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# Effect of Earnings Management on Bankruptcy Predicting Model: Evidence from Nigerian Banks

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**ABSTRACT**

This study determined the effect of Earnings Management on Bankruptcy Risk in Nigerian Deposit Money Banks. The specific objectives are to examine the effect of: Debt Covenant, bank Size moderates effect of Earnings Management Incentives and bank Age moderates the effect of Earnings Management Incentives on Bankruptcy Risk of listed Deposit Money Banks on Nigerian Stock Exchange. The study employed Ex Post Facto research design and data were collected via anuual reports and accounts of the sampled banks in Nigeria. The formulated hypotheses were analyzed and tested with Regression analysis with the aid of E-view version 10 (2019). The result shows that debt covenant has inverse significant effect on bankruptcy risk of listed DMBs in Nigeria, implying that degree of debt covenant violations does not strongly influences bankruptcy risk among Nigeria deposit money banks. Also that firm size moderates the effect of earnings management incentives on bankruptcy risk, meaning that the behaviours of the earnings management incentives on bankruptcy risk among Nigerian DMBs significantly and largely depends on the size of the company. Another finding revealed that firm age has no significant moderating effect on the nexus between the selected earnings management incentives and bankruptcy risk of listed DMBs in Nigeria. The study thereby recommended among others that even though higher debt contracting does not necessarily result to insolvency, management should ensure proper balancing of debt and equity in order to ensure a trade-off between risk and return to the shareholders.

**Keywords:** Earnings Management on Bankruptcy Risk, Debt Covenant, bank Size and bank Age

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## 1. INRODUCTION

The issues of corporate financial distress and outright business failure have been a great problem all over the corporate world. Most high-profile companies from different regions (such as Enron and WorldCom) have collapsed in recent past (in early year 2000's) for several reasons – ranging from unethical earnings distortions, fraudulent accounting malpractices, and persistent poor overall performance, among others. Apart from the highly publicized cases of some notable foreign companies in year 2000's, similar trends were equally witnessed in Nigeria owing to the collapse of some financial (majorly deposit money banks) and non-financial companies such as Afribank Plc, Bank PHB, Oceanic Bank Plc, Intercontinental Bank Plc, African Petroleum Plc, Lever Brothers and Cadbury Plc. An investigation into the causation factors revealed some deep-rooted problems in accounts preparation and calculated misconducts of the managers and Chief Executive Officers (Dibia & Onwuchekwa, 2014).

Reports from different researchers contest that despite receiving clean bills of health from auditors, majority of the distressed firms went bankrupt not long after declaring huge earnings in prior years (Dabor & Dabor, 2015; Dibra, 2016). These usually lead to economic losses and social costs for managers, investors, creditors, employees, government, and so on. Thus, the recent upsurge in the research attention towards the risk of bankruptcy and its possible determinants could be linked to the rekindled stakeholders' quest for pre-detecting and/or avoiding potentially-bankrupt firms in order to minimize investment risks (Hassanpour & Ardakani, 2017). In most developing countries, such as Nigeria, issues regarding financial distress and business failure appear to be more domiciled in the banking sector – owing to the number of failed banks vis-à-vis the companies in other sectors (Wurim, 2016).

Most of these cases of bank failures have been attributed to high earnings management practices, poor management and weak corporate governance structures (Akingunola, Olusegun & Adedipe, 2013). Thus, in line with agency relationship, which separates the company's ownership from its control, the opportunistic behaviour of managers in pursuing their own interest rather than those of the shareholders' can increase the risk of bankruptcy. Viacheslav (2014) also stressed that aggressive earnings management deficiencies and inappropriate allocation of resources are two key factors capable of weakening the going-concern status of the firm, which increases the threat of bankruptcy. Thus, earnings management may trigger the risk of bankruptcy by increasing uncertainty about future cash flows and information asymmetry; and by reducing financial reporting quality (Biddle, Ma & Song, 2010).

This earnings management occurs because the application of accounting standards requires professional judgments so sometimes managers use this discretion to create an image

of the company that lack economic reality. Due to the opportunities and loopholes offered in accounting policies, managers with their background in business choose the best reporting methods, estimate and disclosures that match the firm's business economics. Earnings management is a kind of artificial manipulation of earnings by management in order to reach the expected level of profits for some specific decisions (Degeorge, Patel and Zeckhauser, 1999) as cited in (Karami, Shahabinia & Gholami, 2017). A review of Earnings management practices before bankruptcy by Dutzi and Rausch (2016) showed that there are different measurable incentives for engaging in (either upwards or downwards) earnings management. For example, (i) in periods of wavering performance, stressed firms may engage in 'income smoothing' in order to meet or beat analysts' earnings expectations (forecast) and keep the company's stock price up or steady. For opportunistic purposes, (ii) managers may also engage in upwards earnings management due to bonuses and compensations as both are based on earnings performance or can be tied to stock options that generate profit when stock price increases. Also, (iii) for tax planning purposes, firms seeking government subsidy, incentives and exemptions may manage earnings to appear less profitable or engage in accrual manipulation by minimizing reported earnings in order to reduce tax payments (Biddle, Ma & Song, 2010). Similarly, (iv) firms with higher debt ratios and low cash generation ability are more likely to engage in extensive accrual earnings management so as to 'delay' the violation of their leverage levels stated in debt covenants or to suppress insolvency signs (Dutzi & Rausch, 2016; Shabani & Sofian, 2018).

However, these different (measureable) incentives for earnings management (that is income smoothing, executive compensation/bonuses, tax planning, and debt covenant) determine the probability of bankruptcy (bankruptcy risk) appear not to have received immense research attention. Relatedly, some bank-specific characteristics such as size and age have been recurrently been pinpointed in literature (see Rianti and Yadiati, 2018; Situm, 2014; Succurro & Mannarino, 2011) as major "non-financial" determinants of firms failure or success (Situm, 2014). Specifically, researchers like Akkaya and Uzar (2011) claim that large and older firms are more diversified, therefore they face less possibility of default than younger-smaller firms. This could be observed by the proportion of failed new generation banks vis-à-vis the older generation banks.

The problem of bank distress has become a great concern to the stakeholders and the entire economy. This is because when it is witnessed, the stakeholders especially the shareholders lose the money they invested on the bank shares and the economy will lack stability and growth. Deposit Money Banks in Nigeria have witnessed several recapitalization regulations from the Central Bank of Nigeria (CBN) in order to strengthen them. The last recapitalization of N25 billion was meant to prevent Deposit Money Banks from failing or going distress but the reverse was the case as we currently witnessed the collapse of Sky Bank in the middle of 2018 and Diamond Bank early 2019. This is a clear indication that increasing minimum capital requirement of banks alone only accounts for a short-term improvement in the liquidity position of banks and improvement in their asset quality but does not have the long term effect of forestalling distress (Yauri, Musa & Kaoje 2012). Even the present CBN governor, Godwin Emefiele in June 2019, stated his plan for another bank recapitalization. This ignited this research to find out other determinants of bank distress/bankruptcy from the perspective of earnings management practices.

Concerning the earlier identified earnings management incentives (income smoothing, executive compensation/bonuses, tax planning, and debt covenant), researchers (for example, Healy and Wahlen, 1999; Jiang, Petroni and Wang, 2010) have argued that engaging in earnings management, either for management self-interest (in line with agency theory) or for avoiding in-default situations and regulatory costs (in line with signaling theory), creates artificial volatility on share price movement which reduces earnings quality and its decision usefulness, and on the long-run may affect the performance and going-concern status of the firm. Thus, it is most likely that the four identified incentives for earnings management will most likely explain the variations in bankruptcy risk. So also is the assumption that the bank size and age could moderate the extent to which the proposed earnings management proxies influence the level of bankruptcy risk.

However, these assumptions appear not to have been empirically validated or rebuffed - save for Shabani and Sofian (2018) who found evidence of a negative significant effect of earnings smoothing and bankruptcy risk but did not examine the other incentives nor incorporate any interaction variable. Hence, the uniqueness of this study is its focus on the identified earnings management incentives in relation to bankruptcy risk, as well as considering the moderating effect of bank size and age on the nexus between the independent variables and the dependent (bankruptcy risk).

The broad objective of this study is to determine the effect of Earnings Management on Bankruptcy Risk among Deposit Money Banks listed on the Nigerian Stock Exchange (NSE). The specific objectives are:

1. To examine the effect of Debt Covenant on Bankruptcy Risk of listed Deposit Money Banks on Nigerian Stock Exchange.
2. To determine if Bank Size moderates the effect of Earnings Management Incentives on Bankruptcy Risk of listed Deposit Money Banks on Nigerian Stock Exchange.
3. To ascertain whether Bank Age moderates the effect of Earnings Management Incentives on Bankruptcy Risk of listed Deposit Money Banks on Nigerian Stock Exchange.

## 2. REVIEW OF RELATED LITERATURE

### 2.1. CONCEPTUAL REVIEW

#### 2.1.1. Earnings Management

Capital market requires companies to give their earnings estimates and the managers in order to keep the shareholders happy, do everything necessary in order to make their figures look good (Lo 2008). Managers' pay are mostly dependent on the value of their companies stock and just like the average person, the manager wanted to earn more money, which in turn meant that company management focused less on the long-term ability to generate cash (Brett 2010). The main reason for basing manager's pay on the value of company's stock is to make the executives more inclined to do a better job, without foreseeing the possibility that they might concentrate on how to increase the stock price every quarter in order to

earn more. Based on that, company's executives and managers have learnt how to manipulate earnings (otherwise known as earnings management) so that they can artificially provide their desired firm financial performance. Earnings management may involve exploiting opportunities to make accounting decisions that change the earnings figure reported on the financial statements. Accounting decisions can in turn affect earnings because they can influence the timing of transactions and the estimates used in financial reporting. Earnings management therefore, is a strategy used by the management of a company to deliberately manipulate the company's earnings so that the figures match a pre-determined target. This target can be motivated by a preference for more stable earnings, in which case management is said to be carrying out income smoothing. Thus, rather than having years of exceptionally good or bad earnings, companies will try to keep the figures relatively stable by adding and removing cash from reserve accounts.

Indirectly, management intentionally tries to maintain the reputation of the firm by showing that their firms are performing well in the market. As a result management will gain better compensation such as bonus, prestige, job security, pension contributions, stock awards and future promotions (Bukit and Iskandar, 2006; Demirkan and Platt, 2009) as cited in Selahudin, Zakaria, Sanusi & Budsarstragoon, 2014). Managers manage earnings in order to avoid reporting the volatility of the earnings and losses. Sometimes managers tend to get involved in earnings management in order to hide unlawful transactions and hence, face high litigation risk (Jiang et al., 2008; Rahman and Ali, 2006) as cited in Selahudin et al. (2014). Moreira and Pope (2007) suggested that companies which have bad news show higher earnings management (manipulation) than companies which have good news.

**Earnings Management Techniques**

According to previous researchers there are two techniques commonly recognized to manipulate earnings: accrual manipulation and real activity manipulation. Until the beginning of the 21st century, all of the studies used accruals manipulation as a proxy for earnings management (Ruiz, 2016).

**Accruals-Based Earnings Management**

Accrual means for instance, when a firm makes a sale on credit, the sale is recognized as earnings regardless of whether cash has been received or not. This leads to the creation of a receivable which is cancelled when cash is received in the future (McVay, 2006). Accounting practices allow discretion for managers in the financial information provided. Managers can exploit this by recognizing revenues before they are earned or delaying the recognition of expenses which have been incurred, which results in accruals. Accruals-based earnings management occurs when managers intervene in the financial reporting process by exercising discretion and judgment to change reported earnings without any cash flow consequences (Kothari, Shu, & Wysocki, 2012).

