


## BANKRUPTCY VIA EARNING VOLATILITY: DOES IT INTEGRATE IN FINANCIAL INSTITUTIONS?



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### ABSTRACT

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This study has been designed to reveal whether declining trend of profitability can severely affect bankruptcy of the financial institutions. Altman Z-score, fixed effect, random effect and then Hausman test are used to achieve our research goal. After critical analysis, we find that although bankruptcy and earning volatility are positively correlated in the long-term, earning volatility has very little influence on bankruptcy indicator of banking sector in Bangladesh. That is, profitability indicators Return on Investment (ROI) and Return on Assets (ROA) can explain very little portion of total changes in Altman Z-score.

**Contribution/ Originality:** There are some financial (i.e. liquidity, solvency and profitability) and non-financial factors are responsible for bankruptcy of an organization but in this study, we have tried to show how much the earning volatility is exclusively responsible for financial distress of financial institutions.

## 1. INTRODUCTION

Bangladesh is one of the fast growing developing economies having more than 6% growth in GDP during last couple of years. In addition to this amazing GDP growth rate, Bangladesh has the economy having third highest foreign currency reserves in south Asia. Financial institutions play an important role in this development process, but during last couple of years overall profitability of banking sectors in Bangladesh had shown downward trend (shown in figure-1) and few banks are severely fighting for survival. This continuous downward trend profitability urges to investigate its impact on the bankruptcy condition of commercial bank; the most important player of our money market.

