyeing and finishing industries) and Forward linkage industries that include RMG sector, printing, and packaging. Bangladesh ranks second in the world as the biggest apparel manufacturer with a $20 billion business in which 80% is earned by exporting goods, Fashion2Apparel (2017).

Since the textile industry generates a large number of export earnings which is one of the main sources of growth economic development of Bangladesh. Textile industry contributing 83.4% of total export (source: EPB), textile sector also generating employment opportunity of 4.4 million people, 80% of whom are women. (Source: WB). The Textile sector, the life support of the economy, in the fiscal year 2018 has contributed 11.16% of

GDP. Bangladesh has achieved the status of a middle-income country and will have to continue the growth indicators until 2024 for successfully graduating to the next tier, Fibre2Fashion (2013). The Z-score Model which predicts financial distress was published in 1968 by Edward I. Altman, the formula for predicting financial distress given in the Z-score model be able to predict that a firm will go into bankruptcy within two years. Several pieces of research have been done on this issue to anticipate the financial distress which motivated us to initiate this research project.

In this situation, the study will help to portray the right roadmap for the stakeholders to know about the financial performance of the companies under the textile industry of Bangladesh. In corporate finance, one of the critical issues is '*Financial Distress*'. It defined the condition where a firm's operating cash flows are not enough to meet the current obligations and the company is forced to take corrective measures. The negative aspect of bankruptcy caused by poor management, inappropriate sales forecast, inexperience management, scam, changes in tastes and preferences of product customers and radical advancement of technology in the field of business (Venkataramana, Azash, & Ramakrishnaiah, 2012).

It is thought that failure is a gradual process, and the consequence and symptoms of problems are recognizable. These common symptoms are a decline in company's profit figure, net working capital, liquidity, asset quality, arrears interest, and loan repayment; delay in supplier's payment, delay in staff and all other creditors payment, and implementation of some form of austerity measures (Sori, Hamid, Nassir, & Mohamad, 2001).

Financial soundness depends on managerial decisions such as major financing, investment, and asset management. Predicting financial distress is a very important instrument that can help both managers and investors in making wise and sensible decisions. There are different quantitative formulas are prescribed for measuring the financial performance of a business firm.

But the Altman's Z-score has been proven to be a more reliable tool. This research will go to test for the reliability of the ratios that are available in Altman Z-score. Z-score is a modified version of the discriminant analysis technique of Fisher (1936). From the various studies, it has been found that this model reveals the Altman Z-Score was found to be 72% accurate in predicting bankruptcy two years before happening the event. It is also found that with a Type II error (false negatives) of 6% (Altman, 1968). Z-score model is approximately 80%–90% precise in predicting financial distress one year before the event, with a Type II error (classifying the firm as bankrupt when it does not go bankrupt) of approximately 15%–20%.

This paper focuses on financial ratios to evaluate the financial soundness of the selected textile companies in Bangladesh.

1.1. Objectives of the Research

The objectives of the research study are to:

i) Measure the fundamental financial performance of the selected textile companies in Bangladesh using some key financial ratios.
ii) Predict the financial distress of the selected companies on the basis of the Z-Score Model.
iii) Examine the relationship between the financial ratios and the Z score values.

2. LITERATURE REVIEW

To predict business failure is the most important for taking timely corrective and remedial measures for every corporate organization. According to the research conducted on finance and accounting, it has been found that financial ratios could be the best predictors of the bankruptcy model.

Therefore, the Z score model is one of the measurements that can help the stakeholders to take important decisions. It has been found that, Altman. (1983) differentiated between stock-based insolvency and flow-based insolvency, all of which usually lead to financial distress. In the previous studies, it has been found that, when a firm

has a negative net worth that brings the value of its assets to be less than the value of its debts. Also operating cash flow is insufficient to meet current obligations.

Alexakis (2008) explained in his research whether the Z-score could correctly predict company failures or not. He derived that the Z-score model performs well in predicting failures for a period of up to five years earlier and could be used by investment managers in selecting stocks for investment and by company management for asset restructuring decisions or other corporate strategic moves.

Aiyabei (2002) explained in his study that a declining Z-score value can provide a signal of serious financial ahead and provide a simpler conclusion of weighted financial ratios. Given its limitations, the Z Score model is probably better used as a measure of relative financial performance. Researchers also stated that it is best to use the model as a quick check of the financial health of the company. If the Z-score value indicates a problem, it's a good idea to initiate a more detailed analysis.

The financial soundness measured in the Indian steel industry by Ramaratnam and Jayaraman (2010) using the Z score model. They have taken five years' data (2006-2010) of five selected firms from the steel industry. Their study found that all the selected companies are financially sound during that period. The entire selected firm's Z-Score value was above the distress zone.

In Bangladesh, various researchers have worked on the Z-score Model. A study conducted by Mizan and Hossain (2014) for the prediction of financial distress of the Cement Industry in Bangladesh. They have taken the Z-score Model to test the applicability in Bangladeshi Context. They have selected the sample of five leading companies in this industry. They came up with the following research findings: two firms are found financially sound with no bankruptcy possibility in the near future and the other companies are found to be unsatisfactory and have a significant likelihood of facing financial distress in the near future.

Chowdhury and Barua (2009) applied the Z-score Model to the Z- category companies to predict financial distress. They have analyzed 53 companies' data from the years 2000-2005 to measure Z-score. Based on their research findings, they have been reached in the conclusion that Altman's Z-score model may not be fully applicable for companies in Bangladesh; but it is still useful with strong validity and accuracy in predicting financial distress.

Mizan., Amin, and Rahman (2011) performed a study to predict the bankruptcy of the pharmaceutical industry in Bangladesh. They used the Z-score Model to analyze the bankruptcy situation of six promising companies in this industry. In their study, they reveal some valuable findings like, two firms are found financially sound having no bankruptcy possibility in the near future and the other four companies are found to be unsatisfactory and they have a strong possibility of facing financial distress.

3. METHODOLOGY

3.1. Research Design and Procedures Used

In our research, we designed to investigate the financial distress of Textile companies in Bangladesh based on published quantitative data in the stock market. We have tried to show financial & statistical analysis in our research paper. Data have been collected from the financial statement of selected companies from the Dhaka Stock Exchange (DSE).

