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Firm Survival of Listed Nigerian Financial Institutions: A Consolidated Methods Approach



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Abstract

The firm's survival is regarded as an essential element usually used by the capital market participants in making vital decisions. This study examines the combined roles of bankruptcy, earnings management, and profitability in explaining a firm's survival in the listed Nigerian financial institutions. To achieve this, a descriptive research design is adopted and data were generated from databases of the listed companies in the Nigerian Stock Exchange for the period 2006 to 2015. Panel data analysis was employed in analysing collected data of the sampled 29 financial institutions in the Nigerian financial sector. The study found that most of the Nigerian financial firms have a sound firm's survival indicators, with very few having severe survival threats. Specifically, the Bankruptcy model of the firm under study proves to be within the safe zone. Whereas, the discretionary losses provisions of a firm under study are below 5.0 per cent with proving adequate monitoring and compliance with relevant policies. However, the profitability of the majority of firms' under study is below 5.0 per cent, which indicates that most of the Nigerian listed financial companies had experienced underutilisation of their assets.

Keywords: Firm Survival, Bankruptcy, Discretionary Loss Provision, Profitability, Financial Institutions.

Introduction:

Financial analysts are at the heart of investments while Auditors serve to protect the interests of stakeholders in going concerns. A going-concern threat is a problem resulting from financial and non-financial issues (Iskandar, Rahmat, Noor, Saleh, Ali, 2011; Parker, Peters, and Turetsky, 2005). The financial issues can lead to the delisting of a company from the market or even complete liquidation. Although delisting (specifically involuntary) is not completely a bankruptcy, it has a weighty damaging effect on both the firm and the shareholders (Malik, Xinping, and Shabbir, 2014). Usually, involuntary delisting is an indication of a firm's poor financial strength.

The reasons for involuntary delisting consist of violating guidelines and failing to meet minimum financial standards, which are signals of firm survival threats.

Besides, in Nigeria, the data on distressed firms filing for restructuring and bankruptcy has significantly increased (Enofe, Mgbame, Otuya, Ovie, 2013). As a sign of the firms' survival problem, about 85 quoted firms had been delisted from the Nigerian Stock Exchange between 2002 and 2016 (excluding relisted firms) as shown in Figure 1.1 below. Only 13 out of 85 had been delisted voluntarily, whereas the remaining 72 firms were compelled to do so by the relevant authorities.



Figure 1.1 Delisted Firms on the Nigerian Stock Exchange from 2002-2016

Source: Nigerian Stock Exchange (2017).

Like other global firms, Nigerian financial institutions have undergone financial crises. Poor corporate governance has been found as the main issue that led to the crises (Marshall, 2015). Furthermore, the Nigerian financial sector, specifically, has witnessed a series of liquidations of firms. At end-2016, 56 Deposit Money Banks (DMBs), 187 Microfinance Banks (MFBs), and 46 Primary Mortgage Banks (PMBs) have been closed. Thirty-five (35) DMBs were closed before the banking sector consolidation in 2005, as well as the thirteen (13) DMBs that failed to meet the regulatory recapitalisation deadline as they could not recapitalise or merge before the expiration of the deadline. Eleven (11) of the thirteen (13) DMBs were closed using the Purchase and Assumption (P&A) Resolution Option, while all 187 MFBs and

46 PMBs was closed after the 2005 banking sector consolidation.

Moreover, the extent of the problem was underscored by the former Governor of the Central Bank of Nigeria (CBN), who stated that Nigerian financial institutions had undergone series of difficulties, which adversely affected the level of economic growth and development, and was largely attributed to weak corporate governance (Soludo, 2009). Similarly, in 2011, the CBN had revoked licenses of 4 banks in connection with corporate governance issues, particularly, on insider abuses and shareholders' influences, which were noticeable as dangers for the survival of the banks. Furthermore, in 2015, the CBN conducted stress assessments, which found that no less than 9 banks had some degrees of distress. These levels of distress showed the need for further recapitalisation to prevent the banks' possibility of sinking into further distress, which manifested the evidence of the corporate governance and firm's survival problems in Nigerian banks.