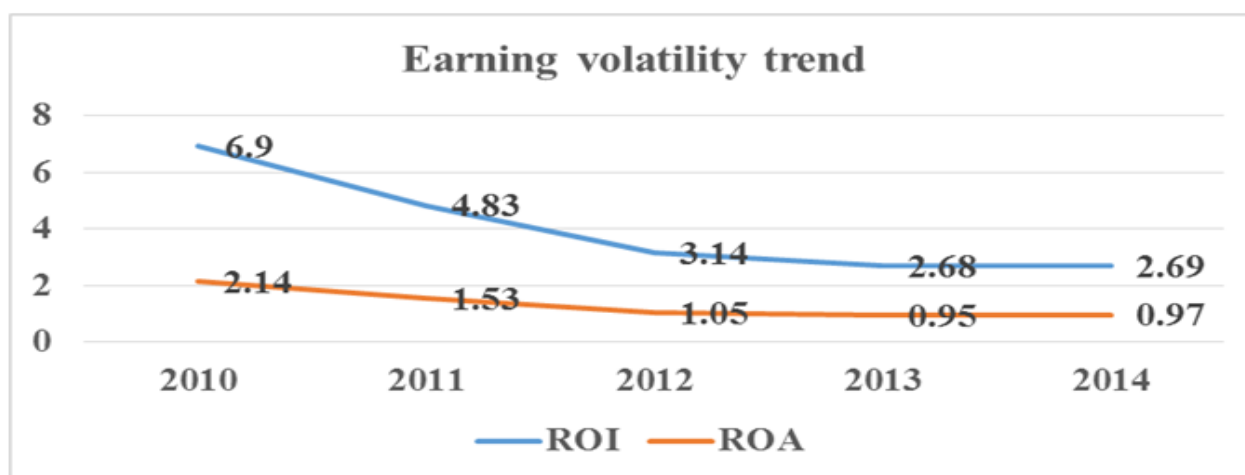


Figure-1. Overall trend of profitability of the selected banks

Source: calculation from financial statements of the selected banks

Bankruptcy is a legal status or legally approved condition of a person or other artificial financial entity when it cannot afford to repay its debts to its creditors and lenders. The title of bankruptcy is imposed by respective court orders on behalf of the initiation of the debtor itself. Woo (2011) blamed, in perspective of the United States of America, financial regulations and regulatory policy that is in short called regulatory bankruptcy. Skiba and Tobacman (2009) blamed Payday loans, a very short-term high interest-bearing loan, was responsible for personal bankruptcy. In addition, he argued that the people who generally took payday loans were already in financially distress. Acemoglu *et al.* (2003) argued that high degree of political instability caused inefficient, ineffective and weak institutional financial volatility in an economy through a number of microeconomic and macroeconomic ways. Delcea *et al.* (2012) used the grey systems theory, a latest concept used in firm's diagnosis to reveal a firm's bankruptcy syndrome, and found five categories of syndromes of bankruptcy. They were stability, profitability, growth, activity and liquidity based on relevant financial ratios. At the end, he disclosed six groups of causes for bankruptcy and the causes are competitiveness (type of suppliers, the power of negotiating with the suppliers, the degree of processing of the purchased products, firm's flexibility on changing the environment, customer involvement, the level of customer interaction and customization, capacity to create competitive advantage), learning (collaborations with universities, with research centers, with other firms, etc, The degree of absorptive capability, professionalism of the employees, their capacity of learning, being an active part in the conferences, courses kept in its field, collective and cooperative learning.), marketing (after-sales services, advertising capacity, presence on different markets, market analysis capacity), management (managerial capacity, costs' management, risk management, project management) ,planning (strategic planning, defining firm's vision, mission, objectives, goals, etc.) and resources (degree of competitiveness of internal resources, amount of knowledge based resources, ability to identify, develop, deploy and preserve particular resources – distinctive from its competitors, professionalism of the employees, motivational schemes). Thornhill and Amit (2003) investigated causes of bankruptcy for two types of firms according to age (1) Young firms and (2) Old firms, and found that deficiencies in managerial knowledge and financial management abilities were responsible for young firms and also blamed firm's inability to adapt to environmental change for bankruptcy.

Volatility is a measurement of how frequently the value of a variable fluctuates. Earning volatility indicates frequent upward and downward changes of earnings of an organization. The financial analysts and investors in financial decision-making negatively consider earning volatility of the organization (Allayannis and Weston, 2003). Dichev and Tang (2009) disclosed a negative relationship between earning volatility and earning predictability of the firm. Many studies had been conducted on the causes of bankruptcy of a firm. Some scholars claimed that non-financial factors were responsible for bankruptcy (Baum and Mezias, 1992; Greening and Johnson, 1996;

Swaminathan, 1996) whereas some other scholars claimed that financial factors are core reasons behind bankruptcy (Santomero and Vinso, 1977; Myers and Majluf, 1984). An analysis was carried by Transylvania Insolvency House in 2013 and it concluded that about 31% of continuous losses were responsible for bankruptcy as well as continuous profit fall led an organization towards short and long-term financial burden. Kraus and Litzenberger (1973) supported that usages of any kind of long-term debt enriched the possibility of bankruptcy. Fitzpatrick (1932) pointed out five stages that lead to failure. Those five points are (1) incubation (financials are just developing) (2) financial embarrassment (management becomes aware of the firm's distressed condition) (3) financial insolvency (unable to meet its obligations), (4) total insolvency (liabilities exceed the physical assets), and (5) confirmed insolvency (legal steps are taken to protect the firm's creditors or liquidation occurs). Ooghe and DE Prijcker (2006) disclosed four main types of failure processes that were related to the fundamental causes of bankruptcy to the financial and nonfinancial consequences. They are unsuccessful newly established companies having significant lack of managerial and industry related experience; ambitious growth companies having insufficient financial resources to adjust their way of doing business to the changes in the environment; dazzled growth companies led by an over confident management without a realistic view on the company's financial situation and gradual deterioration of established companies where management had lost touch with the changing environment. Kenney *et al.* (2016) reported that some cyclical company specific factors like low profitability, low liquidity and high leverage are responsible for a company's failure. They also reported that 'structural' company-level characteristics (it means private and public limited) were also responsible for bank failure because public company managers took more risk in decision-making.

Ahmed and Alam (2015) investigated, analyzed and applied Z score on 15 commercial banks of Bangladesh. They applied Altman's Z score on these banks based on 5 years financial performance (2009-2013). They surprisingly noticed that about 7% of banks were in healthy position in 2009 and started declining gradually. After 2011 there was none, most of the banks belong to distress zone. Mostofa *et al.* (2016) investigated the insolvency level and probability of 25 conventional and non-conventional banks in Bangladesh. Their research explained that about 24% of sample banks were in safe zone and 20% in risky zone. Hamid *et al.* (2016) conducted a survey for predicting the financial distress of non-bank financial institutions in Bangladesh and she found that about all of the non-bank financial institutions were in distress zone. As, these recent studies represented financial distress of banking sector in Bangladesh and figure-one also represents downtrend profitability of the selected banks.