The Z-score formula for predicting financial distress was published by Edward I. Altman in 1968. In his model, he tested and identified that the formula prescribed in the model predicts the possibility that a firm will go into bankruptcy within two years. The Z-score model uses corporate income and balance sheet figures to measure the financial strength or weakness of a company. The Z –score model is calculated by multiplying each of the financial ratios by an appropriate coefficient calculated & tested by Edward I. Altman and then summing the results. The model is given in the following equation:

$$\text{Z-Score Bankruptcy Model: } Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 0.999\,X_5 \text{ ----------(1)}$$

Here, X_1 = (Current Assets − Current Liabilities) / Total Assets

X_2 = Accumulated Retained Earnings / Total Assets

X_3 = Earnings before Interest and Taxes / Total Assets

X_4 = Market Value of Equity / Total Liabilities

X_5 = Sales / Total Assets

Table-1. Operational variables.

Variables	Ratio	Description
X1	NWC/TA	This ratio reveals a firm's liquidity and ability to meet creditor's short-term obligations when they come due.
X2	ARE/TA	This ratio reveals that the accumulated earnings of the business in relation to the total asset of the company. Usually, business firms retain earnings if they anticipate investment opportunities or to overcome future contingencies.
X3	EBIT/TA	This ratio reveals that the operating efficiency of an organization. This ratio explains the total capacity utilization of the company in terms of current & fixed assets.
X4	MVE/BVD	This ratio reveals the capital structure policy of the company which may affect the ability to pay a fixed obligation when they come due.
X5	Sales/TA	This ratio reveals a company's efficiency in managing its total assets in relation to the growth in sales volume.

Note: The financially distressed and non-distressed firm will be forecasted using the Z-score model according to the zones of discriminations.

Table-2. Zone Description.

If, $Z > 2.99$ "Safe" Zone"	The business firm is financially sound and there is the least possibility that the firm will face financial distress in the near future.
If, $1.81 < Z < 2.99$ "Grey" Zone"	The business firm falls in the gray area that means there is less possibility that the firm will face financial distress in the near future.
If, $Z < 1.81$ "Distress" Zone"	There is a high possibility that the business will face financial distress in the near future and the businesses should take immediate action to improve their financial performance, otherwise business firms will face bankruptcy very soon.

3.1.1. Sources of Data

The financial information of the selected companies has been collected from the published annual reports from the Dhaka Stock Exchange (DSE). We have retrieved the Income Statements and Balance Sheets of 35 listed textile companies of Bangladesh from the year 2013 to 2017, which include:

Table-3. List of selected companies.

Category of Company	List
A-Category Company = 18	Al-Haj Textile Mills Limited, Anlimayarn Deying Ltd., Apex Spinning & Knitting Mills Limited, Desh Garments Ltd., Far East Knitting & Dyeing Industries Limited, Generation Next Fashions Limited, H.R.Textile Ltd., Hwa Well Textiles (BD) Limited, Malek Spinning Mills Ltd., Matin Spinning Mills Ltd., Prime Textile Spinning Mills Limited, Paramount Textile Limited, Rahim Textile Mills Ltd., R.N. Spinning Mills Limited, Saiham Cotton Mills Limited, Saiham Textile Mills Ltd., Square Textile Ltd., Stylecraft Limited
B-Category Company = 7	Familytex (BD) Limited, Maksons Spinning Mills Limited, Metro Spinning Ltd., Mozaffar Hossain Spinning Mills Ltd., Regent Textile Mills Limited, Safko Spinnings Mills Ltd., Zahintex Industries Limited
Z-Category Company = 10	Alltex Industries Ltd., C & A Textiles Limited, The Dacca Dyeing & Manufacturing Co.Ltd. , Delta Spinners Ltd, Dulamia Cotton Spinning Mills Ltd., Evince Textiles Limited, Mithun Knitting and Dyeing Ltd., Sonargaon Textiles Ltd., Tallu Spinning Mills Ltd., Tung Hai Knitting & Dyeing Limited
Total= 35	

- *A-Category Companies*

The companies which arrange regular Annual General Meeting (AGM) and declare at least 10% dividend in the last calendar year and newly listed company which earn at least 10% EPS.

- *B-Category Companies*

The companies which arrange regular AGM, declare less than 10% dividend in the last calendar year and a newly listed company that earns less than 10% EPS.

- *Z-Category Companies*

The Companies who have failed to arrange AGM, failed to declare any dividend, Companies that are not in operation for more than six months or whose accumulated loss exceeds its paid-up capital.

3.1.2. Sampling Procedure

In this research paper, we have followed the Archival Research strategy because empirically we want to forecast financial Distress of the Textile Industry in Bangladesh. This study will be based on secondary data. Currently, there are 53 Listed Textile companies in Bangladesh. To determine the sample size, the published formula of the University of Florida was used as a reference. With 90% confidence level and 10% precision level, the sample size is 35 using the following formula by Yamane (1967).

$$n = \frac{N}{1+N\,(e^2)} \text{ ---------- } (2)$$

Here,

n = Sample Size.

N = Population Size.

e = Percentage of sampling error (10%).

We put the value of population size and sampling error, then we got the sample size of 35. So in this study sample size is 35 listed all category textile companies.

3.1.3. Methods and Instrument of Data Gathering

In our research, we have collected metric data from the published document of the selected companies over the period of 2013-2017. In this research paper, we have followed the Archival Research strategy because empirically we want to forecast financial Distress of the Textile Industry in Bangladesh.

In this paper, we have used basic data related to the income statement and balance sheet of all the listed companies from the Dhaka Stock Exchange. Other relevant information in relation to different categories of stocks has been collected from the DSE website.

3.1.4. Statistical Treatment

Our research study is based on financial ratios and statistical analysis of the independent and dependent variables. We have tried to find out statistical correlation among the financial ratio to depict the picture of financial distress among the different categories of companies in Textile industries. Data have been processed using STATA software.