Furthermore, most of the previous studies on the firm's survival focused on earnings management as the determinant of the firm's survival status. However, this paper aim to examine a combination of all three determinants of the firm's survival problem (bankruptcy, earnings management and profitability). Therefore, the study will update existing knowledge on a firm's survival threat from the perspectives of three different variables employed in this work. This is the major contribution of this study to the frontiers of knowledge. Also, previous studies that assessed the bankruptcy variable concerning the ownership structure mostly used modified auditors' reports as the measurement with only few using the Altman 1968 Bankruptcy Model, which is only applicable to manufacturing firms (Zureigat, *et al.*, 2014a, and b). This study employed the Altman 2017 Z-model as a proxy for bankruptcy, which is meant for financial firms (emerging economy model), to investigate the moderating effect of the relationship

between the ownership structure and the firm's survival of the Nigerian financial sector. The use of Altman 2017 Z-model is also of significance importance as it is designed specifically for the financial institutions. Thus, it is likely to give better results than the modified auditors' report model.

2.0 Literature Review

A going-concern is an entity that has no plan for liquidation, and there is no necessity to liquidate or decrease its production significantly (Achim, Pop, and Achim, 2008; Peixinho, 2009; Rouhi, Keighobadi, and Touski, 2012; as well as Seyam and Brickman, 2016). Hence, the going-concern principle can be viewed as the assumption that the business entity in question is expected not to liquidate but to continue operation for the near future without any threat, financially, legally, or otherwise.

Loftus and Miller (2000) documented the connection between a firm's survival and its possible bankruptcy. While Kuruppu, Laswad and Oyelere (2003) submitted that auditors are expected, by users of financial statements, to make use of statistical bankruptcy models to make better conclusions on firms' survival. Indeed, previous studies showed that objective statistical models can surpass auditors' position in estimating business failures (Kuruppu, *et al.*, 2003). Several bankruptcy studies have been undertaken, only a limited number of them studied the importance of bankruptcy failure prediction models for evaluating the firm's survival status (Holiawati and Setiawan, 2016; Kuruppu, *et al.*, 2003; Zureigat, Fadzil, and Ismail, 2014a, b). These included Beaver (1966), Altman (1968), Ohlson (1980), Altman (1983), Zmijewski (1984), Shumway Hazard (2001), and Altman (2017) models.

Beaver (1966) used the univariate analysis to establish a failure prediction model that contained 7 dimensions which were cash flow to the total debt ratio, current ratio, net income to total assets ratio, no-credit

interval, total debt to total assets, along with working capital to total assets. Even though Beaver (1966) established that the cash flow to debt ratio remained the paramount forecaster, Altman (1968) argued that there was an inconsistent presentation of the depreciation data. Moreover, the results of Altman (1968) were better than the results Beaver achieved with his paramount ratio. Likewise, Beaver, McNichols, and Rhie (2005) observed the shortcoming of Beaver's (1966) model by adding the ROA variable to the net income, before interest, taxes, depreciation, depletion, and amortisation were divided by the opening total liabilities, and the "cash flow" to the total liabilities ratios.

Altman (1968) introduced a new analytical method of business bankruptcy prediction. A series of ratios, both financial and economic, were examined using the multiple discriminant statistical approach. The statistics utilised in his work were restricted to manufacturing firms only. Altman (1968) advanced failure prediction model comprised 5 measurements, which were the earnings before interest and tax to total assets, market value of equity to book value of total debt, retained earnings to total assets, sales to total assets, as well as working capital to total assets. Thus, the model was developed as:

$$\text{"Z-score} = X1 + X2 + X3 + X4 + X5\text{"}$$

Where:

X1= Working capital/Total asset;

X2= Retained earnings/Total asset;

X3= Earnings before interest and tax/Total asset;

X4= Market value of equity/Total liabilities; and

X5= Total sales/Total asset

Z-Score = Financial condition of the firm (Strong >2.99; Moderate >1.98; and Weak <1.98);

Furthermore, Altman (1968) acknowledged that the main weakness of his work was that the methodology was restricted to quoted manufacturing companies with available financial data, ignoring financial firms despite their significance in an economy.

Moreover, Grice and Ingram (2001), using records of US companies, reassessed the accuracy of the Altman Model 1968 and confirmed that its accuracy had significantly declined over time. The model was sensitive to industry classification as it was more capable for use with manufacturing firms than for non-manufacturing.