Accruals can be split into discretionary and nondiscretionary accruals, discretionary accruals being related to adjustment to cash flows carried out by managers, while non-discretionary accruals are those accounting adjustments to the companies' cash flows stated by accounting standard setters. Firms can be aggressive with their accounting choices by bringing forward earnings from a future period, through the acceleration of revenues or deceleration of expenses, thereby increasing earnings in the current period. This creates what is called discretionary accruals in the literature. Since accruals reverse over time, earnings will be lowered automatically by the amount of earnings that was brought forward in the previous period.

Alexander, Britton and Jorissen (2011) affirm that accruals include a component of subjectivity that are not completely identifiable or observable, and managers can take advantage of this situation to achieve a desired result. Accrual manipulation is originated by the valuation of accounting items not directly related to changes in cash flow. Examples are the choice among the different depreciation methods, the valuation of inventories or the choice of the basis for asset valuation (historical cost or fair value), and the estimation of provisions. Furthermore, it has been shown that firms that manipulate accruals will have to bear the cost of the reversal in subsequent years (Allen, Larson & Sloan, 2013) and for this reason it gives limited benefits (Teoh, Welch & Wong 1998) as cited in Ruiz (2016). This leads to other means of earnings management by managers.

**2.1.2. Bankruptcy Risk**

Bankruptcy actually reduces the likelihood of assets disposals because assets are not sold quickly once a bankruptcy filing occurs. Upon filing for bankruptcy, cash does often not leave the firm without the approval of a judge. Without pressure to pay debts, the firm can remain in bankruptcy for months as it tries to decide on the best course of action. Eminent failure or bankruptcy of businesses and its prediction is of great importance to various stakeholders including investors, suppliers, creditors and shareholders. A business could fail as a result of economic reasons, where a firm's revenue cannot cover its cost, financial where the firm is unable to meet its current obligations even though its asset is more than its total liabilities or bankruptcy if a firm's total liability exceeds its total assets.

Whitaker (1999) found that firms become bankrupt as a result of economic distress stemming from a fall in industry's operating income and poor management, arising out of incessant losses over a period of five years. Whitaker's explanations of business failure seem to agree with the economic and financial reasons given above, but differ from the fact that, the fall in operating income is as a result of poor management. Altman (2006) assigned managerial incompetence as the most pervasive reason for corporate failures. This assertion seems to agree with the view of Whitaker that management incompetence is a main reason for company failure. In recent times many business failures have been attributed to poor corporate governance. Corporate governance according to the Organizations for Economic Co-operation and Development (OECD, 2008) is a set of dependable relationship between the directors, owners and other stakeholders of an entity. Corporate governance also underpins the structural arrangements put in place to enable the entity achieve its objectives and be able to monitor and measure performance. Poor corporate governance results in inappropriate decisions, lack of supervision and oversight responsibility over company activities, poor internal controls and abuse of power by both

the board of directors and management. Competition is another facet that when not properly managed would result in business failure.

The empirical approach to bankruptcy prediction has recently gained further attention from financial institutions, mainly due to the increasing availability of financial information (Agarwal & Taffler, 2008; Bisogno, 2012). The global financial crises also increased the concerns towards corporate bankruptcies necessitating its prediction. Thus, forecasting bankruptcy has attracted the attention of financial economists as it can provide a signal regarding the company financial condition. A range of techniques have been developed to predict bankruptcy. Starting from the seminal paper of Beaver (1966), as cited in Bellovary, Giracomino and Akers (2007) that first proposes to use financial ratios as failure predictors in a univariate context, and from the following paper of Altman (1968), that suggests a multivariate approach based on discriminant analysis, there have been many contributions to this field (Poddighe & Madonna, 2006; Ravi Kumar & Ravi, 2007). The next sub-section highlights the different bankruptcy prediction models.

### 2.1.3. Bankruptcy Prediction Model

A few years later (that is in 1968), Altman based his work; the Z-score model on the study of Beaver (1966) and published the first multivariate study (that is, analysis of more than one statistical outcome variable at a time). Altman (1968) applied multiple discriminant analysis within a pair-matched sample and revolutionized corporate bankruptcy prediction. Altman (1968) extended the univariate analysis of Beaver (1966) by using more financial ratios in his analysis. The model was based on a statistical method called multiple discriminant analysis (MDA). The objective of the MDA technique is to "classify an observation into one of several a priori groupings dependent upon the observation's individual characteristics" (Altman, 1968) as cited in Gerritsen (2015).

These variables/ratios are chosen on the basis of their popularity in the literature and potential relevancy to the study. The result was a model with five different financial explanatory variables and a qualitative dependent variable (that is, bankrupt within 1-2 years or non-bankrupt). These five variables are not the most significant variables when they are measured independently. This is because the contribution of the entire variable profile is evaluated by the MDA function (Altman, 1968). The Z-score has linear properties as it involve the objective weighing and summing up of five measures to arrive at a single value which becomes the criteria for classification of firms into various apriori groups (healthy and unhealthy).

Altman then further revised the Z-score model where the market value of equity was changed to the book value of equity and the model was applicable to private and non-manufacturing firms. He also came up with different coefficients for the ratio as shown below.

$Z' = 0.717\ X1 + 0.847\ X2 + 3.107\ X3 + 0.420\ X4 + 0.998\ X5$

Where;
X1 = Working Capital/Total Assets
X2 = Retained Earnings/Total Assets
X3 = Earnings Before Interest and Taxes/Total Assets
X4 = Book value of equity/Book value of total liabilities
X5 = Sales/Total Assets

**Zone of Discrimination**

A. If Z is less than 1.23 = Zone of distress
B. If Z is between 1.23 and 2.9 = Grey zone
C. If Z is greater than 2.9 = Zone of safety

In 1995, this was further revised to include emerging markets where the model could be used by both manufacturing and non-manufacturing companies as well as public and private firms. The model had different coefficients and cut off points as follows.

$Z'' = 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4$

Where;
X5 = Excluded
X1 = (current assets – current liabilities)/Total assets
X2 = Retained earnings/Total assets
X3 = Earnings before interest and tax /Total assets
X4 = Book value of Equity/Total liabilities

**Zones of discrimination**

A. If Z is less than 1.1 = Distress zone
B. If Z is Between 1.1 and 2.60 = Grey zone
C. If Z is above 2.60 = Safe zone

The main criticism on the Altman models are based on, (1) the age of the original Altman (1968) model and (2) on the research design of the models. First, Altman's (1968) original model is more than forty years old. It is likely that the accuracy rate of the bankruptcy prediction models change over periods of time when the setting of the study differs (Grice & Ingram, 2001) as cited in Gerritsen (2015). Second, the original parameters were estimated with the use of small and equal sample sizes (33 bankrupt and 33 non-bankrupt firms) this assumptions of normality and group distribution downgrades the representativeness of the sample. Considering that the original Altman's model of 1968 and revised model of 1995 measures the financial health of both private and publically-listed firms in the United States.

### 2.1.4. Debt Covenants and Bankruptcy Risk

Another motivation is debt covenants. The firm's closeness to violating its debt covenant provides its management with an incentive to engage in earnings management. Debt covenants are agreements between a company and a creditor usually stating limits or thresholds for certain financial ratios that the company may not breach. Depending on the debt contract, a covenant breach can allow the lender to convert its debt to equity, demand full payback of the loan, initiate bankruptcy measures or adjust the level of interest payments. Covenants can also be non-financial and for example include specific events, such as change in ownership of the firm. For creditors, covenants are "safety nets" that allow them to reassess their lending when a risk situation has changed.

Mulford and Comiskey (2002) describe debt covenants as stipulations included in debt agreements designed to monitor corporate performance. For instance, a lender might instruct that a certain value for an accounting ratio be maintained or impose limits to investing and financing activities. If the borrower violates the debt covenant, the lender might increase the interest rate, requiring additional

financial security, or calling for immediate repayment. Usually, a long-term debt contract has covenants to protect debt-holders. If firms violate debt covenants, they will face higher costs. Therefore, debt covenants provide incentives for earnings management either to reduce the restrictiveness of accounting based constraints in debt agreements or to avoid the costs of covenant violations (Beneish, 2001).

More importantly, Healy and Wahlen (1999) argue the need for differentiating managers' different opposing or reinforcing motives so as to identify the magnitude of each motive. For instance, managers may be motivated to overstate earnings as a result of beating or meeting the analyst forecasts or because of compensation contracts as above mentioned. Bhaskar and Krishnan (2017) conducted a comprehensive study on the associations between debt covenant violations and auditor actions for financially distressed and non-distressed firms. They found that firms with debt covenant violations have greater likelihood of receiving a going-concern opinion, and a greater likelihood of experiencing an auditor resignation. They also found that, after controlling for other financial information, the relation between debt covenant violations and an increased likelihood of a going-concern opinion is stronger for non-distressed versus distressed firms. Arens and Loebbecke (2000) claim that violations increase auditors' business risk (that is, the risk that the auditor will suffer harm because of a client relationship) as it represent a new source and indication of firm financial difficulty. They also prompt heightened scrutiny by capital providers in the rare event that a firm subsequently defaults on its debt or declares bankruptcy.

### 2.1.5. Bank Size and Bankruptcy Risk

Several studies (such as Robert and Kim, 2007; Jacoby, Li and Liu, 2017; Mohammadi, Mohammadi, and Amini, 2016) have pointed out the importance of identifying confounding factors that could moderate the relationship of earnings management and bankruptcy prediction. Among this kind of variables, Jacoby, Li and Liu (2017) identified company size and age and controlled for them in their study of financial distress and earnings management. However, for the purpose of this study, the variables of bank size and age are hypothesized and adopted as moderating variables. This sub-section, and the next, reviews and describes the two moderating variables in relation to the dependent variable. The size of a firm is considered a vital variable in most organizational performance evaluations; it has appeared in several studies of business failure prediction as statistically significant variable. Right from the work of Ohlson (1980), the size of the firm has been one important predictor of bankruptcy, which was significant in several periods before the event of bankruptcy.

The same conclusion was found within the studies of McKee (2007) or Fitzpatrick and Ogden (2011), whereas the definitions for the size of the firm differed across these studies. According to Situm (2014), it is assumed that the size of the company and the age of the company are highly correlated with each other. The growth of the firm seems to be proportional to the size of the company (Thornhill & Amit, 2003). Figure 2.1 below presents two curves for the relation of the size of the company to the probability of business failure (bankruptcy risk) based on two different hypotheses. Hypothesis A shows a U-shaped curve indicating that there exists an optimal size of the firm, where the probability of financial distress is the lowest. Firms with greater size than this "optimal size" are more endangered as they are assumed to have an inflexible organizational structure. They have difficulties in monitoring managers and employees as well as not perfectly functioning communication structure (Dyrberg 2004).

### 2.1.6. Bank Age and Bankruptcy Risk

On company age, the general assumption is that the higher the age of the firm is the probability of bankruptcy decreases (Situm, 2014). The reason behind this theory is that young firms have knowledge about the average profitability, but they most likely do not know their own potential. After they have learned about their potential profitability they can expand, contract or exit (that is, liquidate), based on the position of the distribution of profitability. This will depend on the ability of the firm to use inventions and innovations at the right time. The winners of this competition survive and remain on the market. These firms are increasing their productivity. They are also able to develop technological advantages, which are forcing losers to exit the market. Firms having passed this situation will most likely show a low probability of bankruptcy (Jovanovic & MacDonald, 1984).

Within the study of Altman (1968), the age of the firm was a relevant indicator within his Z-score model to distinguish between failed and non-failed firms. His second ratio "retained earnings/total assets" implicitly contains the age of the firm. Young firms will have a probably low ratio due to lack of time to build up cumulative profits. A low value implies a higher chance for the related firm to be classified as bankrupt. The probability of bankruptcy is higher for firms in earlier years, which is well described by the mentioned ratio and it also follows the shown path of the curve within Figure 2.2 (Altman, 1968) as cited in Gerritsen (2015).