4. RESULTS & DISCUSSIONS

4.1. Descriptive Statistics

The descriptive variables of the study are calculated as in table 2, 3, 4, & 5 where the mean/average, standard deviation, maximum and the minimum values of the Z Score model variables (X_1, X_2, X_3, X_4 & X_5) were calculated.

Table-4. Descriptive analysis of the variable X_1, X_2, X_3, X_4 & X_5

(All Companies)

Variable	Mean	Std. Deviation	Minimum	Maximum
Z Score	2.5607	1.6457	-0.7379	9.4723
X_1	0.1882	0.3366	-1.1987	0.9070
X_2	0.1691	0.1922	-0.4536	0.8556
X_3	0.3077	0.4018	-0.2083	2.9029
X_4	1.0917	1.2289	0.0831	7.5802
X_5	0.8041	0.8087	0.0453	4.1021

Note: No. of observation, n = 175

From Table 4 it has been found that the mean/average value of the independent variable of the study presented in X_1, X_2, X_3, X_4, X_5 (0.1882, 0.1691, 0.3077, 1.0917, 0.8041) respectively and standard deviation amounted (0.3366, 0.1922, 0.4018, 1.2289, 0.8087) respectively. The mean value dependent variable of the study (Z-Score = 2.5607) and standard deviation of 1.6456. From all company analyses, it has been found that X4 has a greater impact on Z-Score value i.e, highest mean value and greater variability in terms of standard deviation. Since the Market Value of Equity / Total Liabilities ratio indicates the ability of the company to meet the fixed & current obligation when they come due. If this ratio decreases this would likely decrease the Z-Score value and turn companies into the distress zone or vice versa.

Table-5. Descriptive analysis of the variables X_1, X_2, X_3, X_4 & X_5.

(A Category Companies)

Variable	Mean	Std. Deviation	Minimum	Maximum
Z Score	3.1238	1.8331	0.8188	9.4723
X_1	0.1437	0.2777	-0.4372	0.6811
X_2	0.1664	0.2154	-0.4535	0.8556
X_3	0.4088	0.5067	-0.1217	2.9029
X_4	1.3376	1.5753	0.0976	7.5803
X_5	1.0673	1.0379	0.0489	4.1022

Note: No. of observation, n = 90.

From Table 5 It has been found that the mean/average value of the independent variable of the study presented in X_1, X_2, X_3, X_4, X_5 (0.1437, 0.1664, 0.4088, 1.3376, 1.0673) respectively and standard deviation amounted (0.2777, 0.2154, 0.5067, 1.5753, 1.0379) respectively. It has also been identified that the mean value of the dependent variable (Z-Score) of A-category companies is 3.1238 which is greater than 2.99. This result revealed that most of the A category companies are in Safe Zone or financially sound. The weighted coefficient of X_4 & X_5 A-category companies is greater in comparison to other weighted coefficients which indicates that A-category companies are using shareholders' funds efficiently to generate enough profit which leads to the companies in Safe Zone.

Table-6. Descriptive analysis of the study's variables (B Category Companies).

Variable	Mean	Std. Deviation	Minimum	Maximum
Z Score	2.4493	1.0253	1.2072	5.2655
X_1	0.3263	0.2165	-0.0109	0.7076
X_2	0.2490	0.1538	0.0000	0.6962
X_3	0.2935	0.1867	0.0182	0.9231
X_4	1.0787	0.7011	0.3241	3.3168
X_5	0.5018	0.1933	0.1795	0.9863

Note: No. of observation, n = 35.

From Table 6 It has been found that the mean/average value of the independent variable of the study presented in X_1, X_2, X_3, X_4, X_5 (0.3263, 0.2490, 0.2935, 1.0787, 0.5018) respectively and standard deviation amounted (0.2165, 0.1538, 0.1867, 0.7011, 0.1933) respectively. It has also been identified that the mean values of the dependent variable (Z-Score) of B-category companies is 2.4493 which is below 2.99 which leads to B-category companies into Grey Zone. The weighted coefficient of X_3, X_4 & X_5 shows the declining trend that raises the question of the

inefficiency of companies in using shareholders fund effectively in earning/profit-making ventures or the companies are inclined to use more debt financing rather in use of equity financing.

Table-7. Descriptive analysis of the study's variables (Z Category Companies).

Variable	Mean	Std. Deviation	Minimum	Maximum
Z Score	1.6252	1.1402	-0.7379	3.8131
X_1	0.1715	0.4605	-1.1987	0.9070
X_2	0.1180	0.1527	0.0000	0.5671
X_3	0.1354	0.1831	-0.2083	0.4985
X_4	0.6582	0.4607	0.0831	2.0827
X_5	0.5421	0.2774	0.0453	1.5068

Note: No. of observation, n = 50.

From Table 7, It has been found that the mean/average value of the independent variable of the study presented in X_1, X_2, X_3, X_4, X_5 (0.1715, 0.1180, 0.1354, 0.6582, 0.5421) respectively and standard deviation amounted (0.4605, 0.1527, 0.1831, 0.4607, 0.2774) respectively. The aggregate mean value of Z-Score of Z category companies is 1.6252 which is lower than 1.81 which implies Z category companies are in distress zone. The estimated value of X_1, X_2, X_3, and X4 shows the declining trend.

4.2. Correlation Analysis

Table-8. Pearson Correlation Matrix (For All Companies).

Variable	Z-Score	X_1	X_2	X_3	X_4	X_5
Z Score	1.0000					
X_1	0.4865	1.0000				
X_2	0.4590	0.3547	1.0000			
X_3	0.4204	0.1946	0.1402	1.0000		
X_4	0.7531	0.3916	0.2708	-0.0171	1.0000	
X_5	0.3700	-0.2024	0.0675	0.2702	-0.2060	1.0000

Note: No. of observation, n = 175.

The correlations of the variables of the model were measured and the results are as shown in Table 8 above. The result in Table 8 shows that there is a positive correlation between dependent Z-Score values and independent variable (X_1= 0.4865, X_2= 0.4590, X_3= 0.4204, X_4= 0.7531 & X_5= 0.3700). There is a positive correlation between Z score value and X_4= Market Value of Equity/Book Value of Total Liabilities.

Table-9. Pearson Correlation Matrix (A Category Companies).