Ohlson (1980) utilised a 1970-1976 dataset of 105 bankrupt and 2,058 non-bankrupt firms; applying the logit analysis, he developed his model using 9 measurements as follows: “firm survival index = $\log(\text{total assets}/\text{GNP price-level index}) + \text{total liabilities}/\text{total assets} - \text{working capital}/\text{total assets} + \text{current liabilities}/\text{current assets} - \text{one}$, if total liabilities exceed total assets, zero, if not – net income over total assets + funds provided by operations over total liabilities – one, if net income was negative for the last 2 years, zero, if not - measure of change in net income”. However, Grice and Dugan (2003) claimed that the Ohlson bankruptcy prediction model should re-evaluate the models' coefficients to increase its predictive accuracy.

Altman's (1968) model considered only manufacturing firms, and it was built based on the companies' market values. Moreover, in Altman (1983) it was asserted that the 1968 model was an openly quoted manufacturing business model and impromptu modifications were not methodically effective. Altman (1983) simulated a comprehensive re-estimation of the Altman (1968) model by substituting the equity market value in X4 with the equity book value. Utilising similar data, Altman (1983) produced a new Z-Score model as follows:

“ $Z = \text{Working Capital}/\text{Total Assets} + \text{Retained Earnings}/\text{Total Assets} + \text{Earnings before interest and taxes}/\text{total assets} + \text{Book value of equity}/\text{Book value of total liabilities} + \text{Sales}/\text{Total assets}$ ”

However, Altman (1983) evaluated the

model using only 4 variables in the model, ignoring the last variable, which was the Sales/Total assets ratio, because of the potential industrial influence. The industrial influence was possible to occur once the asset turnover ratio was incorporated into the model. Hence, to minimise the possible industrial influence, the 4-variable Altman (1983) model was developed as:

“ $Z = \text{Working Capital}/\text{Total Assets} + \text{Retained Earnings}/\text{Total Assets} + \text{Earnings before interest and taxes}/\text{total assets} + \text{Book value of equity}/\text{Book value of total liabilities}$ ” Altman (1983) also admitted that the 1968 model ignored companies that were very large or small, as well as those that have relatively lengthy period of observation; in addition to the already noted consideration of manufacturing firms only. Therefore, Altman (1983) recommended that the concerned forecasters should be careful in the utilisation of the Altman 1983 model. The recommendation also concerned the version of the original 1968 Z-Score model. Altman's 1983 model version had an extensive range, as it was projected for both private and public companies as well as manufacturing and non-manufacturing companies (Altman, Iwanicz-Drozowska, Laitinen, and Suvas, 2017).

Zmijewski (1984) established his model via the probit technique sampling of 40 bankrupt and 800 non-bankrupt industrial companies, eliminating finance, services, and public administration for 1972-1978. Zmijewski (1984) utilised a probit technique on financial ratios that determined the firm's leverage, liquidity, and performance to introduce the model.

“ $Z_m = \text{net income}/\text{total assets} + \text{total debt}/\text{total assets} - \text{current assets}/\text{current liabilities}$ ”

However, Grice and Dugan (2003) reassessed the Zmijewski model and suggested that researchers who used the Zmijewski models using recent data should re-evaluate the model's measurements to recover the analytical accuracy of the models. While Chava and Jarrow (2004) found that the accuracy of Zmijewski's model of the bankruptcies was only 43.2 per cent.

Wu, Gaunt, and Gray (2010) also evaluated the performance of Zmijewski's 1984 model and claimed that the performance of the Zmijewski model weakened over time.

Shumway's Hazard Model (2001) argued that static models are inappropriate for predicting bankruptcy failure as bankruptcies do not happen regularly. As a result, Shumway (2001) established a simple hazard model, which combines comprehensive model evidence to evaluate each business's failure risk in a certain circumstance. However, Wu, Gaunt, and Gray (2010), using non-financial companies in the USA validated that Shumway's hazard model outperformed Altman's 1968 Model.

Altman's International Z-Score Model (2017) evaluated the performance appraisal of the model in predicting bankruptcy and other types of business distress, with the intent of ascertaining its efficiency for all entities, but primarily financial institutions that require assessing the bankruptcy risk of the businesses. Furthermore, Altman, *et al.* (2017) employed huge international companies' representatives to appraise the performance evaluation of the model in the bankruptcy and distressed businesses' forecasts. Hence, Altman, *et al.* (2017) used the Altman (1983) model established for private manufacturing as well as non-manufacturing businesses in the analysis. Altman, *et al.*, (2017) used the main data from over 50 million European firms from diverse businesses.

