Threat of Bankruptcy and Earnings Management in Nigerian Listed Banks

Patrick Amaechi Egbunike[1], Ikponmwosa Michael Igbinovia[2]

Abstract: The study examines the impact of bankruptcy threats on the likelihood of earnings manipulation in Nigerian listed banks. There is robust empirical evidence on the relationship between bankruptcy threat and earnings management in other countries while scanty evidence exists in Nigeria, hence this study was carried out in order to see if such results obtainable in other countries may hold in Nigeria. Using Altman Z-score and Beneish M-score, the expost-facto research design within a panel framework was employed and binary regression models were used in testing the hypothesis of the study via Eview 8.0. The study period is 2011-2015. The result reveals that bankruptcy threat has no significant impact on the likelihood of an upward earnings manipulation in Nigeria 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. Using the Altman Z-score and Beneish M-score, the study contributes to literature on the relationship between bankruptcy threat and earnings manipulation and submit that non-potentially bankrupt firms involve in upward earnings manipulation.

Keywords: Altman Z-Score; Beneish M-Score; Upward Earnings Manipulation; Insolvency; Fraud

JEL Classification: G33; G21; E50

1. Introduction

The prevalence of bankruptcy and corporate fraud is becoming alarming and earnings manipulation poses serious challenges to stakeholders in recent times. This has led to the Association of Certified Fraud Examiners (ACFE) assertion that financial statement fraud is an intentional misrepresentation of the financial information of an enterprise carried out through the intentional misstatement or a

[1] PhD, Department of Accountancy, Nnamdi Azikiwe University, Awka, Nigeria, Address: Along Enugu-Onitsha Expressway, 420110, Ifite Awka, Nigeria, Tel.: +234 708 161 0453, E-mail: amaechiegbunike@yahoo.com.

[2] Department of Accounting, Edo University Iyamho, Nigeria, Address: Km 7, Auchi-Abuja Road, Iyamho-Uzairue Edo State, Nigeria, Tel: +2347055043451, Corresponding author: ikponmwosa.igbinovia@edouniversity.edu.ng; igbinoviadbest@gmail.com.

material omission of amounts or disclosure in the financial statements to convey a false and misleading message to users of the financial statements. Determining the existence of fraud in organizations could be very cumbersome. The Beneish model uses financial ratios resulting into eight variables to identify chances that a company has manipulated its earnings in financial statements. The Beneish model as attested to by Warshavsky (2012) is similar to the Altman model only that it does not predict bankruptcy. It is a model that seeks to unearth financial statement fraud. Firms that return a high Beneish are potential manipulators of their financial statements. (Beneish, 1997; 1999; 2012)

Could the threat of bankruptcy pressurize firms to resort to financial window dressing, bringing about misrepresentation of corporate financial information? Franceschetti and Koschtial (Undated) in an attempt to provide empirical evidence on the correlation between insolvency and fraud, conclude that no direct correlation exist between earnings manipulation and the threat of bankruptcy. Could financial distress provide motivation for earnings manipulation? Some empirical evidences have suggested that bankrupt companies manipulate results more than healthy firms. (Rosner, 2003; Garcia Lara, García Osma & Mora, 2005; Campa & Camacho-Miñano, 2014) According to Deloite (2008), fraud and bankruptcy are seen to be bedfellows. Bankrupt companies, or firms close to it, are more likely to engage in corporate fraud including financial statement fraud. Specifically, bankrupt companies are 300% more likely than healthy companies to engage in earnings fraud. In the same vein, companies charged with fraud are more likely to file for bankruptcy. (Deloitte, 2008)

To verify this assertion, Amoa-Gyarteng (2014) examines Anglogold ashanti, a listed firm in Ghana with a view to verifying early warning indicators of bankruptcy and its effect on financial statement manipulations. His findings provided no evidence of such relationship but posits that bankruptcy could not be clearly established just as there was no likelihood of earnings manipulation in the firm. Though his position was consistent with theory that potentially bankrupt firms manipulate earnings more than potentially non-bankrupt firms, there is need to examine various firms in a particular industry to ascertain whether evidences from developing nations are in tandem with other researches in developed economies. The fall of Enron, Worldcom and others have spurred researches on earnings manipulation and bankruptcy in developed countries. In years preceding bankruptcy, there are pressures and/or incentives for upwards earnings management to avoid bankruptcy by hiding poor performance.