Variable	Z-Score	X_1	X_2	X_3	X_4	X_5
Z-Score	1.0000					
X_1	0.4616	1.0000				
X_2	0.4417	0.2970	1.0000			
X_3	0.3024	0.2029	0.0313	1.0000		
X_4	0.7402	0.4909	0.2718	-0.1267	1.0000	
X_5	0.2798	-0.3580	0.0654	0.1775	-0.3362	1.0000

Note: No. of observation, n = 90

The Pearson correlations of the variables of the model were measured and the outcome is shown in Table 9 above. The findings in Table 9 shows that there is a positive correlation between Z values and independent variable (X_1= 0.4616, X_2= 0.4417, X_3= 0.3024, X_4= 0.7402 & X_5= 0.2798). There is a strong positive correlation between Z value and X4= Market Value of Equity/Book Value of Total Liabilities.

Table-10. Pearson Correlation Matrix (B Category Companies).

Variable	Z-Score	X_1	X_2	X_3	X_4	X_5
Z Score	1.0000					
X_1	0.6747	1.0000				
X_2	0.4208	0.3781	1.0000			
X_3	0.5716	0.2088	0.4049	1.0000		
X_4	0.8634	0.4702	0.1115	0.1887	1.0000	
X_5	0.5301	0.2507	0.2170	0.8254	0.1547	1.0000

Note: No. of observation, n = 35

The correlations of the variables of the model were measured and the outcome is shown in Table 10 above. The findings in Table 10 shows that there is a positive correlation between Z values and independent variable (X_1= 0.6747, X_2= 0.4208, X_3= 0.5716, X_4= 0.8634 & X_5= 0.5301). There is a strong positive correlation between Z value and X4= Market Value of Equity/Book Value of Total Liabilities.

Table-11. Pearson Correlation Matrix (Z Category Companies).

Variable	Z-Score	X_1	X_2	X_3	X_4	X_5
Z-Score	1.0000					
X_1	0.8897	1.0000				
X_2	0.6502	0.4482	1.0000			
X_3	0.6259	0.5038	0.5904	1.0000		
X_4	0.8121	0.7054	0.4366	0.1735	1.0000	
X_5	0.5134	0.2460	0.2633	0.4631	0.1512	1.0000

Note: No. of observation, n = 50

The correlations of the variables of the model were measured and the outcome is shown in Table 11 above. The findings in Table 11 shows that there is a positive correlation between Z values and independent variable (X_1= 0.8897, X_2= 0.6502, X_3= 0.6259, X_4= 0.8121 & X_5= 0.5134). There is a strong positive correlation among Z value and X_1= Net working capital/Total Asset, X4= Market Value of Equity/Book Value of Total Liabilities.

After calculating the average Z-score in Table 12, from the above Table 13 we can conclude that a total of 31.43% of companies are in Safe Zone, 31.43% in the Grey Zone and 37.14% in Distress Zone. It has been identified that 44.44% of A-Category companies in Safe Zone indicate that companies are able to utilize their funds effectively in profit-generating activities. But it has also been identified that 22.22% of A-Category companies in financial Distress Zone because companies are not able to generate enough revenue or income to pay its financial obligations. By analyzing B-Category companies it has been observed that a maximum of 42.90% of companies is in Grey Zone, which implies that greater possibility to fall in distress level in the near future. It has also observed that 28.50% of B-category companies expose themselves in distress zone.

Finally, it has been found that 70% of Z-Category companies are in Distress Zone and companies are experiencing the risk of financial failure, which may be due to a lack of proper use of funds. This is also to be noted that the total assets offset by total long term liabilities, even sometimes total liabilities exceed total asset held by the firms. So this may result in a decline in profits which might give a warning to the companies that they may face financial failure in the near future.

Table-12. Year to Year Z-Score Value of 35 Companies and Their Average Z-Score.

Name of the Company	Year to Year Z- Score					Average Z- Score	Zone
	2013	2014	2015	2016	2017		
Category-A							
Alhaj Textile Mills Limited	5.0619	3.8739	3.7495	4.6733	4.0307	4.2778	Safe
Anlimayarn Deying Ltd.	0.8358	0.9508	1.0093	0.9453	0.8324	0.9147	Distress
Apex Spinning & Knitting Mills	5.0619	3.8739	3.7495	4.6733	4.0307	2.9303	Grey
Desh Garmants Ltd.	0.9161	0.8188	3.2970	1.7880	2.4631	1.8566	Grey
Far East Knitting & Dyeing	3.7409	2.9240	2.4854	9.2600	9.4723	5.5765	Safe
Generation Next Fashions	2.5313	6.0503	6.3539	5.4287	5.6795	5.2087	Safe
H.R.Textile Ltd.	4.5911	4.0102	1.9970	1.1456	1.4427	2.6373	Grey
Hwa Well Textiles (BD)	5.0606	5.3704	5.0363	3.5329	5.1039	4.8208	Safe
Malek Spinning Mills Ltd.	1.5361	1.6593	1.7214	1.2686	1.2811	1.4933	Distress
Matin Spinning Mills Ltd.	2.2457	4.8984	3.1829	2.3879	1.8703	2.9170	Grey
Prime Textile Spinning Mills	1.0695	1.0062	1.0301	0.9319	0.8798	0.9835	Distress
Paramount Textile Limited	1.6283	2.7739	2.2743	1.9134	1.6035	2.0387	Grey
Rahim Textile Mills Ltd.	5.7038	3.4388	5.1494	4.9032	2.1315	4.2653	Safe
R.N. Spinning Mills	2.4502	2.1064	6.7700	6.4287	4.2895	4.4090	Safe
Saiham Cotton Mills Limited	2.7529	1.8630	2.9918	2.1271	1.8907	2.3251	Grey
Saiham Textile Mills	1.5056	1.7882	1.5817	1.7884	1.6038	1.6535	Distress
Square Textile Ltd.	3.7422	4.5382	3.6614	4.0897	3.1219	3.8307	Safe
Stylecraft Limited	4.4016	4.4446	4.5622	3.8805	3.1642	4.0906	Safe
Category-B							
Familytex (BD) Limited	3.4259	3.4460	2.8881	3.2311	2.6898	3.1362	Safe
Maksons Spinning Mills Limited	2.2688	2.3390	1.8154	1.5948	1.7860	1.9608	Grey
Metro Spinning Ltd	1.6867	1.8005	1.7029	1.5345	1.2676	1.5984	Distress
Mozaffar Hossain Spinning Mills Ltd.	2.2898	4.2115	4.4320	4.9645	5.2655	4.2327	Safe
Regent Textiles Mills Limited	2.1879	2.6268	2.8583	3.0371	1.9702	2.5361	Grey
Safko Spinnings Mills Ltd.	1.6797	1.8658	1.2250	1.3970	1.2072	1.4750	Distress
Zahintex Industries Limited	2.3095	2.2142	2.2545	2.3437	2.0094	2.2263	Grey
Category-Z							
Alltex Industries Ltd.	0.8859	0.9559	0.7815	0.9401	0.5935	0.8314	Distress
C & A Textiles Limited	1.9271	2.3693	3.1137	3.7043	2.8332	2.7895	Grey
Decca Dying -& Manufacturing Co.Ltd.	1.1263	1.0201	0.9212	0.4726	0.1280	0.7336	Distress
Delta Spinners Ltd.	1.3992	1.5315	1.9774	1.7758	1.6918	1.6751	Distress
Dulamia Cotton Spinning Mills Ltd.	-0.1265	-0.4110	-0.2593	-0.5935	-0.7379	-0.4256	Distress
Evince Textiles Limited	0.9631	1.7055	1.7146	1.9147	1.7379	1.6072	Distress
Mithun Knitting & Dyeing Ltd.	3.0478	3.8131	3.3712	3.3919	3.1522	3.3552	Safe
Sonargaon Textiles Ltd.	1.3977	1.1978	1.3850	1.2662	1.2328	1.2959	Distress
Tallu Spinning Mills Ltd.	1.9433	1.8369	1.5627	1.2968	1.0258	1.5331	Distress
Tung Hai Knitting & Dyeing Limited	1.9757	2.8919	3.2287	3.0922	3.0922	2.8561	Grey