This research adapts Altman's (2017) model as one of the measures of a firm's survival evaluation of businesses since it has been ascertained that the model is more potent for non-manufacturing firms than the original Altman 1968 Model for publicly traded manufacturing companies. Besides, the usage of the model has been accomplished in different countries using a vast international database for 31 countries, and the results have been authenticated (Altman, *et al.*, 2017). Similarly, the Altman 2017, model could be applied by all

concerned entities, particularly global financial institutions, for more decision-making processes other than just failure or distress estimation (Altman, *et al.*, 2017). Likewise, as suggested by Altman, *et al.* (2017), future studies should put more attention on additional modifications than the one offered; for instance, applying different modelling methods like panel data analysis, and evaluating its effectiveness with information from emerging markets like Nigeria.

3.0 Research Methodology

The positivist research strives for discovering the study data using propositions that can be verified or recognised in other settings (Lin, 1998). The epistemological postulation of positivists is that for knowledge to be regarded as a significant material (external), the reality is observational only (Easterby-Smith, Thorpe, and Lowe, 2002). This research is intended to be positivist research. Hence, some procedures utilised in this research reflects the epistemology as well as the ontology of the positivist paradigm. Therefore, this research attempts to discover the knowledge that occurs in the corporate environment, categorically to predict a firm's survival.

The descriptive research design was used in this paper. The data were collected, measured, and analysed from the annual reports and accounts of the listed Nigerian financial institutions under investigation. The population of the study is the whole of the listed financial institutions that operated in Nigeria. This work covered the period from 2006 to 2015, as this was the era in which the Nigerian financial sector had witnessed various changes; besides that, some of the possible effects were quite visible. Thus, the study covered the quoted financial institutions operating in the Nigerian Stock Exchange at end-2015. As stated by Asika (1991) and Turner (2003), the best sample is the whole population itself, since all the components of the population are

represented in it. However, firms that had been listed in the NSE later than 31st December 2006 and companies below the listing standards, companies under the

restructuring process, and companies without available data have been excluded as presented in Table 1.

Table 1: Study Sample

S/N	Company Name	Sub-Sector	Listed In
1	1 Access Bank Plc	Bank	1989
2	2 Diamond Bank Plc	Bank	2005
3	3 EcoBank Transnational Incorporated	Bank	2006
4	4 FBN Holding Plc	Bank	1971
5	5 Fidelity Bank Holding Plc	Bank	2005
6	6 First City Monument Bank Plc	Bank	2004
7	7 Guaranty Trust Bank Plc	Bank	1996
8	8 Skye Bank Plc	Bank	2005
9	9 Stanbic IBTC Holdings Plc	Bank	2005
10	10 Sterling Bank Plc	Bank	1993
11	11 Union Bank of Nigeria Plc	Bank	1970
12	12 United Bank for Africa Plc	Bank	1970
13	13 Unity Bank Plc	Bank	2005
14	14 Wema Bank Plc	Bank	1991
15	15 Zenith Bank Plc	Bank	2004
16	1 Aiico Insurance Plc	Insurance	1990
17	2 AxaMansard Insurance Plc	Insurance	1989
18	3 Cornerstone Insurance Plc	Insurance	1997
19	4 Guinea Insurance Plc	Insurance	1991
20	5 Lasaco Assurance Plc	Insurance	1991
21	6 Law Union and Rock Insurance Plc	Insurance	1990
22	7 Linkage Assurance Plc	Insurance	2003
23	8 Mutual Benefit Assurance Plc	Insurance	2002
24	9 N.E.M. Insurance Co. Nig. Plc	Insurance	1990
25	10 Niger Insurance Co. Plc	Insurance	1993
26	11 Prestige Assurance Co. Plc	Insurance	1990
27	12 Royal Exchange Plc	Insurance	1990
28	13 Standard Alliance Insurance Plc	Insurance	2003
29	14 Wapic Insurance Plc	Insurance	1991

Source: Authors findings.

Table 2 presents the acronyms, descriptions, measurements, and data sources of the study variables.