## 2.2. Empirical Review

Numerous studies have empirically examined the effect of earnings management on several organizational outcomes. In this study, the focus is on its relation with bankruptcy and/or financial distress as well as other related names usually used in describing financially unstable firms (such as default, liquidation, exit, insolvency and so on). It is pertinent to note that while a handful of studies exist on earnings management among Nigerian authors, studies linking it to the probability of bankruptcy are scanty and were largely carried out in foreign countries. This sub-section systematically reviews the previous studies related to the study topic from whence the gaps were identified. The review encompasses both those by foreign authors and their Nigerian counterparts:

Muranda (2006) conducted a research with the purpose of investigating the relationship between corporate governance failures and financial distress in Zimbabwe's banking sector. He used the case study method and discussed cases of banks currently in financial distress. Data collection was through desk research. The analysis was qualitative and used Judgmental sampling in selecting the eight abridged case. The finding of the research revealed that in all cases of pronounced financial distress, either the chairman of the board or the chief executive wields disproportionate power

in the board. Gunay and Ozkan (2007) conducted a research with a purpose of proposing a new technique to prevent future crises, with reference to the last banking crises in Turkey. They used Artificial Neural Network (ANN) as an inductive algorithm in discovering predictive knowledge structures in financial data and used to explain previous bank failures in the Turkish banking sector as a special case of emerging financial markets. Their findings indicate that ANN is proved to differentiate patterns or trends in financial data. Olaniyi (2007) evaluated the susceptibility of Nigerian banks to failure with a view to discriminate between sound and unhealthy banks as a guide to investment decisions using First Bank and Trade Bank as case studies. Multivariate analysis of Z-score was carried out on the secondary data obtained from the two Banks annual reports and accounts between1998-2003 and it was concluded that the model can measure accurately potential failure of unhealthy banks but inaccurately failure status of sound banks. Chung, Tan and Holdsworth (2008) in their study utilized multivariate discriminate analysis and artificial neural network to create an insolvency predictive model that could effectively predict any future failure of a finance company value in New Zealand. The results indicate that the financial ratio of failed companies differ significantly from non-failed companies. Failed companies were also less profitable and less liquid and had higher leverage ratios and lower quality assets. Garcia, Garcia and Neophytou (2009) using a large sample of British Firms comparison with non-bankrupt companies found that bankrupt companies in the 4 years of pre-bankruptcy manage their profits in an increasing form. Their study showed that the profit management is done using both ways of earnings management and accounting earnings management as a result, the actual activities and management accounting income decreased reliability. Chen, Chen, and Huang (2010) in their research on "An appraisal of financially distressed companies' earnings management evidence from listed companies in China" examined the earnings management behavior of financially distressed listed companies in China for the period 2002-2006, used discretionary accruals to serve as a proxy variable for earnings management, with the type of ultimate ownership and the type of industry to which the company belongs, functioning as independent variables. The empirical results show that the desire to avoid continued special treatment (ST) status and the risk of being de-listed leads firms to adopt different earnings management behavior before and after being designated as an ST firm. Saeedi, Hamidian and Rabie (2011) examined the impact of earnings management through manipulation of the actual activities of the future performance of listed companies at the Tehran stock exchange. A total of 123 companies listed in the stock exchange over a period of 9 years and the actual benefits management standards provided by Garcia et al. (2009) and the future operating cash flows and future operating profit is used as a measure of future performance. The results show that there is an inverse significant relationship between the real management measures profit with future performance. Oforegbunam (2011) in studying Benchmarking incidence of Distress in the Nigerian banking industry applied the Altman's model in the prediction of distress in the Nigerian banking industry. Three banks (Union bank, Bank PHB and Intercontinental Bank) that were declared distress during the period of the study were used as case studies. Four years financial statistics prior to distress was used to compute the most discriminating financial ratios that were substituted into the Altman's model. The result of the analysis shows that Altman's model significantly predicted the distress state of each of the bank at 0.001level. Andualem (2011) conducted a research on the determinants of financial distress of selected firms in beverage and metal industry of Ethiopia. His study estimated determinants of financial distress using panel data starting from 1999 to 2005. The results show that profitability, firm age, liquidity and efficiency have positive and significant influences to Debt Service Coverage as a proxy of financial distress. Hejazi and Mohammadi (2013) in a research attempted to predict Earnings management through nerve system and decision tree in Corporations of Accepted in Tehran Stock Exchange. Research results showed that the nerve system and decision tree method is more accurate in predicting Earnings management in comparison to linear methods and have lower error level. Zeytinoglu and Akarim, (2013) studied 20 financial ratios to predict the financial failure of firm listed on Istanbul Stock Exchange National – All share index and developed the most reliable model by analyzing these ratios statistically. It identified that there are 5, 3 and 4 important financial ratios in the discrimination of successful and unsuccessful firms in 2009, 2010 and 2011 respectively. Thus, the discrimination function is formed by using these variables: capital adequacy and networking capital/total assets ratios are seemed to be significant in all the three periods. According to formed model, classification successes are determined as 88.7%, 90.4% and 92.2% in 2009, 2010 and 2011 years respectively.

Khaliq, Altarturi, Thaker, Harun, and Nahar (2014) in their research on "Identifying Financial Distress Firms: A Case Study of Malaysia's Government Linked Companies (GLC)" addressed the financial distress measurement among 30 GLC's listed companies in Bursa Malaysia over the period of five years (2008 - 2012). Results showed that there were significant relationship between both variables and Z – Scores that determine financial distressed of the GLC. Amoa-Gyarteng (2014) investigating Anglogoldashanti, a firm listed in Ghana, identifies some early indicators signaling bankruptcy and the manipulation of financial statement. He relied on the Modified Altman model and the Beneish model in analyzing the financial statements of the company for the years 2010 to 2012. The Beneish model was used to measure the possibility of financial statement fraud, while the modified Altman model was used as a predictor of bankruptcy. The study could not be established bankruptcy threat and evidences reveal that the probability of earnings manipulation in the firm was low. Ahmed Mohammed and Adisa (2014) in their study of "Loan Loss Provision and Earnings Management in Nigerian Deposit Money Banks" explores the relationship between loan loss provision and earnings management in Nigerian DMBs. The result indicated that there was a positive relationship between the provision for loan losses and earnings management in Nigerian DMBs. Ahmadpour and Shahsavari (2014) examine the link between earnings management and the quality of earnings using bankrupt and non-bankrupt firms listed in the Tehran Stock Exchange for the period 2007 to 2012. The analyses involve the use of an estimating unbalanced panel data technique for the 198 non-bankrupt firms and the 55 bankrupt firms using Altman's model. It was found that the bankrupt firms were inclined to opportunistic earnings management than the non-bankrupt who choose efficient

earnings management. Ukessays (2014) studied the importance of financial ratios in evaluation of firm's financial position and performance. Ten financial ratios covering four important financial attributes namely: liquidity, activity and turnover, profitability and leverage ratios were examined under a two-year prior to bankruptcy. Multiple Discriminate Analysis (MDA) was used as statistical technique with the help of SPSS 17.0 version on a sample of twenty six (26) Bankrupt and 26 non-bankrupt firm two year prior to bankrupt with an asset range of N5million to N750million from 1996-2010. All companies were registered with Karachi Stock Exchange. The result showed that profit Margin, debt to equity ratio and return on asset has a significant contribution in prediction of corporate bankruptcy. Gerritsen (2015) examined the "Accuracy Rate of Bankruptcy Prediction Models for the Dutch Professional Football Industry", tested and compared the accuracy rate of three commonly used accounting-based bankruptcy prediction models of Ohlson (1980), Zmijewski (1984), and Altman (2000) on Dutch professional football clubs between the seasons of 2009/2010 - 2013/2014. The sample size on the Dutch professional football industry throughout the different seasons fluctuates between 30 and 36 depending on the available data in a particular season of the annual report and season reports. Overall, Zmijewski's probit model (1980) performed most accurate on the Dutch professional football industry within the five seasons of investigation. Agrawal, Chatterjee and Agrawal (2015) studied earnings management and financial distress: evidence from India. The article makes an attempt to empirically examine the relationship between financial distress and earnings management with reference to selected Indian firms. The sample consists of 150 financially distressed firms during the post-recession period from 2009 to 2014, used discretionary accruals (DA) as a proxy for earnings management. Multiple regression analysis was used for the purpose. Altman's Z-score (Z-score) and distance-to-default (DD) have been used as two alternative measures for financial distress. The study founds that less distressed firms were engaged in higher earnings management. Bisogno and De Luca (2015) examined the relationship between financial distress and earnings management practices in a family-owned economic context, such as Italy, focusing on non-publicly listed small and medium sized entities (SMEs). Analyzing five years prior to bankruptcy, documented that private SMEs experience financial distress, as measured by subsequent bankruptcy filings, manipulate their financial statements to portray better financial performance. Madumere and Wokeh (2015) in their study of "corporate financial distress and organizational performance: causes, effects and possible prevention" examined the causes, effects and possible solution of the dependent and independent variables. In the cause of the study, literature was reviewed, four hypotheses proposed, tested and analyzed using Cronbach alpha; and the individual results came out high mean and high standard deviation (on the various variables) with a p value of 0.000 < 0.05 coefficient. The findings revealed that lack of financial discipline, technological failure, over investment of fixed assets and government policies are major factors of corporate financial distress. Gebreslassie and Nidu (2015) studied the determinants of financial distress conditions of commercial banks in Ethiopia: A Case study of Selected Private Commercial Banks. The study first assessed the financial health conditions of the selected private commercial banks using Altman Z-score model (ZETA Analysis) and estimated determinants of financial distress using panel data starting from 2002/2003 to 2011/2012 and six private commercial banks in Ethiopia using panel data regression, the researcher analyzed bank specific factors affecting firm's financial distress. In the study ZETA score of the banks was used as the proxy for financial distress. Finding of the study indicate that capital to loan ratio, net interest income to total revenue ratio have statistically significant positive influence on the financial health of banks whereas the nonperforming loan ratio has statically significant negative influence on the financial health of the banks. Egbunike and Ibeanuka (2015) studied "corporate bankruptcy predictions: Evidence from selected banks in Nigeria" and examined corporate bankruptcy threats among selected banks in Nigeria. Data were collected from the annual reports of banks 2007-2011 available in 2010-2011 facts book of Nigerian Stock Exchange. In addition to descriptive statistics, t-test difference between mean, analysis of variance (ANOVA) test and multi-discriminant model were used in analyzing the collected data. The study identified five financial ratios – Working Capital/Total Assets, Retained Earnings/Total Asset, EBIT/Total Asset, Equity/Total Asset, Gross Earning/Total Asset that could predict financial distress. Mohammadi, Mohammadi, and Amini, (2016) carried out investigation on the relationship between financial distress and earnings management in corporations of accepted in Tehran Stock Exchange during time between years of 2008-2015. Research results showed that, in research hypothesis with the increase of the free cash flow as a standard of financial distress, earnings management will be increased. Kihooto, Omagwa, Wachira and Ronald (2016) in their study of "financial distress in commercial and services companies listed at Nairobi Securities Exchange, Kenya" sought to assess financial distress amongst commercial and services companies listed at the Nairobi Securities Exchange Kenya, with an objective of determining whether the companies in this sector were prone to bankruptcy. The study utilized secondary data collected from the Nairobi Securities Exchange over a five year period (year 2009 to year 2013). Using Altman's Z score model, the study findings indicate that the companies' Z scores (on average) lay between, 1.88 to 3.5. This is an indication that the companies were relatively not in danger of bankruptcy. Veganzones and Séverin (2017) in their research on "the impact of earnings management on bankruptcy prediction models" examined the impact of two types of earnings management, accruals and real activities manipulation, on bankruptcy prediction models. The study provided evidences that when potential accruals manipulation was measured, it allowed an improvement of bankrupt firms, while real activities measures, especially sales manipulation, enhanced the prediction improvement of non-bankrupt firms. Their finding suggests that failed firms were more likely to engage on accruals manipulation, while healthy firms do it on real activities manipulation. Nwidobie (2017) in studying "Altman's Z-Score Discriminant Analysis and Bankruptcy Assessment of Banks in Nigeria" aimed to determine the distress level subsisting in the bridge banks set up by the Central Bank of Nigeria in 2011 to take over the nationalized banks; and the 2011-classified unsound banks using the Altman's discriminant analysis model. Secondary data from four sampled classified distressed and unsound banks from the declared six for two years preceding their nationalization and two years after using the stratified sampling technique

were analyzed using the Altman Z-score discriminant analysis. Results showed that there were marginal improvements in the financial status of the sampled banks between 2010 - 2013 but they were still in a bankrupt position with Union Bank Plc, Wema Bank Plc, Keystone Bank Ltd and Mainstreet Bank Ltd having a Z-score of -0.56, 0.417, 1.5 and 0.45 respectively at 2013, all below the minimum threshold of 2.675 for classification of a bank as sound and non-bankrupt. Zhongling and Xiao (2017) provide evidence that managers downwardly manage earnings when ex-ante distress risk non-trivially increases. As distress risk increases, managers are under more monitoring by debt holders seeking surer payment. Therefore, managers tend to reverse previously accumulated positive earnings manipulation and shift to a harder-to-uncover real activities earnings management. Overall, they provided stronger evidence on the subject as well as clarified previous explanations through a larger sample and more selection bias robust design.