Table-13. No. of companies in safe zone, grey zone and distress zone.

Discrimination Zone	No. of Company			Total	Percentage
	A-Category	B-Category	Z- Category		
Safe Zone	8	2	1	11	31.43%
Grey Zone	6	3	2	11	34.43%
Distress Zone	4	2	7	13	37.14%
Total	18	7	10	35	100%

5. SUMMARY & CONCLUSIONS

5.1. Findings

Wealth maximization is the major concern for the corporate sectors where bankruptcy is a challenging issue. So, measuring the indication of the bankruptcy situation and taking corrective measures to prevent it should be one of the major concerns for every manager.

Based on the research problem, the followings are the summary of the major findings:

a. The Z-score model is able to provide an accurate result when it comes to measuring the financial distress of Textile Industries.
b. A-Category companies are mostly in safe Zone because of their efficient use of asset & liability management policy.
c. A-Category companies are more profitable than B-Category companies.
d. B-Category companies mostly lie on the Grey Zone which may fall in distress in the near future if financial restructuring is not appropriately done.
e. Z-Category companies are mostly in financially Distress Zone because of the ineffective use of asset & liability and declining trend of profit margin over the year.

5.2. Conclusion

There is a saying "Survival of the fittest". The aim of every company is to survive in the business arena by applying modern technology, efficient & skilled manpower, better financial management policy & obtaining large contracts. But financial distress is an unexpected and unfortunate event for every organization. Companies measure their financial performance quarterly and annual basis irrespective of the stock market category. The Z-Score model can forecast financial distress accurately using financial information. In this research paper, we have found that Z-Category companies are more financially distressed than B-Category and A-Category companies as supported by the theory.

So, the Z-score model is a practical tool that can be used to predict the financial distress of companies and it is a monitoring device to manage the risk of insolvency. Further research should be undertaken in some other important sectors to predict the success or failure of the company and give a comparison to the Z-score distress prediction model. The important recommendation is that both the financial managers of companies, creditors, current & prospective investors of various companies can use the Z- Score model with the objective of formulating financial planning and to find empirical evidence for overcoming corporate financial failure. The Z-Score model works as a tool that provides an early warning system for organizations.

Funding: This research project was funded by CRT (Centre for Research and Training), Uttara University, Dhaka, Bangladesh in the year 2018-2019.
Competing Interests: The authors declare that they have no competing interests.
Acknowledgement: Authors want to convey their thank to Professor Dr. Debi Narayan Rudra Paul, Director CRT and Professor Dr. ASM Sahabuddin, Additinal Director CRT who motivated young faculties to get engaged in the field of research. Author would like to show our gratitude to the companies for disclosing their valuable financial information for our research. Authors would also like to show our gratitude to the researchers for sharing their research work that provides us a guideline to initiate this research work and we thank "anonymous" reviewers for their knowledgeable insights in our research work.

REFERENCES

Aiyabei, J. (2002). Financial distress: Theory, measurement and consequence. *The Eastern Africa Journal of Humanities and Sciences*, *1*(2), 61-68.

Alexakis, P. (2008). Altman Z-score model'and prediction of business failures. *International Journal of Monetary Economics and Finance*, *1*(4), 329-337. Available at: https://doi.org/10.1504/ijmef.2008.021143.

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, *23*(4), 589-609. Available at: https://doi.org/10.1111/j.1540-6261.1968.tb00843.x.

Altman., E. I. (1983). *Corporate financial distress: A complete guide to predicting, avoiding and dealing with bankruptcy*. Toronto: Wiley & Sons.

Chowdhury, A., & Barua, S. (2009). Rationalities of z-category shares in Dhaka stock exchange: Are they in financial distress risk? *BRAC University Journal*, *1*(1), 45-58.

Fashion2Apparel. (2017). Bangladesh textile industry: Present scenario, future prospects and challenges. Retrieved from: http://fashion2apparel.blogspot.com/2017/06/bangladesh-textile-industry.html.

Fibre2Fashion. (2013). Current scenario of the textile industry in Bangladesh. Retrieved from: http://www.fibre2fashion.com/industry-article/6944/current-scenario-of-the-textile-industry-in-bangladesh.