From the above the discussion, it is clearly evidence that Bangladesh banking industry is seriously in critical situation. Moreover, it is also found that both financial and non-financial factors are responsible for bankruptcy of an organization. During last couple of years, except last three years, the political situation was not usual and different blunders are also found in this financial sector. Although profitability trend during our research period is found downward, the others non-financial factors are also unfavorable. Therefore, this study has been designed to investigate how much the downtrend profitability of the financial institutions is responsible for financial distress in this sector during our study period.

## 2. LITERATURE REVIEW

Pradhan (2014) conducted a research upon public sector banks in India and used Z-score to predict the bankruptcy of the same using 'Back Propagation Neural Network' to detect Z-score parameters and presented that many of non-bank financial institutions have been in the 'Distress' zone although some of them were well recognized for their performance and contribution. Jan and Marimuthu (2015) used Altman's Z score model and claimed that bankruptcy caused in different Islamic countries was just because of different performance indicators except productivity. A study was conducted by Bernanke (1981) and found that a drop in national income of banks suffered from a deterioration in portfolio quality which led to insolvency over a period of time. Chakravarthy (1986) concluded usually Altman's Z score was not only a measure of predicting bankruptcy but also a multidimensional

measure of strategic performance. Altman (1968) said it is a “composite measure of profitability, cash flow, slack, and stock market factors. Ferrier *et al.* (2002) disclosed that high scores of Altman’s Z score represented strong financial health. On the other hand, low scores directed financial distress. To measure the financial distress of the firm, Z-score was also used by Jan and Marimuthu (2015); Siskos (2014); Nandi and Choudhary (2011); Chowdhury and Barua (2009); Pustynick (2009); Kim (2007); Grice and Ingram (2001); Hayes *et al.* (2010); Poston *et al.* (1994) and so on. Grice and Ingram (2001) concluded in his study that Altman’s Z-score model had about 70%-80% reliability in predicting bankruptcy. Kim (2007) found, “the Z-score is a predictor of bankruptcy and it provides in advance that the firm is going to be insolvent”. Hayes *et al.* (2010) claimed in their research that the Z score accurately predicted bankruptcy filing 94% of the time and accurately predicted financial distress over 90% of the time. Carton and Hofer (2006) conducted an investigation using performance metrics and concluded that optimal metric for delivering information about financial terms was Altman’s Z-score model and it was not only a financial distress predictor but also an effective performance measurement tool. Altman and Hotchkiss (2006) disclosed that Z-score was mostly the best measure for predicting the likelihood of bankruptcy for non-manufacturing firm developed by Altman (1968). Pradhan (2014) concluded that Altman’s Z score model could predict bankruptcy 2 or 3 years in advance.

Bredart (2014) conducted a research and aimed to develop econometric forecasting model by STATA software, named logistic model, to predict bankruptcy constructed from three easily available and simple financial ratios, “net income / total assets”, current ratio and “equity / total assets”. He concluded that the accuracy of the model to predict bankruptcy is 83.82 %. On the other hand, Altman (1993) claimed that modified Z-score model could forecast bankruptcy with 90.9% accuracy one year prior than financial failure. Despite critical views and practices of other alternatives, ratio-based models have been played tremendous roles in the prediction of bankruptcy. Refait-Alexandre (2004) performed a research and concluded that financial accounting data relating to profitability, liquidity and solvency have the highest perceptive and dominating power in bankruptcy analysis. Hung and Chen (2009) initiated an investigation to detect effective methods for predicting bankruptcy and visualized statistical approach and artificial intelligence technique. Where statistical approach included correlation matrix, regression analysis, logit modeling, discriminant analysis, ratio analysis and probit modeling. Artificial intelligence technique denoted artificial neural network (ANN) and they proposed a selective ensemble of three classifiers, i.e. the decision tree, the back propagation neural network and the support vector machine. They thought all the methods were performing better than others were. However, among various available and accessible bankruptcy prediction models, i.e. either logistic model based on STATA software, statistical approach or artificial intelligence technique, ratio model is the best single model that could predict bankruptcy immediately (Mossman *et al.*, 1998). Anjum (2012) proclaimed that Altman Z-score model was the best model of predicting bankruptcy and financial distress one, two or three year in advance and most importantly it could be applied to modern economy. To predict financial distress and manage credit worthiness in future, current ratio and quick ratio are more effective and vital element of Z-score model to anticipate bankruptcy scientifically and can be a great tool to save business than any other liquidity ratio (Chuvakhin and Gertmenian, 2003). From our discussion, it is eventually proved that Altman-Z score is now greater reliable to bankruptcy of an organization.