Arzu, Gloria and Mantovani (2017) studied Forecasting Bankruptcy: a European Analysis and analyzed the ability of Integrated Rating model to anticipate potential corporate crisis. They studied bankrupt companies of four European Countries (Czech Republic, Spain, Italy, France, Slovakia, and the United Kingdom). They found that Integrated Rating model can forecast bankruptcy (assessing a negative merit of credit judgment) with an accuracy that exceeds 75%. Moreover, they tested and determined that the merit of credit assessment is stable over time, and that, despite this, the banking system does not recognize when a company is not funded efficiently. Gusarova and Shevtsov (2017) studied the Association between Accounting Manipulations and Bankruptcy, likelihood analysis of 18 public companies from the United Kingdom. The results showed that there were no relations between the two phenomena. There was a negative correlation found between the likelihood of bankruptcy and the standard deviation. Since there was almost no effect of the beta on the Altman Z-score, the researchers concluded that the risk that causes the probability of insolvency was unsystematic and coming from the management of the company. Kanakriyah, Shanikat and Freihat (2017) studied "Exploitation of Earnings Management Concept to Influence the Quality of Accounting Information: Evidence from Jordan" and aimed to understand the nature impact of earnings management practice on the quality of accounting information in Jordan. The study used the quantitative technique to gather the data by using a questionnaire to understand the users' attitudes about earnings management practice in Jordan and how the practice influences the quality of accounting information. To discover the issue, the researchers documented several criteria to identify the concept of "earning management" and define the variables to measure it. The study states that all accounting information users believe that the earnings management practice was used by some companies in Jordan. Erdogan and Adalessossi (2017) analyzed the factors that may have an impact on the banking sector, particularly the ones which could be useful to predict the financial failure of banks. The study compared and contrasted the banking systems of Turkey and West African countries where the main actor in financial system occurs to be the banks. First, it was found that (equity + profit)/total assets, fixed assets/total assets, operating expenses/total assets, (personnel expenses + severance pay)/total assets ratios were effective in estimation of financial failure of banks in Turkey. Second, Net Period profit/Average equity and Interest income/Average earning assets ratio are effective in prediction of financial failure of banks in the West African Economic and Monetary Union. The study suggested that, to determine financial failure of banks, various financial ratios play a fairly consequential role for a variety of countries. Shabani and Sofian (2018) studied "Earnings Smoothing and Bankruptcy Risk in Liquidating Private Firms" using Altman Z" score to measure firm's specific bankruptcy risk, the study examined the association between accrual earnings smoothing and bankruptcy risk in liquidating private firms in UK and found that earnings smoothing significantly negatively affects those firms' bankruptcy risk. The finding implied that financially distressed firms engage with less earnings smoothing, possibly because they do not have the opportunity to engage in accrual earnings smoothing anymore. Nonetheless, further examination showed that those firms engage less with earnings smoothing because they were being monitored by external creditors, indicated by significantly high leverage during the last period before they are being liquidated. Egbunike and Igbinovia (2018) examined the impact of bankruptcy threats on the likelihood of earnings manipulation in Nigerian listed banks. Using Altman Z-score and Beneish M-score, the ex-post-facto research design within a panel framework was employed and binary regression models were used in testing the hypothesis of the study via E-view 8.0. The study period was 2011 - 2015. The result revealed that bankruptcy threat has no significant impact on the likelihood of an upward earnings manipulation in Nigerian listed banks. The implication is that manipulation of earnings in Nigerian banks is spurred significantly by other factors outside the threat of bankruptcy. By this, regulators and bank managements are to place less emphasis on the bankruptcy position of banks when probing into issues of earnings manipulation because banks manipulate earnings not just because of the threat of bankruptcy, as non-potentially bankrupt firms also engage in upward earnings manipulation. Hamid and Rohani (2018) studied "Predicting financial distress: Applicability of O-score model for Pakistani firms". The study applied the most admired financial distress prediction O-score model and compared its predictive accuracy with estimated logit model. The study estimated logit model by including the profitability ratios, liquidity ratios, leverage ratios, and cash flow ratios. The study filled the gap by using the cash flow ratios to predict financial distress for Pakistani listed firms. The sample for the estimation model consisted of 290 firms with 45 distressed and 245 healthy firms for the period 2006 - 2016 and covered all sectors of Pakistan Stock Exchange. The study provided important insights on the role of different financial ratio in predicting financial distress and showed that estimated logit model produces higher accuracy rate in predicting financial distress. Farouk and Isa (2018) carried out research on Earnings Management of Listed Deposit Money Banks (DMBs) in Nigeria: A Test of Chang, Shen and Fang (2008) Model. The study examined the effect of loan loss provision on earnings management of listed DMBs in Nigeria, using Chang, Shen and Fang (2008) model. Earnings management variables comprises loan loss provision, total assets, loan charge off and beginning balance of loan loss. The population of 15 listed DMBs in Nigeria as at 2015. Annual reports were used to obtain data and accounts of banks which covers the period from 2008-2015. Panel regression technique was adopted and Stata 13 was used as

tool of data analysis. The findings revealed that, all the variables (loan loss provision, total assets, loan charge off and beginning balance of loan loss) have significant effect on discretionary loan loss provision of the banks.

Below is the summary of the relevant literature reviewed in this work towards appreciating the gap that prompted the need for the research work.

It was also observed from the reviewed literature that none of the previous related studies from Nigerian extracts considered the interaction effect of some firm-specific characteristics (such as size and age) in the relationship between earnings management and bankruptcy risk. Considering the size of the bank and its age can determine both the level of earnings management as well as the likelihood of bankruptcy, it is considered important to explore their roles on how the earnings management drivers triggers bankruptcy risk. To the best of the researcher's knowledge, none of the previous studies have taken the above approach on studies related to earnings management and bankruptcy risk. The closest is Jacoby, Li and Liu (2017) who employed 'political-affiliation' as a moderator variable in examining the relation between corporate financial distress and earnings management in China and found that it weakens both associations. This study attempts to equally contribute to existing knowledge from the above stated dimension.

## 3. METHODOLOGY

### 3.1. Research Design

The study adopts *ex-post facto (*causal-comparative) research design. This is a research design that seeks to find relationships between independent and dependent variables after an action or event has already occurred. The researcher's goal is to determine whether the independent variables (that is earnings management) affected the dependent variable (bankruptcy risks) by comparing two or more groups of individuals using annual reports that recorded events that have already occurred. It is used in the study because of its suitability in the following ways: First, the study is quasi-experimental study which examines how a specified independent variable(s), affect(s) a dependent variable.

### 3.2. Population of the Study

The study consist of the entire fourteen (14) deposit money banks listed on the Nigerian Stock Exchange (NSE) between years 2006 – 2018 (13 years). Thus, the period of thirteen (13) financial years has been considered in order to capture a long-enough bankruptcy trends among the listed banks in the N25billion post-recapitalization era.

### 3.3. Sources of Data Collection

The study made use of secondary data obtained from published annual financial statements of the listed banks for a period of 13 financial years 2006 to 2018. Specifically, all the financial data were obtained from the library of the Nigerian Stock Exchange (NSE) as well as from www.nse.com.ng which is the official website of the NSE that contains the database of all company's annual reports in Nigeria.

### 3.4. Model Specification

The empirical analyses involve three (3) panel regression models in order to incorporate the two moderator variables in separate panel regressions, and also address the relationship between the selected earnings management incentives on bankruptcy risk in separate panel regression estimation. The dependent variable (bankruptcy risk) was proxied using the modified Altman Z-score model (2006) for predicting bankruptcy. The original Altman (1968) measure employed 5-weighted financial ratios and it only gauges the financial health of publically-listed firms in the US. Altman (1983, 1993) made several adjustments to the proxy including only four (4) factors so that it can be applied to firms in other contexts, while Altman (2006) further modified the coefficients of these four factors to adopt the model for emerging and developing markets called "The Emerging-Markets Score Model (EMS Model) which this study adopted.

Thus, the Altman's (2006) EMS model yields a bankruptcy measure (EMS score) that is a more appropriate measure for both manufacturing and financial publicly-held organizations in emerging economies and has been tested in over 20 countries with high accuracy and reliability in predicting bankruptcy (Li *et al*, 2011). The Z(EMS) score model is given as follows:

$Z(EM)" = 6.56*X_1 + 3.26*X_2 + 6.72*X_3 + 1.05*X_4 + 3.25$……..(1)**

Where:
$X_1$= Working Capital/Total Assets,
$X_2$= Retained Earnings/Total Assets,
$X_3$= Operating Income/Total Assets, and
$X_4$= Book Value of Equity/Total Liabilities.

**Firms with a higher Z(EM) score are perceived to be more financially healthy.

For ease of interpretation, a Z(EM) score below 1.1 indicates a bankrupt condition. The assumption is that the dependent variable, Z-score bankruptcy predictor, is a linear function of the independent variable.

$Z_1 = f$ (Earnings management)…….. (2)

Where;
$Z_1$ is the Bankruptcy risk (proxied using the modified Altman Z-score model of 2006); Earnings management (independent variable) will be classified into the four identified drivers including: income smoothing, managerial incentives (executive compensation), tax planning and debt covenant.

Accordingly, in line with the previous studies on bankruptcy, the study re-modifies the empirical model of Jacoby, Li & Liu (2017), and Veganzones and Severin (2016). The former tested the moderator effect of political affiliation on the relationship between financial distress and earnings management while controlling for size and age. The latter tested the impact of types of earnings management on bankruptcy prediction.

The adapted models are specified below:

**Model One:**

$Z\text{-SCORE} = \beta_0 + \beta_1 INS + \beta_2 EC + \beta_3 TP + \beta_4 DC + \varepsilon$……..(Equ 4)

For the possible moderator effect of 'bank size and age, the study creates the following two (2) additional models in line with the hierarchical moderation regression techniques:

**Model Two:**

$Z\text{-SCORE} = \beta_0 + \beta_1 DC + \beta_2 SIZ*INS*EC*TP*DC + \varepsilon$.....(Equ 5)

**Model Three:**

$Z\text{-SCORE} = \beta_0 + \beta_1 INS + \beta_2 EC + \beta_3 TP + \beta_4 DC + \beta_5 AGE*INS*EC*TP*DC + \varepsilon$.....(Equ 6)

Where:

$\beta_0$ = represents the constant

$\beta_1$, $\beta_2$ , .....and $\beta_5$= represents the parameters to be estimated

$\varepsilon$ = represents the error term.

Z-SCORE = represents Bankruptcy Risk (dependent variable) for the thirteen year period

DC=represents the debt covenant for the thirteen year period

SIZ =represents the bank size for the thirteen year period

AGE =represents the bank age for the thirteen year period

Our apriori expectations are as follows:

$B_1>0$, and $\beta_2> 0$,

Where:

$B_1>0$: implies that the study expects that increase in the debt covenant will likely lead to increases in bankruptcy risk.