Acronym	Description	Formula	Data Source
Z-Score	Altman 2017 bankruptcy	$Z = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$	Annual Report and Data Stream
DLP	Discretionary loan loss provisions	The absolute value of accruals loan loss provisions to total liabilities	Annual Report and Data Stream
ROA	Return on Net Assets	The ratio of Net Income to Total Asset	Annual Report and Data Stream
FS	Firm's survival	$FS = Z\text{-Score} + ROA - DLP$	

Source: Authors findings.

Bankruptcy estimation model: This refers to the likelihood that a firm will not be capable of servicing its debt anymore and would, therefore, wind-up its business; as it is assumed that most of the quoted firms, which were not excluded, had a huge volume of their funds as loans. Consistent with Sajjan (2016) the likelihood of bankruptcy is measured by the Altman 2017 bankruptcy model score, which integrates various financial indicators (Altman, *et al.*, 2017). Altman estimated the following four-variable Z-Score model as:

$$Z = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4 \text{ Model 1}$$

Where: Z = Overall Index; X_1 = Working Capital/Total Assets; X_2 = Retained Earnings/Total Assets; X_3 = Earnings before interest and taxes/total assets; X_4 = Book value of equity/Book value of total liabilities

Zones of discrimination: $Z > 2.6$ = "Safe" Zone; $1.1 < Z < 2.6$ = "Grey" Zone; and $Z < 1.1$ = "Distress" Zone. Hence, the greater the Z-score, the better the firm survival status of the business.

Earnings Management: In the same way as non-financial firms, banks can use accruals to manage their income (Liu and Ryan, 2006). Conversely, the primary accruals of banks are the loan loss provisions (LLPs) which play a more complex role than the accruals of the non-financial companies for 2 reasons (Norden, and Stoian, 2013). LLPs, concurrently, affect the profitability and risk of the banks, which results in a trade-off (Beatty and Liao, 2011; Bushman and Williams, 2012; and Norden and Stoian, 2013). Also, according to Healy and Wahlen (1999), they suggested that the bank loan loss allowance was discretionary. Whereas, Non-performing loans are non-discretionary, and the loan charge-offs are considered relatively non-discretionary. Healy and Wahlen (1999) also mentioned that loan loss reserves were extremely reliant on management's decisions, openly connected to the bank's most vital assets and liabilities and were usually very huge proportionate to the net income as well as equity book values. Consequently, as a result of the significance and the judgment of the bank loan loss provisions/allowance by

banks, this is a good measurement to measure earnings management (Altamuro and Beatty, 2010; Cohen, Cornett, Marcus, and Tehranian, 2014).

Since discretionary loan loss provisions (DLP) are fundamentally the banking equivalent of discretionary accrual models, and discretionary accrual models have been verified widely, therefore, in line with Beatty and Liao, 2011; Bushman and Williams, 2012; Norden and Stoian, 2013; and Kazemian and Sanusi, 2015), this research adopted the absolute value of loan loss provisions to total liabilities. However, for the insurance companies, in line with Beaver, McNichols, and Nelson (2003) and Gaver and Paterson (2004), the insurance loss reserve accrual (also known as unexpired risks or unearned premium) is used as the DLP proxy. The loss reserves signify the major charge on insurers' accounts, whereas under-reserving decreases the stated liabilities and raises the insurance companies' assets, as a result, it empowers insurance companies to appear safer than they are and vice versa (Veprauskaite and Adams, 2014). Beaver, *et al.*, (2003) and Gaver and Paterson (2004) explained that insurance companies' managers can understate loss reserves to reduce the stated loss liabilities and evade financial distress as well as insolvency.

The Profitability: This is a sign of how profitable a company is before it is leveraged, and is related to other firms in a similar industry. It is measured as the ratio of net income to the total asset. This is in line with Mohammad (2012); Patel (2018); Pillai and Al-Malkawi (2018).

A consolidated matrix was applied to combine the 3 firm's survival indicators into one model. The technique of integrating multiple measures to come up with a fresh one is well documented in the extant accounting literature (Cohen and Zarowin, 2010; and Zang, 2012).

The relationship between the Z-score and a firm's survival is that, the higher the Z-score,

the lower the bankruptcy possibility, thus the better the firm's survival (Altman et al., 2017; Zureigat, et al., 2014a,b). Similarly, the relationship between the ROA and a firm's survival is direct; that is, the higher the ROA, the better the profitability (Mohammad, 2012; Patel, 2018; Pillai and Al-Malkawi, 2018), hence, the better the firm survival status of the firm. Whereas, for discretionary accruals and the firm's survival relationship, the higher the discretionary accruals, the higher the earnings management (Beatty and Liao, 2011; Norden and Stoian, 2013; Kazemian and Sanusi, 2015), thus, the greater the firm's survival problem.