### 3. RESEARCH METHODOLOGY

This is an empirical study based on secondary data. Data have been collected from published annual reports of the selected public limited commercial banks from 2011 to 2015. There are 40 private commercial banks in Bangladesh. Out of those banks, nine banks had been established during last few years. Only 30 banks have more than five-year operational experience and out of these 30 commercial banks, 15 banks have been selected for analysis judgmentally where our required data are readily available. To analyze the data, both quantitative and qualitative approaches have been used. In this paper, return on invested capital and return of assets are used as

independent variables to measure the earning volatility of the banking institutions while Altman-Z score is used to measure the level of bankruptcy. To determine the return on invested capital (ROI) and return of assets (ROA), the following two formulas are used.

$$\text{Return on Investment} = \text{Net Income} / \text{Total Invested Capital} \text{----- (i)}$$

$$\text{Return of Assets (ROA)} = \text{Net Income} / \text{Total Asset} \text{----- (ii)}$$

To analyze the bankruptcy condition of the banks, the following Altman-Z score formula for private non-manufacturing companies has been used. Where financial conditions are termed as ‘Safe Zone’ where the value of Z-score is > 2.6, as ‘Gray Zone’ where the value Z is > 1.1 but < 2.6 and value Z < 1.1 is ‘Bankruptcy Zone’.

$$\text{The used equation, Altman-Z score} = 6.56T_1 + 3.26T_2 + 6.72T_3 + 1.05T_4 \text{----- (iii)}$$

Where,

$$T_1 = \frac{\text{Working Capital}}{\text{Total Assets}}$$

$$T_2 = \frac{\text{Retained Earnings}}{\text{Total Assets}}$$

$$T_3 = \frac{\text{Earnings before Interest \& Tax}}{\text{Total Assets}}$$

$$T_4 = \frac{\text{Market Value of Equity}}{\text{Total Liabilities}}$$

After finding yearly Z-score of each bank, we have tried to show how changes in ROI and ROA have affected yearly Z-scores of various banks. Before that, the value of all dependent and independent variables are converted into natural log to present degree of change in dependent variable because of degree of changes in independent variables. As we have used a series of panel data of selected fifteen bank from 2010 to 2014, fixed effect and random effect models are used for regression analysis and then Hausman test is used to select the appropriate models for explanation. To test the degree of correlation among the dependent variable and independent variables, multiple correlations analysis is done. Then to test the degree of multicollinearity between ROI and ROA, Variance Inflation Factor (VIF) test is used. Our proposed regression models and hypotheses are:

The fixed effects model,

$$Z\text{-score}_{ln_{it}} = \beta_0 + \beta_1 * ROI_{ln_{it}} + \beta_2 * ROA_{ln_{it}} + \alpha_i + \mu_{it} \text{----- (iv)}$$

Where,  $\beta_0$  denotes constant value of the model

$\beta_1$  = coefficient of return on invested capital

$\beta_2$  = coefficient of return on assets

i = entity and t = time

$\alpha_i$  is the unknown intercept for each entity, (i=1...n)

$\mu_{it}$  is the error term

The random effects model,

$$Z\text{-score}_{ln_{it}} = \beta_0 + \beta_1 * ROI_{ln_{it}} + \beta_2 * ROA_{ln_{it}} + \alpha_i + \epsilon_{it} + \mu_{it} \text{----- (v)}$$

Where,  $\epsilon_{it}$  denotes within entity error

$\mu_{it}$  denotes between entity errors

To test the linkage between profitability and bankruptcy of financial institution, we have developed the following two hypotheses.