$B_2>0$: implies that the study expects that bank size and age will moderate the joint relationship between the identified earnings management proxies and bankruptcy risk.

### 4.1. Univariate Analysis

**Table2: Descriptive Statistics**

| | Z_SCORE | DC | SIZ | AGE |
|---|---|---|---|---|
| Mean | 2.429852 | 0.949047 | 1571100225 | 30.07143 |
| Median | 2.069415 | 0.866380 | 1028005500 | 27.00000 |
| Maximum | 16.84797 | 7.992495 | 8223984226 | 58.00000 |
| Minimum | -2.37914 | 0.142118 | 52153878 | 16.00000 |
| Std. Dev. | 2.492597 | 0.610658 | 1637219052 | 10.80313 |
| Skewness | 2.719756 | 8.952718 | 1.627810 | 1.047457 |
| Kurtosis | 13.82242 | 99.56659 | 5.096202 | 3.086711 |
| Jarque-Bera | 1112.574 | 73146.64 | 113.6979 | 33.33770 |
| Probability | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| Sum | 442.2330 | 172.7266 | 2.86E+11 | 5473.000 |
| Sum Sq. Dev. | 1124.560 | 67.49557 | 4.85E+20 | 21124.07 |
| Observations | 182 | 182 | 182 | 182 |

**Source: Eviews 10 (2019)**

As observed from Table 4.1, the variable of debt-to-equity ratio (DC) has mean value of 0.949 implying that a large proportion of the sampled banks are highly leveraged. The average INS showed a negative value of -0.059 indicating that majority of the sampled banks engaged more in income-decreasing accrual management during the period covered by the study. The mean value of variable of TP stood at 0.1526 indicating that, on average, the sampled banks are highly tax aggressive with an average effective tax rate of 15.3%.

On the firm size (SIZ) of the banks, run using the total asset values, the result showed that the joint average total assets of the DMBs is ₦1,571,100,225 billion while the minimum and maximum values stood at ₦52,153,878 and ₦8,223,984,226 billion for the 13-year period covered. The variable of AGE gave a mean value of 30.07 implying that the average year of incorporation of the sampled banks is 30 years. The oldest bank among the log has been incorporated since 58 years ago while the youngest bank is just 16 years old, based on year of incorporation. It is also observable from the probability values of the Jargue Bera statistic that all the series are significantly lower than the 5% level, indicating departure from normality. This can be attributed to the usage of some of the variables in thier raw form (e.g. total assets, executive compensation and age) for the descriptive statistics; they were then transformed into their log forms prior to regression estimations.

### 3.5. Method of data Analysis

For the purpose of the empirical analyses, the study used both descriptive and inferential statistical techniques. The analyses were performed using EViews 10 econometric computer software. The descriptive analysis was conducted to obtain the sample characteristics and to observe the average bankruptcy level of the sampled banks. The panel multiple regression analysis was performed to test how the independent variables affect bankruptcy risk (proxied using Altman Z-score, 2006); while the Hausman test was conducted in model one to help chose between fixed and random effect estimation techniques, the Hierarchical Moderated Regression was deployed for models 2 and 3 due to the inclusion of the moderating variables in both models. Some conventional diagnostic tests such as Panel Model Test, normality, multicollinearity, heteroskedasticity, autocorrelation and model specification test were equally conducted to address some basic underlying regression analysis assumptions.

## 4. DATA PRESENTATION AND ANALYSES

The analyses involved the application of descriptive statistics, correlation matrix, panel data regression (for model one) and hierarchical moderated regressions (for models two and three). Model one represented the equation without the moderators; while model two and three have the moderating variables of size and age respectively. The outcome of the panel regression estimations were used to test the research hypotheses.

The entire results are presented in the following sub-sections:

### 4.2. Test of Hypotheses

In order to answer the research questions, the six (6) null hypotheses earlier formulated in the chapter one of this study were tested in this sub-section. The result of model one was used in testing Hypotheses One (Ho1), Two (Ho2), Three (Ho3) The probability (sig.) values obtained from the regression result were used for the hypotheses tests.

- **Decision Rule:**

The decision rule goes thus: the null hypothesis will be accepted if the probability value (p-value) is greater than 0.05 or when the calculated t-statistics is less than 2.0, or reversely we reject the null hypothesis if the probability (p-value) value is less than 0.05 and or the t-statistics is ≥ 2. The summary of the hypotheses results are shown in Table 4.8 below:

**Table3: Summary of Hypotheses Testing**

| | Hypotheses | Prediction | Actual Result | Decision |
|---|---|---|---|---|
| Ho1 | Debt covenant does not affect bankruptcy risk | Significantly positive | Negative – Insignificant (p-value=0.66) | Accept null |
| Ho2 | Bank size does not moderate earnings management incentives' effect on bankruptcy risk. | Significantly negative | Negative – Significant (p-value=0.048) | Reject null** |
| Ho3 | Bank age does not moderate earnings management incentives' effect on bankruptcy risk. | Significantly negative | Positive – Insignificant (p-value=0.903) | Accept null |

**Source: Researcher's compilation (2019)** ****.Statistically significant**

**Hypothesis One:** Debt Covenant has no significant effect on Bankruptcy Risk of listed Deposit Money Banks on NSE.
The result of this hypothesis in Model 1, Table 4.7 showed that the variable of debt covenant has negative coefficient sign and an insignificant probability value (-0.098035, p=0.6627>0.05). This means that Debt Covenant is not statistically significant on bankruptcy risk. Based on that, the study accepted the null hypothesis. The implication is that, increases in debt ratio (DC) have the tendency of causing a decreasing effect on bankruptcy risk, although not significantly.

**Hypothesis Two:** The effect of Earnings Management incentives on Bankruptcy Risk among listed Deposit Money Banks on NSE is not moderated by the bank size.

Our result of the hypothesis in Model 2, Table 4.7 regarding the moderating effect of firm size showed that firm size has a significant negative moderating effect on the relationship between the selected earnings management incentives and bankruptcy risk (-0.290418, p=0.0484<05). The study rejected the null hypothesis and accepted the alternative, that bank size moderates the effect of earnings management on bankruptcy risk. The implication of the interaction of firm size is that there is tendency that income smoothing, executive compensation, tax planning and debt covenant effects on bankruptcy risk are significantly reduced as the size of the firm increases.

**Hypothesis Three:** Bank Age does not moderate the effect of Earnings Management incentives on Bankruptcy Risk of listed Deposit Money Banks on NSE.

The result of the test in Model 3, Table 4.7 showed that firm age has no significant moderating effect on the earnings management (0.002059, p=0.9027>0.05). This shows that there is positive insignificant relationship between bank age moderator and earnings management. The study accepted the null hypothesis. The result implies that the joint effects of the explanatory variables, taken together, on bankruptcy risk cannot be altered irrespective of the age of the firm.

### 4.3. Discussion of Findings

From the first hypothesis, the results showed that the variable of debt covenant has negative coefficient sign and an insignificant probability value which lead to the acceptance of the null hypothesis (Ho1). What this portends is that firms with stiffer debt covenants or higher debt ratio have lower probability of bankruptcy risk. This did not conform to our apriori expectation that highly indebted firms are more likely to have higher bankruptcy risk. Our expectations conforms with the position of Nwude, Agbadua and Udeh (2016) that firms nearing debt covenant violations have greater likelihood of having a going-concern uncertainty, which represents an indication of firm financial difficulty. However, our result finds support with many empirical researches implying that debt violations seldom lead to liquidation or bankruptcy (that is, Dichev and Skinner 2002); instead, such violations commonly result in renegotiation or waiver by the lender (Nini, Smith & Sufi 2012). Desai, Foley and Hines (2003) also found that firms with high debt ratios enjoy debt tax shield benefit and get reduced corporate tax waivers. Thus, since high corporate tax rates may lead to greater corporate indebtedness which affects the earnings, there is possibility that firms entangled in high debt covenants may likely not experience insolvency; rather they become more disciplined to re-strategize and act more in the interests of shareholders (Berger & Di Patti, 2006). The recent study of Spyridopoulos (2018) which found that stricter debt covenants have positive and economically large effect on the borrowers' operating performance - also corroborates our findings. Possible reasons may include the contention that managers of low-indebted firms are inclined to spend free cash flows more freely, thus taking less effective projects and generating lower return.

Thus, there are limited long-term debts in many developing countries such as Nigeria owing to weak financial and legal institutions; as a result, creditors often use short term debt to monitor and discipline borrowers' behaviour (Nwude et al, 2016). Therefore, since firms that are heavily debt financed offer creditors less protection in the event of bankruptcy and harbour implicational costs on the management and the firm (in terms of firm value and reputation), the tendency for renegotiations and greater financial discipline by management becomes improbable as a way of reducing the risk of bankruptcy.

Our result on the second hypotheses regarding the moderating effects of bank size showed that firm size has a significant negative moderating effect on the relationship

between the selected earnings management incentives and bankruptcy risks. This led to the rejection of null hypothesis (Ho2). The implication of the outcome of the interaction of firm size is that the tendency that income smoothing, executive compensation, tax planning and debt covenant affects bankruptcy risk are significantly reduced as the size of the firm increases. The outcome aligns with our expectation. The study expected, in line with Akkaya and Uzar (2011), and Rose-Green and Lovata, (2013), that larger firms are more likely to reorganize even after being in the "alert zone" (that is, high risk of going bankrupt) and subsequently escaping liquidation, than smaller ones. This is because large and older firms have more access to debt financing than smaller and newer firms and that may be a source of recovery, even when the risk of bankruptcy appears inevitable. However, our empirical evidence supports our conjecture on firm size.

Even in practice, as regards the DMBs in Nigeria, since the CBN's bank recapitalisation of Nigerian banks in 2005 when they were 89 operational banks in Nigeria, till currently when they are just 14 operational deposit money banks, among the factors that are common to the banks that have survived all these turbulent years, is size and age. The outcome of most previous studies also supports this conjecture. Specifically, our result on firm size agrees with Situm (2014), Theodossiou et al (1996), Chava and Jarrow (2004) who also found that, firms' probabilities of bankruptcy are largely dependent on the size.

Our result on the third hypotheses regarding the moderating effects of firm age showed that the variable of firm age has no significant moderator effect on earnings management. This led to the acceptance of the null hypothesis (Ho3). The result implies that the joint effects of the explanatory variables, taken together, on bankruptcy risk cannot be altered irrespective of the age of the firm. However, our empirical evidence do not supports our conjecture on firm age. However, the non-significant moderating effect of firm age is at variance with Rianti and Yadiati (2018) and Succurro & Mannarino (2011) which showed that firm age is among the major 'non-financial' determinants of firm failure or success. It also negates the findings of Aleksanyan and Huiban (2014) which concluded that the incidence of exit (eventual bankruptcy) varies as a function of firm age.

## 5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of this research study and its major findings from where it drew its conclusions. It also presents the implication of the findings, the major contributions to knowledge and policy recommendations as well as possible avenues for future researches.

### 5.1. Summary of Findings

Based on the outcome of the empirical analyses in the previous chapter in relation to the specific research objectives, the major findings of the study can be summarized as follows:

A. That debt covenant has inverse significant effect on bankruptcy risk of listed DMBs in Nigeria, implying that degree of debt covenant violations does not strongly influences bankruptcy risk among Nigeria deposit money banks.
B. That firm size moderates the effect of earnings management incentives on bankruptcy risk, meaning that the behaviours of the earnings management incentives on bankruptcy risk among Nigerian DMBs significantly and largely depends on the size of the company
C. That firm age has no significant moderating effect on the nexus between the selected earnings management incentives and bankruptcy risk of listed DMBs in Nigeria.