It is against this backdrop, in addition to the paucity of such researches in developing economies, especially in Nigeria, that this study is carried out. This informed the following research question: *To what extent does bankruptcy threat impacts on the likelihood of an upward earnings manipulation in Nigerian listed banks?*

Hypothesis of the Study

H_{01}: Bankruptcy threat and has no significant impact on the likelihood of an upward earnings manipulation in Nigerian listed banks

2. Review of Related Literature

2.1. Earnings Management

Over time, attempts have been made by various scholars in defining earnings management. Davidson, Stickney and Weil (1987) view it as "the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings". For Schipper (1989), it is "a well-conceived intervention in the external financial reporting process, with motives for private gain" or "occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to give stakeholders a misleading view of the economic position and performance of the company. For Healy and Wahlen (1999), earnings management is directed at influencing contractual outcomes that are based on reported accounting numbers." The first definition emphasizes earnings management, consisting of manipulations involving accounting methods and classificatory choices. (Beattie, Brown, Ewers, Brian, Manson, Thomas & Turner, 1994) Commenting on the last two definitions, Dechow and Skinner (2000) opine that despite the wide acceptance, difficulties usually exist in the direct measurement centered on reported accounting numbers, since they are rooted in managerial intent, which is difficult to observe.

Giroux (2003) asserts that earnings management involves the manipulation of earnings by the use of operating and discretionary accounting methods in arriving at a desired outcome. According to the Public Company Accounting Oversight Board (2000), earnings management "covers a wide range of legal and illegal management actions affecting the earnings and financial position of an entity. For Beneish, earnings manipulation occur when the management of a company contravenes the Generally Accepted Accounting Principles (GAAP) to present a favorable financial position and performance of the company". (Beneish, 1999) Such manipulations could be prompted by the level of checks on the Chief Executives which determines management liberty on reporting. (Dechow, Sloan & Sweeney, 1996)

In the words of Giroux (2003), earnings manipulation is an aggressive approach to earnings management involving "the utilizing of earnings management opportunities to misstate corporate performance in the interest of managers". Nevertheless, fraud has a much broader meaning than the violation of GAAPs. In this study, fraud and earnings manipulation, as part of earnings management practices, are used

interchangeably to mean the same thing since both involve the intent to give a false position of things.

2.2. Threat of Bankruptcy

Financially distressed firms are usually linked with the problem of illiquidity requiring prompt intervention through the injection of funds so as to facilitate the process of resolving its financial challenges. The distressed firm as a matter of necessity needs cash sufficient to meet its obligations to employees, creditors, suppliers, and other stakeholders and also finance some projects having positive net present value. However, the ability to attract new funds is key to the future and survival of the ailing firm. For a distressed firm, there is usually difficulty in obtaining additional funding due to the fear usually nursed by lenders on the risk associated with lending to an ailing firm and the associated "debt overhang". (Myers, 1977) Potential lenders usually carry out an analyses of financial statement to be sure their resources are going into safe hands. As a way out of this quagmire, firms may resort to financial window dressing, bringing about manipulations and calling those things forth that be not, as though they were.

2.3. Theoretical Foundation

Beneish Model

This study relies greatly on models in Beneish (1997, 1999) which provided the basis for estimating the likelihood of earnings manipulation. In order to detect earnings manipulators, Beneish selected some firms that are charged with or have admitted to manipulation, with the aim of developing a model that distinguishes them from non-manipulators. This model derived from financial statement, comprises of eight ratios that capture either financial statement distortions that are aftermaths of earnings manipulation or that are indicators of susceptibility to earnings manipulation. The predictive ratios focusing on financial statement distortions capture outrageous accumulations in receivables, unecessary capitalization of expense and declines in depreciation and the extent to which reported accounting profits are at tandem with cash position (Accruals).