H<sub>1</sub> = Changes in the Values of ROI has a positive impact on the changes in Z-scores

H<sub>2</sub> = Changes in the Values of ROA has a positive impact on the changes in Z-scores

#### 4. ANALYSIS AND FINDINGS

Figure-2 represents yearly ROA, ROI and Z-scores of the selected banks from 2010 to 2014. Where the graph reasonably disclosed that in most of the cases yearly trends of the variables represented downward trends. Where ROA and ROI trend show downward trends, accordingly Z-score also represents downward trend. In few banks

with the increase in the value of ROI and ROA, the value of Z-score also rises. Therefore, figure-2 indicates a direct association among the volatility of ROI, ROA and Z-score. From appendix-1, we find that 46% banks of our sample size are in bankruptcy zone and 54% banks are in the gray zone. There is no bank in the safe zone of our sample.

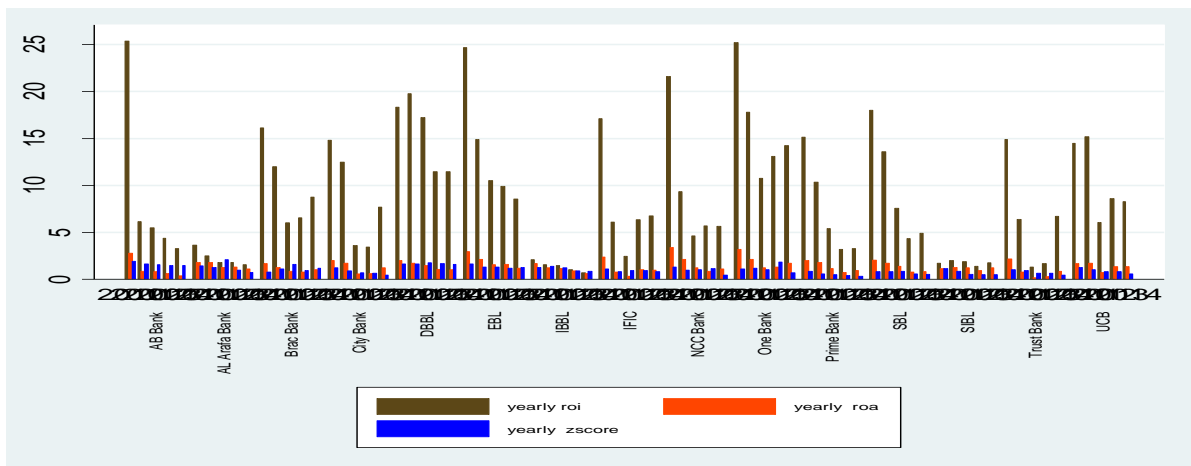


Figure-2. Represents individual yearly ROI, ROA and Z-score of the selected banks

Source: Financial statements and processing of financial data

Figure-2 represents bank wise yearly ROI, ROA and Z-score whereas figure-3 represents comparative picture of yearly average of ROI, ROA and Z-score of all the banks. Figure-3 directly notifies that with the declining in the yearly average values of ROA and ROI, the value of yearly average Z-scores of all the banks are also declining. In 2013 and 2014, the values of profitability indicators ROI and ROA were stable but the value of Z-score came down from earlier year. Although the values of ROI and ROA reached form 2.68 in 2013 to 2.69 in 2014 and 0.95 in 2013 to 0.97 in 2014 respectively, the value of Z-score came down from 0.99 in 2013 to 0.81 in 2014. It specifically denotes that the value of Z-score did not always coincide with the values of ROI and ROA. Therefore, some factors other than ROI and ROA influence the value of Z-score.