### 5.2. Conclusion

The study empirically examined the effect of earnings management on bankruptcy risk of Nigerian listed DMBs for a period of thirteen (13) financial years. Four incentives for earnings management were selected as independent variables, against bankruptcy risk as dependent variable. Two other firm-specific attributes (size and age) were also drafted as moderating variables in an estimation covering 182 firm-year observations. The study employed the use of descriptive statistics, correlation analysis, and panel regression model for the estimations. The results showed that while debt covenant did not assert any significant effect on bankruptcy risk. Similarly, the interaction of firm size significantly moderates the joint relationships between the explanatory variables and the dependent variable of bankruptcy risk that of firm age appeared statistically insignificant when used in the same capacity.

Based on these outcomes, it can be concluded, therefore, that in terms of the effects of earnings management incentives on the bankruptcy risk of Nigerian listed deposit money banks, while the variables of debt covenant and income smoothing were insignificant and can be considered as not of crucial importance in the context of bankruptcy risk determinants among Nigerian banks.

### 5.3. Recommendations

Based on the findings, the study makes the following recommendations:

A. Even though higher debt contracting does not necessarily result to insolvency, management should ensure proper balancing of debt and equity in order to ensure a trade-off between risk and return to the shareholders.
B. As firm size moderates the effects of earnings management and it is determined by the total asset of a firm, management is therefore encouraged to always utilize firms' assets properly by also injecting surplus fund to assets so as to enable growth instead of spending on non-value maximizing things like cars and others.
C. As bank age has no significance effect on earnings management, the study recommends that both the old and newly incorporated banks management should strictly desist from practicing earnings management so as to avoid the disastrous end result, which is bankruptcy.

## REFERENCES

[1] Achleitner, A.K., Guenther, N., Kaserer, C. & Siciliano, G. (2014). Real earnings management and accrual-based earnings management in family firms. *The European Accounting Review, 23*(3), 431– 461.

[2] Adeyeye, P.O., Fajembola, O.D., Olopete, M.O. & Adedeji, D.B. (2012). Predicting bank failure in Nigeria using principal component analysis and D-Score Model.

*Research Journal of Finance and Accounting, 2*(3), 159-170.

[3] Agarwal, V. & Taffler, R. (2008). Comparing the performance of market-based and accounting based bankruptcy prediction models. *Journal of Banking and Finance, 32*(8), 1541-1551.

[4] Agrawal, K., Chatterjee, C. & Agrawal, K. (2015). Earnings management and financial distress: Evidence from India. *Global Business Review*, 16(5), 140-154.

[5] Ahmadpour, A. & Shahsavari, M. (2016). Earnings management and earnings quality impact on the future profitability of bankrupt companies in Tehran Stock Exchange, 2(41), 58-37.

[6] Ahmed, A., Mohammed, A.Y. & Adisa, A.O. (2014). Loan loss provision and earnings management in Nigerian deposit money banks. *Mediterranean Journal of Social Sciences*, *5*(17), 49-58.

[7] Akerlof, G.A. (1970). The market for "lemons": Quality uncertainty and the market mechanism. Quarterly Journal of Economics 84, 488-500.

[8] Akingunola, R.O. Olusegun B., & Adedipe, (2013). Corporate governance and banks performance in Nigeria (post bank consolidation). *European Journal of Business and Social Sciences,* 2(8)

[9] Akkaya, G.C. & Uzar, C. (2011). Data Mining in Financial Application. *Journal of Modern Accounting and Auditing*, 7(12), 1362-1367.

[10] Aleksanyan, L. & Huiban, J.P. (2016). Economic and Financial Determinants of Firm Bankruptcy: Evidence from the French Food Industry. *Review of Agricultural, Food and Environmental Studies,* 97: 89–108.

[11] Alexander, D., Britton, A. & Jorissen, A. (2011). International financial reporting and analysis. London: Thomson Learning.

[12] Allen, E.J., Larson, C.R. & Sloan, R.G. (2013). Accrual reversals, earnings and stock returns. *Journal of Accounting and Economics*, 56(1), 113-129.

[13] Altman, E.I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance, 23*(4), 589-609.

[14] Altman, E.I. (2000). Predicting financial distress of companies: Revisiting the Z-score and ZETA models, *Stern School of Business*, New York University, 9-12.

[15] Altman, E.I. (2006). Corporate financial distress and bankruptcy: predict and avoid bankruptcy, analyses and invest in distress debt (3rd Ed). New York: John Wiley and Sons.

[16] Altman, E.I., Danovi, A. & Falini, A. (2010). Z-score models application to Italian companies subject to extraordinary administration.

[17] Amadi, F.Y., Sullivan, G.R. & Franklin, M. (2014). On the variance of financial statement accounts and earnings management. *International review of management and business research, 3*(2), 1198-1219.

[18] Amendola, A., Restaino, M. & Sensini, L. (2013). Corporate financial distress and bankruptcy: a comparative analysis in France, Italy and Spain. *Journal of Accounting,* 2, 131-142.

[19] Amoa-Gyarteng, K. (2014). Analyzing a listed firm in Ghana for early warning signs of bankruptcy and financial statement fraud: An empirical investigation of AngloGold Ashanti. *European Journal of Business and Management*, 6(5)

[20] Anderson, S. & Twaddle, J. (2007). Pre–positioning for effective resolution of bank failures. *Journal of Financial Stability, 3*(4), 324–341.

[21] Ani, W.U. & Ugwunta, D.O. (2012). Predicting corporate business failure in the Nigerian manufacturing industry. *European Journal of Business and Management, 4*(10), 86-93.

[22] Argyrou, A. (2006). Predicting Financial Distress using Neural Networks, Another Episode to the Serial? (Unpublished Master's Thesis), The sweedish School of Economics and Business Administration, Helsinki.

[23] Arzu, D., Gloria, S.D. & Mantovani, G.M. (2017). Forecasting bankruptcy: An European Analysis. International University of Monaco; Ca`Foscar.

[24] Balcaen, S. & Ooghe, H. (2004). 35 years of studies on business failure: an overview of the classic statistical methodologies and their related problems. *Economic Papers and Finance, 21*, 1721- 1742

[25] Ball, R., & Shivakumar, L. (2005). Earnings Quality in UK Private Firms: Comparative Loss Recognition Timeliness, *Journal of Accounting and Economics,* 39(1), 83-128.

[26] Balsam, S., Bartov, E. & Marquardt, C. (2002). Accruals management, investor sophistication, and equity valuation: Evidence from 10-Q filings. *Journal of Accounting Research, 40*(4), 987–1012.

[27] Bartov, E. (1993). The timing of assets sales and earnings manipulation. *The Accounting Review*, *68*(4), 840-855.

[28] Bassiouny, S.W. (2016). The impact of firm characteristics on earnings management: An empirical study on the listed firms in Egypt, *The Business and Management Review, 7*(2), 91–101.

[29] Beaver, W.H. (1966). Financial ratios as predictors of failure. *Journal of accounting research, Empirical Research in Accounting: Selected Studies, 4*(6), 71-111.

[30] Bellovary, J.L., Giacomino, D.E. & Akers, M.D. (2007). A review of bankruptcy prediction studies: 1930 to present, *Journal of Financial Education*, 1-42.

[31] Bhaskar, L.S., & Krishnan, G.V. (2017). Debt covenant violations, firm financial distress, and auditor actions. *Spring Journal, 34*(1), 187-215.

[32] Biddle, G.C., Ma, M.L.Z. & Song, F.M. (2010). Accounting Conservatism and Bankruptcy Risk, University of Hong Kong

[33] Bisogno M. (2012). The Patterns of Insolvency Prediction. Theoretical profiles and Empirical Applications in the legal field, Franco Angeli.

[34] Bisogno, M. & De Luca, R. (2015). Financial Distress and Earnings Manipulation: Evidence from Italian SMEs, *Journal of Accounting and Finance* 4(1), 042-051.

[35] Brett, E.A. (2010). Participation and Accountability in Development Management. The *Journal of Development Studies,* 40(2).

[36] Bryan, D.S., Tiras, S.L. & Wheatley, C.L. (2002). The association of audit opinion, auditor change and accounting choice with bankruptcy emergence, State University of New York at Buffalo working paper.

[37] Campa, D. & Camacho-Miñano, M.M. (2015). The Impact of SME's Pre-Bankruptcy Financial Distress on Earnings Management Tools, *International Review of Financial Analysis,* 42, 222-234.

[38] Campa, D., Del Mar, M., & Miñano, C. (2014). Earnings management among bankrupt non-listed firms: Evidence from Spain. *Spanish Journal of Finance and Accounting, 43*(1), 3-20.

[39] Cenciarelli, V.G. (2018). Bankruptcy Prediction and Earnings Management, Being Research seminar at Universitätsplatz 1 - Piazza Università, 1, 39100 Bozen-Bolzano

[40] Charitou, A., Neophytos, L. & Lenos T. (2007). Managerial Discretion in Distressed Firms. *The British Accounting Review, 39*(4), 323–346.

[41] Chen, C., Kim, J.B. & Yao, L. (2017). Earnings Smoothing: Does it Exacerbate or Constrain Stock Price Crash Risk? *Journal of Corporate Finance*, 42, 36-54. http://doi.org/10.1016/j.jcorpfin.2016.11.004

[42] Chen, G., Firth, M., Gao, D., & Rui, O. (2006). Ownership Structure, Corporate Governance, and Fraud: Evidence from China. *Journal of Corporate Finance*, *12*, 424-448.

[43] Chen, S., Chen, X., Cheng, Q. & Shevlin, T.J. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics, 95*(1), 41–61.

[44] Chen, Y., Chen, C.H. & Huang, S.L. (2010). An appraisal of financially distressed companies' earnings management: Evidence from listed Companies in China. *Pacific Accounting Review, 22*(1), 22 - 41, https://doi.org/10.1108/01140581011034209

[45] Chung, K., Tan, S.S. & Holdsworth, D.K. (2008). Insolvency prediction model using multivariate Discriminate Analysis and artificial neural Network for the finance industry in New Zealand. *International Journal of Business and Management, 3*(1), 1-12.

[46] Cohen, D., Dey, A. & Lys, T. (2008). Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley period. *The Accounting Review*, *83*(3), 757–787.

[47] Coppens, L. & Peek, E. (2005). An analysis of earnings management by european private firms. *Journal of International Accounting, Auditing and Taxation,* 14(1), 1-17.

[48] Cornett, M.M., Marcus, A.J. & Tehranian, H. (2008). Corporate governance and pay-for-performance: The impact of earnings management. *Journal of Financial Economics, 87*(1), 357-373. Downloaded on March 28th 2018 from https://www2.bc.edu/~tehranih/Earnings%20management%20JFE.pdf.

[49] Cressy. R. (2006). Why do most firms die young? *Small Business Economics, 26,* 103 -116.

[50] Dabor, E.L., & Dabor, A.O. (2015). Audit committee characteristics, board characteristics and financial reporting quality in Nigeria. *International Journal of Economics, Commerce and Management, 3*(11), 1292-1304.

[51] Dastgir, M., Hoseinzadeh, A., Khodadi, V., & Vaez, A. (2012). Earnings quality in distressed companies. *Financial Accounting Research, 4*(1), 1-16.

[52] DeAngelo, H., DeAngelo, L., & Skinner, D. J. (1994). Accounting choice in troubled companies. *Journal of Accounting and Economics, 17*(1/2), 113-143.

[53] DeAngelo, L. (1981). Auditor size and audit quality. *Journal of Accounting and Economics, 3*(3), 183–99.

[54] Dechow, P.M. & Skinner, D.J. (2000). Earnings management: reconciling the views of accounting academics, practitioners, and regulators, *Accounting Horizons,* Volume 14, 235 - 250.

[55] Dechow, P.M., Sloan, R.G. & Sweeney, A.P. (1995). Detecting earnings management. *The Accounting Review,* 70(2), 193 - 225.

[56] DeFond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics, 17*(1-2), 145-76.