Fisher, R. A. (1936). The use of multiple measurements in taxonomic problems. *Annals of Eugenics*, *7*(2), 179-188. Available at: https://doi.org/10.1111/j.1469-1809.1936.tb02137.x.

Mizan, A., & Hossain, M. (2014). Financial soundness of cement industry of Bangladesh: An empirical investigation using z-score. *American Journal of trade and Plicy*, *1*(1), 16-22.

Mizan., A., Amin, M., & Rahman, T. (2011). Bankruptcy prediction by using the Altman Z-score model: An investigation of the pharmaceutical industry in Bangladesh. *Bank Parikrama*, *36*(2-4), 33-56.

Ramaratnam, M. S., & Jayaraman, R. (2010). A study on measuring the financial soundness of select firms with special reference to Indian steel industry–An empirical view with Z score. *Asian Journal of Management Research, Integrated Publishing Association, India*, 724-773.

Sori, M., Hamid, M., Nassir, A., & Mohamad, Z. (2001). Forecasting corporate failure in Malaysian industrial sector firms. *Asian Academy of Management Journal*, *6*(1), 15-30.

Venkataramana, N., Azash, S., & Ramakrishnaiah, K. (2012). Financial performance and predicting the risk of bankruptcy: A case of selected cement companies in India. *International Journal of Public Administration And Management Research*, *1*(1), 40-56.

Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). New York: Harper and Row.

Appendix-A. Calculated financial ratios of all the selected companies.

Company Name	Year	X_1	X_2	X_3	X_4	X_5	Z-Score
Alhaj Textile Mills Limited (Category-A)	2013	0.5158	0.1102	2.9030	0.6542	0.8788	5.0619
	2014	0.4999	0.0871	1.9583	0.7358	0.5928	3.8739
	2015	0.5657	0.0833	1.7440	0.8285	0.5280	3.7495
	2016	0.5994	0.0842	2.3629	0.9114	0.7153	4.6733
	2017	0.6365	0.1003	1.7493	1.0151	0.5296	4.0307
Anlimayarn Deying Ltd. – (Category-A)	2013	-0.3778	0.0199	0.2575	0.4508	0.4854	0.8358
	2014	-0.3811	0.0571	0.2386	0.5336	0.5026	0.9508
	2015	-0.3457	0.0300	0.2140	0.5879	0.5230	1.0093
	2016	-0.2393	0.0353	0.1990	0.4740	0.4763	0.9453
	2017	-0.2093	0.0319	0.1094	0.4881	0.4124	0.8324
Apex Spinning & Knitting Mills (Category-A)	2013	0.0968	0.0025	0.1457	0.3240	2.0677	2.6366
	2014	0.1310	0.0141	0.1490	0.3491	2.2083	2.8515
	2015	0.1048	0.0075	0.1044	0.2642	2.1734	2.6544
	2016	0.1363	0.0110	0.1243	0.2535	2.9525	3.4776
	2017	0.1502	0.0106	0.1347	0.3197	2.4162	3.0313

Desh Garments Ltd. (Category-A)	2013	-0.3922	-0.4184	0.0943	0.1777	1.4547	0.9161
	2014	-0.3146	-0.3453	0.1172	0.1432	1.2184	0.8188
	2015	-0.4372	-0.4536	0.9038	0.0976	3.1865	3.2970
	2016	-0.1698	-0.1609	0.2463	0.2132	1.6593	1.7880
	2017	-0.0167	-0.0740	0.5827	0.4005	1.5706	2.4631
Far East Knitting & Dyeing (Category-A)	2013	0.3458	0.2616	1.1574	1.1107	0.8654	3.7409
	2014	0.0988	0.1450	0.1655	2.1411	0.3736	2.9240
	2015	0.4462	0.3061	0.4014	0.6000	0.7316	2.4854
	2016	0.4367	0.3163	0.4187	7.3579	0.7305	9.2600
	2017	0.4792	0.3489	0.3260	7.5802	0.7380	9.4723
Generation Next Fashions (Category-A)	2013	0.0162	0.1668	0.4487	1.4193	0.4803	2.5313
	2014	0.3341	0.1589	0.4237	4.6528	0.4808	6.0503
	2015	0.3518	0.1151	0.3036	5.1301	0.4533	6.3539
	2016	0.2871	0.1319	0.2232	4.2909	0.4956	5.4287
	2017	0.2933	0.1018	0.2448	4.5275	0.5121	5.6795
H.R.Textile Ltd. (Category-A)	2013	0.0354	0.2929	0.4469	0.2855	3.5304	4.5911
	2014	0.1199	0.2924	0.5583	0.2848	2.7549	4.0102
	2015	0.4965	0.1210	0.2515	0.2127	0.9153	1.9970
	2016	-0.0001	0.0284	0.2088	0.1827	0.7259	1.1456
	2017	-0.0297	0.0368	0.1533	0.1957	1.0867	1.4427
Hwa Well Textiles (BD) - A	2013	0.5358	0.2937	0.4398	2.3786	1.4127	5.0606
	2014	0.6812	0.3643	0.4062	2.7678	1.1509	5.3704
	2015	0.6433	0.3959	0.2922	2.9210	0.7840	5.0363
	2016	-0.1008	0.0500	0.2562	2.6570	0.6705	3.5329
	2017	0.5743	0.0595	0.2806	3.5349	0.6545	5.1039
Malek Spinning Mills Ltd. (Category-A)	2013	0.1544	0.0375	0.1293	0.7154	0.4994	1.5361
	2014	0.1631	0.0708	0.1080	0.7831	0.5343	1.6593
	2015	0.2202	0.0981	0.0780	0.7778	0.5474	1.7214
	2016	0.1923	0.1097	0.0683	0.7354	0.1628	1.2686
	2017	0.1607	0.1222	0.0515	0.7825	0.1642	1.2811
Matin Spinning Mills Ltd. (Category-A)	2013	0.1870	0.2002	0.3755	0.8605	0.6225	2.2457
	2014	0.5216	0.2442	0.3232	3.3391	0.4703	4.8984
	2015	0.3338	0.2806	0.3327	1.8813	0.3545	3.1829
	2016	0.1112	0.2700	0.2308	1.4470	0.3288	2.3879
	2017	0.0604	0.2398	0.1835	0.9629	0.4237	1.8703
Prime Textile Spinning Mills (Category-A)	2013	-0.0817	0.0025	0.1788	0.9157	0.0541	1.0695
	2014	-0.1061	0.0050	0.1919	0.8573	0.0581	1.0062
	2015	-0.0172	0.0067	0.1760	0.8113	0.0533	1.0301
	2016	0.0380	-0.0003	0.1654	0.6787	0.0501	0.9319
	2017	-0.0064	0.0200	0.1615	0.6558	0.0489	0.8798
Paramount Textile Limited (Category-A)	2013	-0.0172	0.1287	0.4349	0.3269	0.7550	1.6283
	2014	0.2243	0.1708	0.4290	1.1539	0.7958	2.7739
	2015	0.1377	0.1687	0.3156	0.9371	0.7151	2.2743
	2016	0.1668	0.1512	0.2369	0.7328	0.6257	1.9134
	2017	0.0665	0.1384	0.2206	0.5857	0.5923	1.6035
Rahim Textile Mills Ltd. (Category-A)	2013	-0.3896	0.2742	1.4919	0.2252	4.1021	5.7038
	2014	-0.3243	0.3054	0.6988	0.2023	2.5565	3.4388
	2015	-0.2923	0.5420	1.2346	0.2644	3.4007	5.1494
	2016	-0.2830	0.6633	1.2037	0.3337	2.9855	4.9032
	2017	-0.0820	0.3131	0.4441	0.1993	1.2570	2.1315
R.N. Spinning Mills (Category-A)	2013	0.2971	0.5287	0.5940	0.5108	0.5197	2.4502
	2014	0.3505	0.6029	0.1985	0.5412	0.4132	2.1064
	2015	0.3649	0.6040	0.0269	5.4636	0.3106	6.7700
	2016	0.3318	0.5756	-0.1217	5.3441	0.2988	6.4287
	2017	0.1651	0.5098	0.1495	3.0330	0.4321	4.2895
Saiham Cotton Mills Limited	2013	0.2641	0.1317	0.3184	1.5888	0.4499	2.7529