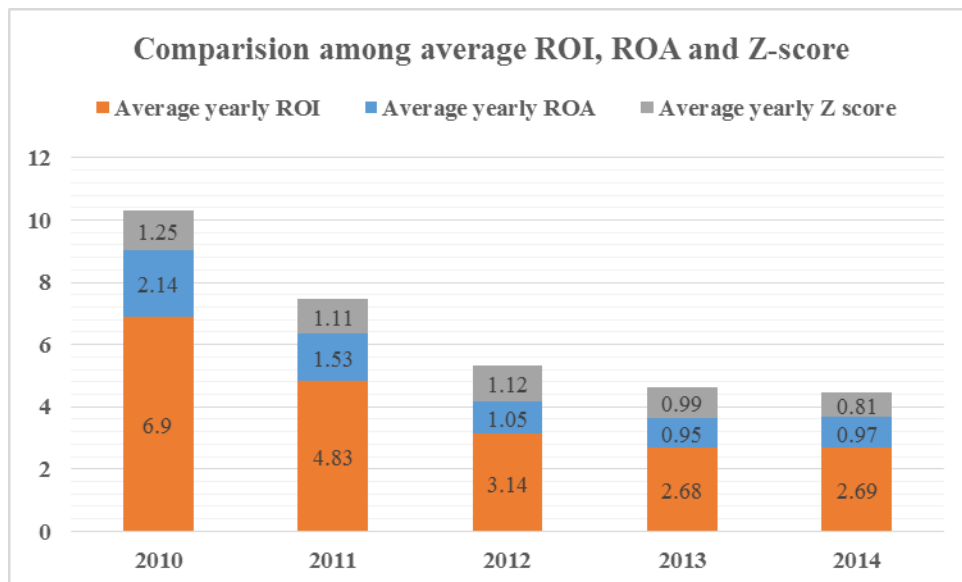


Figure-3. Yearly average of ROI, ROA and Z score of the selected banks

Source: Calculation from financial statements

The values of multiple regression analysis (at 5% level of significance) have represented a significant low degree of positive correlation between ROI and Z-score (where the value of correlation is 0.31) as well as between

ROA and Z-score (where the value of correlation is 0.31). Moreover, although a significant moderate degree of positive correlation is found between ROI and ROA (where the value of correlation is 0.63), the values of VIF test have represented insignificant multicollinearity between ROI (VIF value 1.67) and ROA (VIF value 1.67). Table one represents the summary of regression where we find that chi-square values and associated p-values of all these three models denotes that random effect model is appropriate for our analysis at 5% level of significance. Although all these three models are statistically significant at 5% level of significance, the R-square value of each model is very poor. That is, our explanatory variable profitability indicators ROI and ROA can explain very little portion of total changes in Z-scores. That means, the factors other than profitability indicators (Baum and Mezias, 1992; Greening and Johnson, 1996; Swaminathan, 1996; Acemoglu *et al.*, 2003; Thornhill and Amit, 2003; Delcea *et al.*, 2012; Kenney *et al.*, 2016) are more responsible for financial distress of our selected banks during our study period. In model one both independent variables are included where coefficient of ROA is negative and at 5% level of significance it is not statistically significant and the coefficient of ROI is positive and marginally statistically significant. These kinds of coefficient and p-values of ROI and ROA in model one may be the reason of significant positive correlation between ROI and ROA. However, But in model two coefficient of ROA is positive as well as statistically significant and in model three the coefficient of ROI is positive and statistically significant at 5% level of significance. Although hypotheses H<sub>2</sub> and H<sub>1</sub> in model two and model three respectively are statistically accepted, these models can explain only 8.85% and 9.58% respectively changes in Z-scores.

Table-1. Summary of Regression analysis

Particulars	Model-1	Model-2	Model-3
<b>Fixed effect</b>			
ROA_ln	-0.4416 (0.096)	.2115 (0.003)	
ROI_ln	0.5938 (0.012)		0.2183 (0.000)
CONs	-1.0222 (0.008)	-.0617 (0.070)	-0.4200 (0.000)
R <sup>2</sup>	0.0502	0.0885	0.0958
Model P-value	0.001	0.0034	0.001
<b>Random effect</b>			
ROA_ln	-0.0063 (0.965)	0.2150 (0.001)	
ROI_ln	0.2016 (0.079)		0.1956 (0.000)
CONs	-0.3884 (0.060)	-.0624 (0.469)	-0.3787 (0.003)
R <sup>2</sup>	0.0946	0.0885	0.0958
Model P-value	0.001	0.001	0.000
<b>Hausman test</b>			
Chi-square	4.10	0.04	0.72
P-value	0.129	0.838	0.396