[57] Degeorge, F., Patel, J. & Zeckhauser, R., (1999), Detecting earning management to exceed thresholds. *Journal of Business*, 72(1), 1 – 33.

[58] Dibia, N.O., & Onwuchekwa, J.C. (2014). An examination of the audit report lag of companies quoted in the Nigeria Stock Exchange. *International Journal of Business and Social Research (IJBSR), 3*(9), 8-16.

[59] Dibra, R. (2016). Corporate governance failure: The Case of Enron and Parmalat. *European Scientific Journal, 12*(16), 283-290.

[60] Dichev, I., & Skinner, D.( 2002). Large-sample evidence on the debt covenant hypothesis. *Journal of Accounting Research*, 40(4), 1091-1123.

[61] Dichev, I., Graham, J., Harvey, C., & Rajgopal, S. (2013). Earnings quality: evidence from the field. *Journal of Accounting and Economics, 56*(2), 1-33.

[62] Durnev, A. (2010). The Real Effects of Political Uncertainty: Elections and Investment Sensitivity to Stock Prices, Working paper, http://dx.doi.org/10.2139/ssrn.1695382.

[63] Dutzi, A. & Rausch, B. (2016). " Earnings Management before Bankruptcy: A Review of the Literature ", *Journal of Accounting and Auditing: Research & Practice,* Vol. 2016(2016)

[64] Egbunike P.A. & Igbinovia, I.M. (2018).Threat of bankruptcy and earnings management in Nigerian listed Banks, *ActaUniversitatisDanubius,* 14(3).

[65] Egbunike, P.A., & Ibeanuka, C.B. (2015). Corporate bankruptcy predictions: Evidence from selected banks

in Nigeria. *Global Journal for Research Analysis, 4*(2), 17-23.

[66] Erdogan, E.O. & Adalessossi, K. (2017).Predicting bank failure: evidence from turkey and west african economic and monetary union (WAEMU), *International Journal of Social Sciences and Humanities Invention* 4(3), 3385-3393.

[67] Eriabie, S.O. & Dabor, E.L. (2017). Audit quality and Earnings Management in Quoted Nigerian Banks, 3 (1), 1-16.

[68] Ewert, R. & Wagenhofer, A. (2005). Economic effects of tightening accounting standards to restrict earnings management. *Accounting Review*, 80(4), 1101–1124.

[69] Farouk, M.A. & Isa, M.A. (2018). Earnings Management of listed Deposit Money Banks (DMBs) in Nigeria: A Test of Chang, Shen and Fang (2008) Model, *International Journal of Finance and Accounting,* 7(2), 49-55.

[70] Gaver, J.J., Gaver, K.M. & Austin, J.R. (1995). Additional evidence on bonus plans and income management, *Journal of accounting and Economics*, 19(1), 3-28.

[71] Gebreslassie, E. (2015). Determinants of financial distress conditions of commercial banks in Ethiopia: A case study of selected private commercial banks. *Journal of Poverty, Investment and Development, 13*(2), 59-73.

[72] Gerritsen, P. (2015). Accuracy rate of bankruptcy prediction models for the dutch professional football industry, Master thesis, University of Twente, the Netherlands.

[73] Glaum, M., Lichtblau, K. &Lindemann, J. (2004). The Extent of Earnings Management in the US and Germany, *Journal of International Accounting Research*, 3(2), 45-77

[74] Goncharov, I. & Zimmermann, J. (2006). Earnings management when incentives compete: the role of tax accounting in Russia, *Journal of International Accounting Research*, 5(1), 41-65.

[75] Gordon, M. J. (1971). Towards a theory of financial distress. In: *The Journal of Finance, 26(*2), 347-356.

[76] Graham, J.R., Harvey, C.R. & Rajgopal, S. (2005). The economic implications of corporate financial reporting, 40(1), 3-73.

[77] Grice, J.S. & Ingram, R.W. (2001).Tests of the Generalizability of Altman's Bankruptcy Prediction Model, *Journal of Business Research*, *54,* 53– 61.

[78] Guenther, D.A. (1994). Earnings management in response to corporate tax rate changes: Evidence from the 1986 tax reform act. *Accounting Review*, 29(1), 230-243.

[79] Gunay, E.N. & Ozkan, M. (2007). Prediction of Bank Failures in Emerging Financial Markets: an ANN Approach. *The Journal of Risk Finance*, 8(5), 465-480, https://doi.org/10.1108/15265940710834753

[80] Gunny, K.A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from Meeting Earnings Benchmarks, *Contemporary Accounting Research*, 27(3), 855888.

[81] Gusarova, M. & Shevtsov, Y. (2017). A study of association between accounting manipulations and bankruptcy likelihood analysis of 18 public companies from the United Kingdom, Bachelor's Degree thesis, JAMK University of Applied Sciences.

[82] Hamid, W. & Rohani, M. (2018). Predicting financial distress: Applicability of O-score model for Pakistani firms. *Business and Economic Horizons Prague Development Center*, 14(2), 389-401.

[83] Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics, 93*(4), 126–141.

[84] Hassanpour, S. & Ardakani, M.N. (2017). The effect of pre-bankruptcy financial distress on earnings management tools. *International Review of Management and Marketing, 7*(3), 213-219.

[85] Healy, P. & Wahlen, J. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, *13*(4), 365-383.

[86] Healy, P.M. (1985). The effect of Bonus Schemes on Accounting Decisions. *Journal of Accounting and Economics 7*, 85–107.

[87] Heitzman, S., & Ogneva, M. (2015). Corporate tax planning and stock returns. *University of Southern California – Marshall School of Business* October 30, 2015

[88] Hejazi, R., Mohammadi, S., Aslani, Z. & Aqajani, M. (2013). Examining earnings management prediction using neural networks and decision trees in firms listed in Tehran stock exchange, *19(*68), 1-15.

[89] Holthausen, R.W., Larcker, D.F. & Sloan, R.G. (1995). Annual bonus schemes and the manipulation of earnings. *Journal of accounting and economics*, 19(1), 29-74

[90] Howe, J.S., & Houston, R. (2016). Earnings management, earnings surprises, and distressed firms. *Accounting and Finance Research, 5*(1), 64-87.

[91] Hu, N., Cao, Q. & Zheng, L. (2015). Listed companies' income tax planning and earnings management: Based on China's capital market. *Journal of Industrial Engineering and Management*, *8*(2), 417-434.

[92] Ipino, E. & Parbonetti, A. (2011). Mandatory IFRS adoption: The Trade-off Between Accrual and Real-based Earnings Management, Working paper, Available at: http://dx.doi.org/10.2139/ssrn. 2039711 (Accessed 9 October 2015).

[93] Iwedi, M. (2017). Bank Failure in Nigeria: Evidence of Prudential Regulator Laxity, *Frontiers in Management Research* 1(4)

[94] Jacoby, G., Li, J. & Liu, M. (2017). Financial distress, political affiliation, and earnings management: The case of politically-affiliated private firms. Published article downloaded from: https://ssrn.com/abstract=2903816

[95] Jaggi, B. & Lee, P. (2002). Earnings Management Response to Debt Covenant Violations and Debt Restructuring. *Journal of Accounting, Auditing and Finance, 17*(4), 295-324.

[96] Jensen, M. & Meckling, W. (1976) Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics,* 3**,** 305-360.

[97] Jiang, J., Petroni, K.R. and Wang, I.Y. (2010). CFOs and CEOs: Who have the Most Influence on Earnings Management. Journal of Financial Economics, 96, 513-526.

[98] Joosten, C. (2012). Real earnings management and accrual-based earnings management as substitutes. Master thesis Department Accountancy Faculty of Economics and Business Studies Tilburg University.

[99] Kanakriyah, R., Shanikat, M.M. & Razaq, A.R. (2017). Exploitation of earnings management concept to influence the quality of accounting information: Evidence from Jordan. *Research Journal of Finance and Accounting, 8*(22), 1-12.

[100] Kangarzadehlouei, (2009). Relationship between Income Smoothing and Financial Distress of Companies in the Tehran Stock Exchange, PhD Thesis, Iran: Tehran University.

[101] Karami, G., Shahabinia, S. & Gholami, A. (2017). Investigating the Relationship between Real Earnings Management and Timely Gains and Losses Recognition in Tehran Stock Exchange, *Journal of Engineering Technology*, 6(2) 496-505

[102] Katz. S.P., Khan, U. & Schmidt, A. (2013). Tax Avoidance and Future Profitability. *Columbia Business School Research Paper* No. 13-10

[103] Kawor, S & Kportorgbi, H.K. (2014). Effect of tax planning on firms' market performance: evidence from listed firms in Ghana. *International Journal of Economics and Finance*, 6(3), 162 –168.

[104] Keung, E., Lin, Z.X. & Shih, M. (2010). Does the stock market see a zero or small positive earnings surprise as a red flag? *Journal of Accounting Research*, 48(1), 91-121

[105] Khaliq, A., Altarturi, B.H.M., Thaker, H.M.T.T., Harun, M.Y., & Nahar, N. (2014). Identifying financial distress firms: A Case Study of Malaysia's Government Linked Companies (GLC), *International Journal of Economics, Finance and Management* 3(3). http://www.ejournalofbusiness.org

[106] Khan, U.E. (2016). Bankruptcy Prediction for financial sector of Pakistan: Evaluation of logit and discriminant analysis approaches, *Pakistan Journal of Engineering Technology and Science* (PJETS), 6(2).

[107] Kihooto, E., Omagwa, J., Wachira, M. & Ronald, E. (2016). Financial distress in commercial and services companies listed at Nairobi Securities Exchange, Kenya. *European Journal of Business and Management, 8*(27), 96-89.

[108] Kolozsvari, A.C. & Macedo, M.A.S (2016). Analysis of the Influence of Income Smoothing over Earnings Persistence in the Brazilian Market. *Journal of International Accounting Research (JIAR)*, Brazil, 27(7), 306-319.

[109] Kothari, A.S.P., Shu, S. & Wysocki, P.D. (2012). Do Managers Withhold Bad News? *Journal of Accounting Research,* 47(1), 241-276. http://doi.org/10.1111/j.l475-679X.2008.00318.x

[110] Leuz, C., Nanda, D. & Wysocki, P.D. (2003). Earnings Management and Investor Protection: an International Comparison, *Journal of Financial Economics,* 69(3), 505-527.

[111] Li, F., Abeysekera, I., & Ma, S. (2011). Earnings management and the effect of earnings quality in relation to stress level and bankruptcy level of Chinese listed firms. *Corporate Ownership and Control, 9*(1), 366-391.

[112] Li, S. & Richie, N (2016). Income smoothing and the cost of debt. *China Journal of Accounting Research, 9*(3), 175-190.

[113] Lin, S., Radhakrishnan, S. & Su, L.N. (2006).Earnings management and guidance for meeting or beating analysts' earnings forecasts. Available at SSRN http://dx.doi.org/10.2139/ssrn.928182 (Accessed 9 October 2015).

[114] Lo, K. (2008). Earnings Management and Earnings Quality. *Journal of Accounting and Economics,* Vol. 45, pp. 350-357.

[115] Madumere, I. &Wokeh, P.I. (2015). Corporate Financial Distress and Organizational Performance: Causes, Effects and Possible Prevention, Paper Presentation at Department of Accounting & Finance Federal University, Otuoke, Bayelsa State. Electronic copy available at: http://ssrn.com/abstract=2670588

[116] Mashayekh, B., & Ganji, H.R. (2014), Effect of earnings quality on bankruptcy prediction using artificial neural network, financial accounting and auditing research. *Journal of Financial Accounting and Auditing,* 6(22), 147-173.

[117] Mattia, I. & Giuseppe, B. (2018). Analysis of the Risk of Bankruptcy of Tomato Processing Companies Operating in the Inter-Regional Inter-professional Organization. An Article from Department of Civil Engineering, Environment, Territory and Architecture (DICATeA), University of Parma, 43124 Parma, Italy. e-mail mattia.iotti@unipr.it

[118] McVay, S. (2006). Earnings Management using Classification Shifting: An Examination of Core Earnings and Special Items. *The Accounting Review*, 81(3), 501-531.