(Category-A)	2014	0.0191	0.1441	0.2268	1.1010	0.3720	1.8630
	2015	0.1460	0.1743	0.2046	1.9452	0.5218	2.9918
	2016	0.1178	0.1386	0.1615	1.2768	0.4325	2.1271
	2017	0.1115	0.1417	0.1644	0.9565	0.5166	1.8907
Saiham Textile Mills (Category-A)	2013	0.0602	0.0948	0.2048	0.9378	0.2080	1.5056
	2014	0.2762	0.1314	0.2530	0.7642	0.3634	1.7882
	2015	0.2278	0.1273	0.1281	0.7074	0.3911	1.5817
	2016	0.2285	0.1291	0.1586	0.8665	0.4056	1.7884
	2017	0.2004	0.1299	0.1552	0.7668	0.3514	1.6038
Square Textile Ltd. (Category-A)	2013	0.5284	0.0000	0.3992	1.9916	0.8230	3.7422
	2014	0.5574	0.0000	0.3675	2.7975	0.8157	4.5382
	2015	0.4733	0.0000	0.2384	1.5385	1.4113	3.6614
	2016	0.4446	0.8556	0.2178	1.6903	0.8815	4.0897
	2017	0.3216	0.7639	0.1131	1.1621	0.7612	3.1219
Stylecraft Limited (Category-A)	2013	0.0179	0.2664	0.2823	0.1482	3.6867	4.4016
	2014	-0.0128	0.2480	0.3316	0.1343	3.7434	4.4446
	2015	-0.0245	0.2720	0.3310	0.1497	3.8341	4.5622
	2016	-0.0429	0.2930	0.2826	0.1634	3.1844	3.8805
	2017	-0.2277	0.3316	0.1999	0.1911	2.6693	3.1642
Familytex (BD) Limited (Category-B)	2013	0.4961	0.6962	0.9231	0.3241	0.9863	3.4259
	2014	0.6722	0.3906	0.7325	0.8575	0.7931	3.4460
	2015	0.6996	0.3659	0.2080	0.8575	0.7570	2.8881
	2016	0.6996	0.3659	0.1602	1.4972	0.5082	3.2311
	2017	0.7076	0.3104	0.0182	1.2521	0.3015	2.6898
Makson Spinning Mills Limited (Category-B)	2013	0.4081	0.4397	0.1608	1.0155	0.2447	2.2688
	2014	0.3680	0.4407	0.1976	1.0508	0.2819	2.3390
	2015	0.2359	0.3992	0.1075	0.8932	0.1795	1.8154
	2016	0.1799	0.3637	0.1183	0.6861	0.2468	1.5948
	2017	0.1885	0.3406	0.2039	0.5957	0.4573	1.7860
Metro Spinning Ltd. (Category-B)	2013	0.0329	0.3383	0.3112	0.5915	0.4129	1.6867
	2014	0.0555	0.3258	0.3365	0.6332	0.4496	1.8005
	2015	0.0786	0.2975	0.2696	0.6593	0.3979	1.7029
	2016	0.0728	0.2618	0.2218	0.5695	0.4086	1.5345
	2017	0.0379	0.2374	0.0960	0.5065	0.3898	1.2676
Mozaffar Hossain Spinning Mills Ltd. (Category-B)	2013	0.2651	0.1899	0.4866	0.7156	0.6326	2.2898
	2014	0.4318	0.3020	0.5379	2.2589	0.6809	4.2115
	2015	0.4873	0.2824	0.5376	2.4332	0.6915	4.4320
	2016	0.5219	0.2937	0.4525	3.0908	0.6056	4.9645
	2017	0.5705	0.3662	0.4013	3.3168	0.6107	5.2655
Regent Textiles Mills Limited (Category-B)	2013	0.1384	0.1825	0.4562	0.5773	0.8334	2.187911
	2014	0.1340	0.2754	0.4290	1.0137	0.7746	2.626798
	2015	0.5458	0.2456	0.3200	1.1945	0.5525	2.858338
	2016	0.4476	0.1912	0.2491	1.7190	0.4302	3.037123
	2017	0.4663	0.1578	0.0842	1.0674	0.1945	1.970223
Safko Spinnings Mills Ltd. (Category-B)	2013	-0.0109	0.0000	0.2101	1.0490	0.4314	1.6797
	2014	0.0452	0.0000	0.2185	1.1682	0.4340	1.8658
	2015	0.1737	0.0000	0.1326	0.6015	0.3172	1.2250
	2016	0.1946	0.0000	0.2092	0.5208	0.4725	1.3970
	2017	0.1753	0.0000	0.2064	0.4139	0.4117	1.2072
Zahintex Industries Limited (Category-B)	2013	0.2726	0.1313	0.2771	0.9326	0.6959	2.3095
	2014	0.2976	0.1211	0.2362	0.9529	0.6064	2.2142
	2015	0.4167	0.1320	0.2701	0.9343	0.5014	2.2545
	2016	0.4403	0.1428	0.2753	0.9706	0.5146	2.3437
	2017	0.4719	0.1282	0.2189	0.8348	0.3555	2.0094
Alltex Industries Ltd. (Category-Z)	2013	-0.2177	0.0000	0.2155	0.0993	0.7888	0.8859
	2014	-0.1867	0.0129	0.2208	0.1364	0.7726	0.9559