N.B. values shown in first bracket are p-values

## 5. CONCLUSION

This study has been initiated to investigate how the changes in yearly earnings lead financial institutions toward bankruptcy. From our literature reviews, it is found that both financial (Jan and Marimuthu, 2015; Kenney *et al.*, 2016) and non-financial (Baum and Mezias, 1992; Greening and Johnson, 1996; Swaminathan, 1996; Ooghe and DE Prijcker, 2006) factors are responsible for bankruptcy of private and public limited firms. This study has revealed that although profitability indicators (ROI & ROA) and bankruptcy indicator (Z-score) are positively correlated as it was found by Allayannis and Weston (2003); Dichev and Tang (2009); Mostofa *et al.* (2016) profitability indicators of the selected public limited banks can explain very poor portion of changes in the value of

financial distress indicator. As profitability indicators have little influence on financial distress of the selected banks, we can reasonably claim that other financial and non-financial factors are the major player of financial distress of public limited domestic commercial banks in Bangladesh that may be a field of future research.

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**Contributors/Acknowledgement:** All authors contributed equally to the conception and design of the study.

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## Appendix:

### 1. Calculation of Altman-Z score:

Institution Name	Year	Calculation				Calculations & Comment		
		T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	Z Score	Comment	
AL Bank Ltd.	Aarafa	2010	9.13%	1.72%	4.13%	48.61%	1.443372644	Gray
		2011	11.31%	1.41%	3.70%	23.72%	1.285003185	Gray
		2012	26.69%	0.65%	2.64%	12.94%	2.085086483	Gray
		2013	10.35%	0.76%	2.86%	11.56%	1.01706062	Bankruptcy
		2014	6.94%	0.72%	3.01%	8.47%	0.769471911	Bankruptcy
AB Bank Ltd.		2010	4.00%	3.59%	5.58%	112.85%	1.939902727	Gray
		2011	2.92%	3.46%	2.82%	109.21%	1.640138318	Gray
		2012	2.51%	2.97%	2.51%	108.29%	1.566974374	Gray
		2013	2.02%	2.40%	2.54%	107.09%	1.505733487	Gray
		2014	1.71%	2.20%	2.72%	105.81%	1.477986954	Gray
Brac Bank Ltd.		2010	3.59%	1.21%	4.49%	20.89%	0.796272184	Bankruptcy
		2011	8.34%	1.45%	3.73%	27.96%	1.138582964	Gray
		2012	17.36%	0.81%	2.96%	25.11%	1.628130749	Gray
		2013	9.67%	1.12%	3.40%	3.84%	0.939738107	Bankruptcy
		2014	13.48%	1.41%	3.31%	6.30%	1.219050915	Gray
City Bank		2010	5.85%	1.60%	4.51%	49.14%	1.255106203	Gray
		2011	5.47%	1.38%	3.63%	27.17%	0.932989446	Bankruptcy
		2012	3.47%	0.65%	3.51%	22.84%	0.724565802	Bankruptcy
		2013	4.02%	0.24%	2.81%	19.80%	0.667966045	Bankruptcy
		2014	0.52%	0.51%	2.90%	21.32%	0.469252877	Bankruptcy
DBBL		2010	12.55%	0.95%	4.17%	48.69%	1.645403202	Gray
		2011	15.72%	1.79%	3.88%	28.22%	1.646038106	Gray
		2012	19.90%	1.98%	3.34%	15.75%	1.759623351	Gray
		2013	19.98%	2.11%	2.47%	12.11%	1.67256881	Gray
		2014	19.55%	2.20%	2.47%	10.50%	1.630146774	Gray
EBL		2010	10.04%	1.95%	5.37%	53.82%	1.648562923	Gray
		2011	10.38%	1.48%	4.34%	28.87%	1.324173394	Gray
		2012	13.52%	1.08%	3.71%	14.90%	1.327599477	Gray
		2013	11.77%	1.25%	3.67%	12.76%	1.193460706	Gray
		2014	8.98%	10.31%	3.36%	10.93%	1.26573893	Gray
IBBL		2010	12.93%	0.78%	2.89%	19.54%	1.273675356	Gray
		2011	13.71%	0.82%	3.27%	23.26%	1.390009033	Gray
		2012	12.56%	0.65%	3.23%	16.67%	1.237623985	Gray
		2013	9.59%	0.48%	2.57%	10.06%	0.923426938	Bankruptcy
		2014	9.62%	0.37%	2.35%	6.22%	0.866318896	Bankruptcy
IFIC		2010	9.22%	1.88%	5.50%	9.00%	1.130550891	Gray
		2011	7.54%	1.30%	2.96%	7.71%	0.816741265	Bankruptcy
		2012	10.78%	0.43%	2.36%	6.37%	0.946458508	Bankruptcy
		2013	11.09%	0.41%	2.23%	7.40%	0.968692202	Bankruptcy
		2014	9.56%	0.34%	2.03%	7.29%	0.8512383	Bankruptcy
NCC Bank Ltd.		2010	5.66%	2.63%	5.50%	48.53%	1.336506246	Gray
		2011	7.67%	1.61%	2.97%	21.27%	0.978200031	Bankruptcy
		2012	10.78%	0.72%	2.71%	11.83%	1.037017535	Bankruptcy
		2013	13.41%	0.67%	2.80%	8.15%	1.175637528	Gray
		2014	2.96%	0.77%	2.77%	7.44%	0.484019942	Bankruptcy
One Bank Ltd		2010	9.43%	2.31%	5.14%	9.50%	1.138953766	Gray
		2011	10.05%	1.81%	4.21%	17.49%	1.184833943	Gray
		2012	10.09%	1.07%	2.73%	14.42%	1.031534027	Bankruptcy
		2013	23.67%	1.05%	2.40%	8.63%	1.838360664	Gray
		2014	5.64%	1.34%	3.21%	5.92%	0.691640493	Bankruptcy