These predictive ratios that are indicators of earnings manipulation, take cognizance of the deteriorating gross margins as well as the increasing administration costs. They also capture the increasing growth in sales associated with younger firms who have greater incentives to manipulate earnings so as to raise capital, and increase their use of debt (leverage), which are platforms favoring earnings manipulation. (Beneish & Nichols, 2007)

The M-Score has a character of probability. A higher M-Score implies higher likelihood of manipulation. The model makes a comparison between current year and prior year. M-score models can be used as an early indication (red flags) for

detecting financial fraud. (Tarjo, 2015) Eight different ratios makes up the M-score and are stated as follows:

Days' Sales in Receivables Index (DSI) = A measure of the ratio of days' sales in receivables in relation to the preceding year, and its used to indicate revenue inflation.

Gross Margin Index (GI) = A measure of the changes in gross margin from prior year. Asset Quality Index (AI) = A measure of the ratio of non-current assets other than plant, property and equipment to total assets. It measures asset quality in relation to prior year.

Sales Growth Index (SI) = A measure of the change in sales revenue from prior year. Although sales growth ordinary is not a measure of earnings, there are high likelihood that growth companies are under pressure to manipulate earnings so as to sustain the trend in sales growth.

Depreciation Index (DI) = A measure of the changes in the rate of depreciation from prior year.

Sales, General and Administrative expenses Index (SGI) = A measure of the ratio of Sales, General and administrative expenses to the preceding year. This is because, it is believed that financial analysts are likely to interpret a non-proportionate increase in turnover as a pointer to a poor future prospects.

Leverage Index (LI) = A measure of total debt to total assets versus prior year. It capture the motivation debt covenants provide for earnings manipulation.

Total Accruals to Total Assets (TAI) = A measure of managers' ability to alter earnings using discretionary accounting choices. In computing Total accruals, depreciation is subtracted from the change in working capital other than cash.

The eight measures are assigned weight and integrated in the formula below:

$$M = -4.84 + 0.92*DSI + 0.528*GI + 0.404*AI + 0.892*SI + 0.115*DI – 0.172*SGI + 4.679*TAI – 0.327*LI$$

Altman Model: **Multiple Discriminant Analysis**

In an attempt to assess the financial health and predict bankruptcy among firms, Altman (1968) initiated a multivariate Z-score. Over the years, it has gained much relevance as a diagnostic model for forecasting corporate distress. In the words of Altman (2000), Multiple Discriminant Analysis involve the use of statistical technique in classifying an observation into one or several apriori groupings which are dependent upon certain individual characteristics of the object being observed. It is of importance in predicting a phenomenon when the dependent variable is qualitative in nature e.g. healthy or unhealthy, bankrupt or non-bankrupt. The

analysis under multivariate method is transformed into one simplest dimension, the discriminating function of the firm.

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). The Z score comprises of X1, X2, X3, X4 and X5 representing current assets/current liabilities, working capital/total assets, retained earning/total assets, earning before interest and tax/total assets, market value of equity/total liabilities and sales/total assets respectively.

Working Capital to Total Asset **Ratio: a** measure of the net current assets (i.e. current assets less current liabilities) of a company in relation to its total Assets.

Retained Earnings to Total Assets ratio: a measure of the cumulative profitability over time of a company. For an infant company, an adverse RA/TA ratio will emerge since it has no cumulative earnings overtime.

Earnings before Interest and Tax to Total Assets ratio*: a* measure of the true productivity of the company's assets.

Market Value of Equity to Total Liabilities ratio reveals the extent to which a firm's equity can reduce in value before the liabilities exceed the assets and the company becomes insolvent. Equity is a combination of market value of preference and common shares.

Ratio Gross Earning to Total Assets: a measure of the firm's assets utilization. It measures the ability of management in handling competitive conditions.

The study measures the likelihood of bankruptcy in Nigeria listed banks using the Altman's financial ratios.

Below is the standard Z score model which has been proven effective over the years in different countries.

$Z= 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 0.999X5$

Where,

X1= Working Capital to Total Assets.

X2= Retained Earning to Total Assets.

X3= Earnings Before Interest and Tax to Total Assets.

X4= Market Value of Equity to Book Value of Total Liabilities.

X5= Gross Earning to Total Assets.

Z= Overall Index.

Altman advocated for the calculation of variables X1 to X4 as absolute percentage values e.g. the bank whose net current assets to current liabilities (X1) is 15% should be included as 15.0% and not 0.15. According to him, variable X5 should be expressed in a unit form that is a gross earnings to assets ratio of 300% should be stated as 3.0. The model provide categorization for the sampled firm (s) in three groups in terms of their calculated Z-score relation and financial performance.