To measure a firm's survival, this study consolidated these three (3) known measures of a firm's survival, which were the Altman 2017 Bankruptcy Z-score Model (Altman et al., 2017; Sajjan, 2016), discretionary loan loss provisions (Cohen et al., 2014; Norden Stoian, 2013), and the return on assets (Mohammad, 2012; Patel, 2018) to arrive at a more robust measure of the variable. The study, first, multiplied the discretionary accruals by minus one (so that

the higher the amount, the better the firm's survival) and added it to the Z-Score and the ROA (which had a direct relationship with better firm survival of the firm). The higher the amount of this aggregate measure, the more likely that the firm survival of the firm would be healthier. Thus:

$$FS = Z\text{-Score} + ROA - DLP \text{ Model 1}$$

Where: FS denotes Firm's survival; Z-Score denotes Altman 2017 bankruptcy Model; DLP denotes Discretionary Loan Loss Provisions, and ROA denotes Return on Net Assets.

4.0 Analysis and Discussion

Firm's Survival Attributes' Frequencies, and Percentages

The firm's survival variables, which were the bankruptcy prediction Z-scores, discretionary loan loss provisions, and return on asset frequencies and percentages, are presented in Table 5.1, Table 5.2, and Table 5.3, respectively.

Table 3: Frequencies and Percentages of the Bankruptcy Z-scores of the Sampled Firms

Discriminations Zone	Z-Scores	
	Freq.	%
Z < 1.1 -"Distress" Zone	3	1%
1.1 < Z < 2.6 -"Grey" Zone	8	3%
Z > 2.6 -"Safe" Zone	279	96%
	290	100%

Source: Authors computations.

Table 3 revealed that only three companies were within the "Distress" zone during the study period, which accounted for only 1.0 per cent. Whereas, only 3.0 per cent were in

the "Grey" zone. Whilst, about 96.0 per cent were found to be in the "Safe" zone; this indicates that most of the Nigerian listed financial firms were financially stable.

Table 4: Frequencies and Percentages of the Discretionary Loan Loss Provisions of the Sample Firms

Discretionary Range	Freq.	DLP	
		Per cent	
< 1%	103	36%	
1%<4.99%	99	34%	
5%<9.99%	35	12%	
10%<19.99%	38	13%	
20%<49.99%	15	5%	
50%<74.99%	0	0%	
75%<99.99%	0	0%	
100%	0	0%	
Total	290	100%	

Source: Authors computations

From Table 4 , it can be seen that more than 36.0 per cent of the sampled firms accounted for less than a 1.0 per cent level of discretionary loan loss provisions during the study period. While, about 34.0 per cent accounted for the discretionary range from 1.0 per cent to 4.99 per cent. However, 12.0 per cent accounted for the discretionary range between 5.0 per cent and 9.99 per

cent. Also, 13.0 per cent constituted the discretionary range between 10.0 per cent and 19.99 per cent and only 5.0 per cent for the range from 20.0 per cent to 49.99 per cent . This indicates that most of the Nigerian listed financial companies practiced less than 5.0 per cent accrual earnings management concerning the loan loss provisions.

Table 5: Frequencies and Percentages of the Return on Assets of the Sample Firms

Range	Freq.	ROA	Per cent
< 1%	80		28%
1%<4.99%	167		58%
5%<9.99%	33		11%
10%<19.99%	10		3%
20%<49.99%	0		0%
50%<74.99%	0		0%
75%<99.99%	0		0%
100%	0		0%
Total	290		100%

Source: Authors computations

From Table 5, more than 28.0 per cent of the sampled firms reported less than 1.0 per cent of the ROA during the study period. Similarly, 58.0 revealed between 1.0 per cent and 4.99 per cent of the ROA. However, 11.0 per cent revealed ROA ranging from 5.0 per cent to 9.99 per cent. In addition, only 3.0 per cent reported between 10.0 per cent and 19.99 per cent. This indicates that most of the Nigerian listed financial companies had experienced very poor performance regarding profitability indicators with less than 5.0 per cent of the ROA.