Prime Bank Ltd.	2010	2.25%	2.17%	3.65%	39.70%	0.880608999	Bankruptcy
	2011	1.54%	1.49%	3.40%	19.19%	0.579488209	Bankruptcy
	2012	1.28%	0.94%	3.61%	16.03%	0.525283385	Bankruptcy
	2013	1.32%	0.66%	3.06%	12.07%	0.441118443	Bankruptcy
	2014	1.17%	0.73%	2.42%	8.75%	0.354989888	Bankruptcy
SIBL	2010	4.06%	0.77%	2.97%	30.95%	0.815693005	Bankruptcy
	2011	5.26%	0.83%	3.28%	22.34%	0.82711521	Bankruptcy
	2012	7.89%	0.77%	3.14%	11.82%	0.877760439	Bankruptcy
	2013	4.68%	0.67%	2.29%	8.09%	0.56743661	Bankruptcy
	2014	4.25%	0.83%	2.58%	6.75%	0.550107594	Bankruptcy
SBL	2010	7.61%	1.36%	4.16%	33.90%	1.179509143	Gray
	2011	6.21%	1.20%	3.84%	18.10%	0.894664396	Bankruptcy
	2012	2.91%	0.90%	3.19%	10.91%	0.549383265	Bankruptcy
	2013	3.25%	0.45%	2.72%	8.49%	0.500039083	Bankruptcy
	2014	3.55%	0.60%	2.90%	6.62%	0.516494454	Bankruptcy
Trust Bank Ltd.	2010	7.77%	1.93%	3.91%	18.26%	1.027162335	Bankruptcy
	2011	8.72%	1.80%	2.05%	16.15%	0.938071411	Bankruptcy
	2012	6.68%	0.93%	1.22%	9.75%	0.652172293	Bankruptcy
	2013	7.39%	0.10%	1.33%	6.93%	0.649865616	Bankruptcy
	2014	3.55%	0.52%	2.24%	4.50%	0.447623695	Bankruptcy
UCB	2010	7.17%	0.56%	3.64%	54.05%	1.300944178	Gray
	2011	8.59%	0.58%	3.54%	20.88%	1.039127279	Bankruptcy
	2012	8.27%	0.41%	2.78%	10.43%	0.8522822	Bankruptcy
	2013	7.15%	0.84%	3.15%	10.20%	0.815355105	Bankruptcy
	2014	3.81%	0.95%	3.28%	10.06%	0.606700545	Bankruptcy

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