	2015	-0.1085	0.0252	0.1096	0.3752	0.3800	0.7815
	2016	0.1287	0.0170	0.0873	0.3824	0.3246	0.9401
	2017	-0.1185	0.0000	0.0623	0.3435	0.3061	0.5935
C & A Textiles Limited (Category-Z)	2013	0.2321	0.4988	0.4241	0.0870	0.6852	1.9271
	2014	0.3115	0.5609	0.4985	0.2953	0.7030	2.3693
	2015	0.4403	0.5671	0.3929	0.9490	0.7644	3.1137
	2016	0.5138	0.5371	0.2182	1.8380	0.5972	3.7043
	2017	0.5440	0.4395	0.0645	1.6435	0.1418	2.8332
The Decca Dyeing -& Manufacturing Co. Ltd. (Category-Z)	2013	0.1059	0.0277	0.0764	0.6618	0.2545	1.1263
	2014	0.0413	0.0291	0.0795	0.6184	0.2518	1.0201
	2015	0.0059	0.0319	0.0865	0.5728	0.2240	0.9212
	2016	-0.0785	0.0000	0.0000	0.4552	0.0958	0.4726
	2017	-0.2535	0.0000	0.0000	0.3362	0.0453	0.1280
Delta Spinners Ltd. (Category-Z)	2013	0.1845	0.0996	0.0843	0.4521	0.5787	1.3992
	2014	0.3004	0.1307	0.1050	0.4371	0.5583	1.5315
	2015	0.4920	0.1341	0.0293	0.9469	0.3752	1.9774
	2016	0.3145	0.1454	0.1117	0.9036	0.3006	1.7758
	2017	0.2546	0.1164	0.1160	0.9076	0.2972	1.6918
Dulamia Cotton Spinning Mills Ltd. (Category-Z)	2013	-0.7124	0.0005	-0.0796	0.0985	0.5665	-0.1265
	2014	-0.7390	0.0005	-0.1910	0.0831	0.4354	-0.4110
	2015	-0.7190	0.0005	-0.1162	0.1031	0.4723	-0.2593
	2016	-1.0500	0.0006	-0.1627	0.1260	0.4927	-0.5935
	2017	-1.1987	0.0006	-0.2074	0.1209	0.5467	-0.7379
Evince Textiles Limited (Category-Z)	2013	-0.2398	0.0266	0.3781	0.2750	0.5233	0.9631
	2014	-0.0728	0.0985	0.3680	0.6004	0.7114	1.7055
	2015	0.1155	0.1560	0.3168	0.5622	0.5641	1.7146
	2016	0.2578	0.1745	0.2937	0.6424	0.5464	1.9147
	2017	0.1452	0.1104	0.3078	0.6182	0.5563	1.7379
Mithun Knitting & Dyeing Ltd. (Category-Z)	2013	0.4874	0.1551	0.2736	0.6373	1.4944	3.0478
	2014	0.6353	0.1746	0.3050	1.1912	1.5068	3.8131
	2015	0.6608	0.1597	0.2363	1.2105	1.1039	3.3712
	2016	0.5589	0.1127	0.2684	1.6379	0.8139	3.3919
	2017	0.5880	0.1378	-0.2083	2.0827	0.5520	3.1522
Sonargaon Textiles Ltd. (Category-Z)	2013	0.3358	0.0135	-0.0037	0.5764	0.4758	1.3977
	2014	0.2673	0.0000	-0.0486	0.5345	0.4445	1.1978
	2015	0.3620	0.0000	0.0048	0.6113	0.4068	1.3850
	2016	0.2747	0.0000	0.0397	0.5448	0.4070	1.2662
	2017	0.2120	0.0000	0.0118	0.5148	0.4942	1.2328
Tallu Spinning Mills Ltd. (Category-Z)	2013	0.3517	0.0817	0.2264	0.6406	0.6428	1.9433
	2014	0.3520	0.0818	0.1921	0.6146	0.5965	1.8369
	2015	0.3682	0.0846	0.0228	0.5862	0.5008	1.5627
	2016	0.3438	0.0134	-0.0596	0.5225	0.4767	1.2968
	2017	0.3346	0.0000	-0.1180	0.4585	0.3506	1.0258
Tung Hai Knitting & Dyeing Limited (Category-Z)	2013	0.2231	0.1921	0.3850	0.5037	0.6718	1.9757
	2014	0.8598	0.1637	0.3475	0.9360	0.5849	2.8919
	2015	0.9070	0.1769	0.3384	1.2083	0.5980	3.2287
	2016	0.8802	0.2042	0.3337	1.1134	0.5607	3.0922
	2017	0.8802	0.2042	0.3337	1.1134	0.5607	3.0922