To examine the influence of a firm's survival variables by listed financial firms in Nigeria, table 6 presents the year by year and overall firm's survival variables level. From the outcome, table 6 reveals that the overall firm's survival Mean is 6.1677, which is above the safe zone, with a standard deviation of 3.0004 among the companies under consideration. Also, the firm's minimum firm's survival indicator of -1.3924 specified that some firms under study were experiencing a severe firm's survival problem. Conversely, the firm's maximum

firm's survival indicator of 16.1672 specified that certain firms had sound going-concern positions in the Nigerian financial sector. Specifically, the overall Z-SCORE mean is 6.2062 which is within the safe zone, with the standard deviation of 3.0221, as well as the minimum and a maximum of -1.2345 and 16.3276 respectively. These indicates that most of the Nigerian listed financial firms are financially stable. Furthermore, the overall mean for DLP is 5.13 per cent with a standard deviation of 7.02 per cent, as well as the minimum and a maximum of 0.01 per cent and 42.7 per cent respectively. This shows that most of the Nigerian listed financial companies practiced less than 5.0 per cent accrual earnings management concerning the loan loss provisions. Furthermore, the overall mean for ROA is 1.28 per cent, with a standard deviation of 7.31 per cent, as well as the minimum and a maximum of -80.05 per cent and 16.14 per cent respectively. This indicates that most of the Nigerian listed financial companies had experienced very poor performance regarding profitability indicators, particularly concerning its assets.

Table 6: Descriptive Statistics of the Firm's Survival Variables

	VARIABLE	OBS	MEAN	STD. DEV.	MIN	MAX
2006	FS	29	6.3668	2.8334	3.5302	15.6719
	ZSCORE	29	6.3951	2.8695	3.5271	15.8810
	DLP	29	0.0627	0.0821	0.0003	0.2567
	ROA	29	0.0344	0.0342	-0.0550	0.1360
2007	FS	29	7.7910	4.1094	3.7406	16.1672
	ZSCORE	29	7.8211	4.1609	3.7309	16.3276
	DLP	29	0.0687	0.0840	0.0017	0.2962
	ROA	29	0.0385	0.0281	0.0036	0.1030
2008	FS	29	7.0158	3.6357	-1.3924	15.1582
	ZSCORE	29	7.0627	3.6579	-1.2345	15.1979
	DLP	29	0.0523	0.0778	0.0001	0.3589
	ROA	29	0.0054	0.0708	-0.2081	0.1197
2009	FS	29	6.2816	3.4983	0.2824	15.5278
	ZSCORE	29	6.3638	3.5045	0.3352	15.3917
	DLP	29	0.0681	0.0783	0.0003	0.3110
	ROA	29	-0.0141	0.0873	-0.3126	0.1542
2010	FS	29	6.2743	3.0779	1.1880	13.7203
	ZSCORE	29	6.3390	3.0869	2.0221	13.8852
	DLP	29	0.0626	0.0921	0.0011	0.4276
	ROA	29	-0.0020	0.1551	-0.8005	0.1186
2011	FS	29	6.3065	3.1752	2.1832	15.7924
	ZSCORE	29	6.3504	3.1931	2.2581	15.9151
	DLP	29	0.0528	0.0597	0.0029	0.2296
	ROA	29	0.0089	0.0514	-0.1724	0.1614
2012	FS	29	5.1760	1.7164	2.2355	9.1949
	ZSCORE	29	5.1939	1.7145	2.2599	9.1958
	DLP	29	0.0238	0.0349	0.0005	0.1732
	ROA	29	0.0059	0.0640	-0.2266	0.0631
2013	FS	29	5.3496	1.8147	2.4960	9.1803
	ZSCORE	29	5.3833	1.8345	2.5706	9.2185
	DLP	29	0.0482	0.0579	0.0016	0.1883
	ROA	29	0.0145	0.0339	-0.1031	0.0736
2014	FS	29	5.3493	1.6202	2.2950	9.4533
	ZSCORE	29	5.3673	1.6234	2.5657	9.4808
	DLP	29	0.0354	0.0443	0.0003	0.1438
	ROA	29	0.0174	0.0614	-0.2695	0.1362
2015	FS	29	5.7664	2.2366	3.3806	13.9500
	ZSCORE	29	5.7855	2.2624	3.4375	14.1579
	DLP	29	0.0382	0.0499	0.0002	0.2342