[119] Mikhail, M.B., Walther, B.R. & Willis, R.H. (1999). Does forecast accuracy matter to security analysts? *The Accounting Review*, 74(2), 185-200.

[120] Miles, M.B., & Huberman, A. M. (1994). Data management and analysis methods. Retrieved from https://uconnpublicspeaking.wikispaces.huberman+miles+1994+data+analysis.pdf

[121] Mohammadi, F., & Amini, P. (2016). Investigating the relationship between financial distress and earnings management in corporations of accepted in Tehran

Stock Exchange. *International Academic Journal of Accounting and Financial Management, 3*(6), 41-50.

[122] Mulyadi, M.S., & Anwar, Y. (2015). Corporate governance, earnings management and tax management. *Procedia - Social and Behavioral Sciences, 177*(5) 363 – 366.

[123] Muranda, Z. (2006). Financial Distress and Corporate Governance in Zimbabwean Banks. Corporate Governance: *The International Journal of Business in Society, 6*(5), 643-654, https://doi.org/10.1108/14720700610706126

[124] Myers, J.N., Myers, L.A., & Skinner, D.J. (2007).Earnings Momentum and Earnings Management, *Journal of Accounting, Auditing & Finance*, 22(2), 249-284.

[125] Nagar, N., & Sen, K. (2016). Earnings management strategies during financial distress. *Journal of Indian Institute of Management, 2*(3), 1-42.

[126] Namada, J.M., Aosa, E., Awino, Z., & Wainaina, G. (2014). Management participation and firm performance. *American Journal of Industrial and Business Management*, 4, 113-122.

[127] Nini, G., Smith, D.C., & Sufi, A. (2012). Creditor control rights, corporate governance, and firm value. *Review of Financial Studies, 25*(6), 17–61.

[128] Nwaobia, A.N., Kwarbai, J.D. and Ogundajo, G.O. (2016). Tax Planning and Firm Value: Empirical Evidence from Nigerian Consumer Goods Industrial Sector. *Research Journal of Finance and Accounting,* 7(12),

[129] Nwidobie, B.M. (2017). Altman's Z-score discriminant analysis and bankruptcy assessment of banks in Nigeria. *Covenant Journal of Business & Social Sciences (CJBSS), 8*(1), 1-15.

[130] Nwude, E.C., Itiri, I.O., Agbadua, B.O. & Udeh, S.N. (2016). The Impact of Debt Structure on Firm Performance: Empirical Evidence from Nigerian Quoted Firms. *Asian Economic and Financial Review*, 6(11), 647-660.

[131] Oforegbunam, T.E. (2011). Bencharking Incidence of Distress in the Nigeria banking industry on Altman Scale. *Serbian Journal of Management, 6*(2), 220-230.

[132] Ogundajo, G.O., & Onakoya, A.B. (2016). Tax planning and financial performance of Nigerian manufacturing companies. *International Journal of Advanced Academic Research, 2*(7), 64-80.

[133] Ohlson J. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research, 18,* 1, 109-131.

[134] Olaniyi, T.A. (2007). Predicting potential of failure in Nigerian Banking sector: A comparative analysis of First bank and Trade bank plc. *Babcock Journal of Management and social sciences, Babcock University, 6(*1), 64-73.

[135] Omoye, A.S., & Eriki, P.O. (2014). Corporate Governance Determinants of Earnings Management: Evidence from Nigerian Quoted Companies. *Mediterranean Journal of Social Sciences*, 5(23), 553-564.

[136] Outecheva, N. (2007). Corporate financial distress: An empirical analysis of distress risk. Dissertation of the University of St. Gallen Graduate School of Business Administration, Economics, Law and Social Sciences (HSG)

[137] Rahman, M., Moniruzzaman, M. & Sharif, J. (2013).Techniques, Motives and Controls of Earnings Management, 1(1) 22- 34.

[138] Rani, P., Hussain, F.F., & Chand, P.V. (2013). Managerial incentives for earnings management among listed firms: evidence from Fiji. *Global Journal of Business Research, 7*(1), 21-31.

[139] *Ratnaningrum, R (2016).* The Influence of Profitability and Income Tax on Income Smoothing Rankings. *Journal of Bisnis Manajemen, 17(2).*

[140] Rianti, I.P & Yadiati, W. (2018), How Financial Distress Influence by Firm Size. *International Journal of Scientific & Technology Research,* 7(1) 2277-8616

[141] Rosner, R.L. (2003), Earning manipulation in failing firms. Contemporary Accounting Research, 20(2), 361-408.

[142] Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics,* 42(3), 335–370.

[143] Ruiz, C.V. (2016). Literature review of earnings management: Who, why, when, how and what for? PhD Thesis in Business Administration, Complutense University of Madrid, Madrid, Spain, Cinvalle (at) ucm.es.

[144] Saeedi, A., Hamidian, N. & Rabie, H. (2011). The relationship between real earnings management activities and future performance of listed companies in Tehran stock exchange. *Journal of Management Accounting Research, XVII,* 45-58.

[145] Saidu, H., Ibrahim, O.O. & Muktar, J. (2017). The impact of earnings management on financial performance of listed deposit money banks in Nigeria.

[146] Saleh, N.M. & Ahmed, K. (2005). Earnings management of distressed firms during debt renegotiation.*Accounting and Business Researc*h, 35(1), 69-86.

[147] Scott, W.R. (2009). *Financial Accounting Theory.* Fifth ed. Prentice Hall, Upper Saddle River, New Jersey

[148] Selahudin, N.F., Zakaria, N.B., Sanusi, Z.M. & Budsarstragoon, P. (2014). Monitoring Financial Risk Ratios and Earnings Management Evidence from Malaysia and Thailand, *Procedia - Social and Behavioral Sciences,* Elsevier Ltd Mara Publishers Volume 145, Pp 51-60.

[149] Senbet, L.W. & Wang, T.Y. (2012). Corporate financial distress and bankruptcy: A Survey.

[150] Shabani, N.A. & Sofian, S. (2018). Earnings smoothing and bankruptcy risk in liquidating private firms. *Asian Journal of Finance & Accounting,* 10(1).

[151] Shuto, A. (2007). Executive compensation and earnings management: Empirical evidence from Japan. *Journal of International Accounting, Auditing and Taxation, 16*(1), 1-26.

[152] Sinkey, J.F., Joseph, V., Terza, R. & Dince, R. (2012). A ZETA analysis of failed commercial banks. *Quarterly Journal of Business and Economics*, 12, 35-49

[153] Situm, M. (2014). The Age and Size of the Firm as Relevant Predictors for Bankruptcy. *Journal of Applied Economics and Business, 2(1) 5-30*

[154] Smith, M., Kestel, J. & Robinson, P. (2001). Economic recession, corporate distress and income increasing accounting policy choice. *Accounting Forum, 25*(4), 335–352.

[155] Soderstrom, N.S. & Sun, K. J. (2007). IFRS adoption and accounting quality: A review. *European Accounting Review,* 16(4), 675-702.

[156] Soludo, C.C. (2009). 'Nigeria: Update on Banking Sector Reforms', Paper presented by the Governor of the Central Bank of Nigeria at the Conference on Consolidation of Nigeria's Banking Industry, *Journal Commonwealth Law Bulletin,* 35(4).

[157] Spence, M. (1973). Job market signaling; The Quarterly Journal of Economics 87(3), 355–374.

[158] Stigitz, J.E. (1975). The theory of 'screening,' education, and the distribution of income; The American Economic Review 65(3): 283–300.

[159] Succurro, M. & Mannarino, L. (2014). The Impact of Financial Structure on Firms" Probability of Bankruptcy: A Comparison across Western Europe Convergence Regions. *Eers Estudios Económicos Regionalesy Sectoriales*, 14(1), 81-94.

[160] Teoh, S.H., Welch, I. & Wong, T. J. (1998). Earnings Management and the Underperformance of Seasoned Equity Offerings, *Journal of Financial Economics*, 50(1), 63-99.

[161] Trueman, B. & Titman, S. (1988). An explanation for accounting income smoothing. *Journal of Accounting Research* 26: 127-139.

[162] Ucbasaran, D., Westhead, P., Wright, M. & Flores, M. (2010). The nature of entrepreneurial experience. business failure and comparative optimism. *Journal of Business Venturing, 25,* 541-555.

[163] Umobong, A.A. & Ogbonna, G.N, (2017). The Effect of Income Smoothing and Earnings Quality on Financial Performance of Firms. *International Journal of Business & Law Research* 5(1), 17-29

[164] Vander Bauwhede, H. & Willeken, M. (2000). Earnings Management and Institutional Differences Literature Review and Discussion, *TijdschriftvoorEconomie en Management*, XLV(2), 189-212. Retrieved from http://core.ac.uk/download/pdf/6468344.pdf (Accessed 9 October 2017)

[165] Veganzones, D. & Severin, E. (2016). The impact of earnings management on bankruptcy prediction models: An empirical research. Downloaded on October 17, 2017 from: https://ssrn.com/abstract=2980144

[166] Verleun, M., Georgakopoulos, G., Sotiropoulos, I. & Vasileiou, K. Z. (2011). The Sarbanes-Oxley Act and Accounting Quality: A Comprehensive Examination. *International Journal of Economics and Finance, 3*(5), 49-64.

[167] Viacheslav, M. (2014). Determinants of firms' bankruptcy: the case of Ukraine. An MA in Economic Analysis thesis submitted to Kyiv School of Economics, Kiev, Ukraine. Downloaded from www.kse.org.ua/download.php?downloadid=404

[168] Wang, Y. & Campbell, M. (2010). Business failure prediction for publicity listed companies in China. *Journal of Business and Management, 16*(1), 22-31.

[169] Watts, R.L. & Zimmermann, J.L. (1986).*Positive Accounting Theory,* PrenticeHall, Englewood Cliffs, NJ.

[170] Whitaker, R (1999). The early stages of financial distress. *Journal of Economics and Finance. 23*(2), 123-133.

[171] Wurim, B.P. (2016). Discriminant analysis and the prediction of corporate bankruptcy in the banking sector of Nigeria. *International Journal of Finance and Accounting, 2*(6), 319-325.

[172] Yang, L., Rahman, A. & Bradbury, M. (2015). The trade-off between real earnings management and accruals management. Working paper downloaded on 16 October 2017 from: http://www.sciencedirect.com/science/article/pii/S1061951817300162

[173] Yauri, N.M., Musa, J. & Kaoje, N.A. (2012) Bank Recapitalisation in Nigeria: Resuscitating Liquidity or Forestalling Distress? *International Journal of Business and Social Science, 3(10).*

[174] Yongli, L. & Dave, J. (2012). Executive Compensation, Ownership Structure and Firm Performance in Chinese Financial Corporations. *Global Business and Finance Review,* 17 (1), 56-74.

[175] Yusuf, I. & Abubakur, Z. (2017). Executive compensations and earnings management in deposit money banks in Nigeria. *Journal of Management Sciences, 15*(1), 91-102.

[176] Zang, A.Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *Accounting Review,* 87(2), 675-703

[177] Zarnegar, Z. & Hamidian, M. (2016). Examining the relationship between profitability, financial leverage and income smoothing at firms listed on Tehran Stock Exchange. *Iranian of Journal Business and Economics*, 3(3), 80-83.

[178] Zeytinoglu, E. & Akarim, Y.D. (2013). Financial Failure predictions using financial ratios: Empirical application on Istanbul stock exchange. *Journal of Applied Finance and Banking, 3*(3), 125-134.

[179] Zhongling, Q. & Xiao, R. (2017). Distress risk and earnings management (First version), University of Georgia, Athens GA 30602 USA.

[180] Zhu, L.H. & Su, Z. (2002). Earnings management in small and medium sized firms. *China Economic and Trade Herald*, 18(4), 12-22.