	ROA	29	0.0191	0.0271	-0.0490	0.0778
ALL	FS	290	6.1677	3.0004	-1.3924	16.1672
	ZSCORE	290	6.2062	3.0221	-1.2345	16.3276
	DLP	290	0.0513	0.0702	0.0001	0.4276
	ROA	290	0.0128	0.0731	-0.8005	0.1614

Source: Authors computations

The year-by-year analyses also reveal the balanced level of firm survival for the study period. The mean of the firm survival level was 6.3668, 7.7910, 7.0158, 6.2816, 6.2743, 6.3065, 5.1760, 5.3496, 5.3493 and 5.7664 for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 years respectively. This indicates that the CBN and other relevant authorities' policies help in maintaining healthy firm survival indicators in Nigeria during the period of study. Although, in 2018 there is a minimum FS of -1.3924 that was clearly due to the global economic meltdown that year. Further analyses on the ZSCORE reveal the stable level of the mean values as 6.3951, 7.8211, 6.3638, 6.3390, 6.3504, 5.1939, 5.3833, 5.3673 and 5.7855 for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 years respectively. This indicates that the financial firms are in a safe zone of the ZSCORE discrimination level. However, the minimum of -1.2345 of ZSCORE in 2008 is due to the response to the pronounced 2008 global financial crisis. Whereas, year-by-year mean of DLP were 0.0627, 0.0687, 0.0523, 0.0681, 0.0626, 0.0528, 0.0238, 0.0482, 0.0354 and 0.0382 for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 years, respectively. This indicates

that the discretionary loan loss provision in Nigerian financial is at minimal level due to adequate setting of rules and guidelines on the reserve for loan and unexpired risk. While, the annual mean of ROA were 0.0344, 0.0385, 0.0054, -0.0141, -0.0020, 0.0089, 0.0059, 0.0145, 0.0174, and 0.0191 for 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014 and 2015 years, respectively. This indicates that the return on assets of average financial firms in Nigeria is very low particularly from 2008 and 2009 upward the ROA was declining; however, it started improving slowly from 2010 to 2015 as a sign of recovery.

Table 7 reveals the results of the correlation matrix for the research variables. The top correlation amongst the variables under study was between ZSCORE and FS which revealed a value of 99.95 per cent at 1.0 per cent significant level. This pointed out the strong correlation between the ZSCORE and firm's survival in the Nigerian financial sector; this is in line with claim of previous scholars such as Holiawati and Setiawan, (2016); Kuruppu *et al.* (2003); Zureigat *et al.* (2014a,b) that bankruptcy models are key instruments that could assist in establishing the correct firm survival conclusion.

Table 7: Pearson Correlation Matrix of the Research Variables

	FS	ZSCORE	DLP	ROA
FS	1.0000			
ZSCORE	0.9995***	1.0000		
DLP	0.6148***	0.6308***	1.0000	
ROA	0.3131***	0.2893***	0.1153**	1.0000

***, **, * indicate that the estimates levels are statistical significance at the 1%, 5%, and 10% respectively

Source: Authors computations

Moreover, table 7 showed that the correlation between DLP and FS is 61.48 per cent at 1.0 per cent significant level. Likewise, the firm's profitability correlates with the firm's survival with 31.31 per cent at 1.0 per cent significant level.

5.0 Conclusion

From the above discussion, it can be deduced that the firm survival indicators of a majority of Nigerian listed financial institutions are found to be sound, with very few firms with severe firm survival threats. Moreover, the Bankruptcy model of most of the firm under study proves to be within the safe zone. Furthermore, the discretionary losses provisions of the firm under study are

below 5.0 per cent with proving adequate monitoring and compliance with relevant policies. However, the profitability of most of the firms studied is below 5.0 per cent, which indicates that most of the Nigerian listed financial companies had experienced underutilisation of their assets.

The results of this study may support business management in creating more awareness of the significance of the firm's survival. As discussed earlier, the firm's survival is regarded as an essential element usually used by the capital market participants in making vital decisions. Therefore, the results of this study will be relevant to the Management of capital market institutions as well as financial analysts in Nigeria. The outcome can also expose the issues that may affect the firm's survival and assist in evaluating financial information efficiently.

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