Table 1. Groups, Z-score Value and Interpretations

Groups	Z-score value	Interpretation
I	Below 1.80	Poor Performance and high threat of Bankruptcy
II	1.80 – 3.00	good Performance but low threat of Bankruptcy
III	Above 3.00	Very Viable and Sound Performance with no threat of Bankruptcy

2.4. Some Prior Studies

Ahmadpour and Shahsavari (2008) 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. Four separate accounting-based earnings attributes were used in operationalizing Earnings quality. Also, the future profitability of firms was measured using future change of earnings, future cash flow from operations as well as future non-discretionary earnings. 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 are inclined to opportunistic earnings management than the non-bankrupt who choose efficient earnings management. However, they find earnings management having a better predictive power for future profitability than earnings quality.

Amoa-Gyarteng (2014) investigating Anglogold ashanti, 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. Relying on the Beneish model, it was discovered that the company was not engaged in financial statement fraud during the period under focus. The study could not be established bankruptcy threat and evidences reveal that the probability of earnings manipulation in the firm was low Bassiouny, Soliman, and Ragab, (2016) assess the impact of firm characteristics on earnings management in Egypt listed firms using fifty of the very active firms in the Egyptian stock exchange. The analysis is done using the financial statements from the disclosure book for the period 2007-2011. A random effect generalized least square regression model within the framework of STATA was

adopted. They found a significant positive relationship between firms' financial leverage and earnings management while other variables of the firm characteristics which are firm size, firm age and firms' audit quality have an insignificant relationship with earnings management.

Hassanpour and Ardakani (2017) investigate pre-bankruptcy financial distress as a determinant of the choice of earnings management tools using a sample of 133 listed companies in Tehran stock exchange for the period 2010-2014. The independent variable, pre-bankruptcy was measured in line with the criteria of Staw et al. (1983) and considered the dependent variable, earnings management tools which consist of real activity manipulation and accrual manipulation. Research hypotheses were tested using the independent t-test within the framework of the econometric software, E-views 9.0. Their results reveal a significant positive relationship, existing between pre-bankruptcy financial distress and earnings management tool.

Franceschetti and Koschtial (Undated) sought to investigate the relationship discovered by Deloitte and to empirically verify Deloitte's stated thesis that companies facing a potential insolvency are likely to act fraudulently three times more than highly solvent firms. The inability of their results to confirm the assertion, led to the rejection of Deloitte's thesis. While attempting to fill the gap with an empirical evidence on the relationship between insolvency and fraud, the study adopts the Beneish's approach on a sample of 30 bankrupt and 30 non-bankrupt Small and Medium-sized enterprises. Their results are at tandem with prior researches supporting income decreasing earnings behavior of firms approaching bankruptcy.

Campa et al. (2014) carried out an investigation of the effect financial hardship prior to bankruptcy has on earnings manipulation platforms in small and medium enterprises. They sought to ascertain the extent to which the stress of financial hardship determines whether a firm uses real activity or accruals in earnings manipulation. The outcome of their analyses shows that a manager under pressure in terms of bankruptcy threat, prepare earnings management using real benefit activities rather than accrual.

Kangarzadehlouei (2009) focusing on the Tehran stock exchange, looks at the link between income smoothing and financial distress. The study covers a sample of 81 member firms listed in the Tehran stock exchange for a 10-year period covering 1997 to 2006. Adopting the Altman model as a tool to predicting the likelihood of financial distress, his result indicates that managers get involve in income smoothing to beautify their company's financial performance and position, without regard to their stages of financial distress so as to maximize the firm's position in the capital market, using available tools at their control.

3. Methodology

To examine the causal-effect relationship between the dependent variable and independent variables and to test the formulated hypotheses, three binary regression estimates were conducted; logit, probit and gompit. This is in addition to descriptive statistics and correlation analyses carried out. An expost-facto research design within a panel framework is adopted in the study. Though the population of the study includes all listed deposit money banks in Nigeria, the study is based on 14 Deposit Money Banks quoted on the floor of Nigerian Stock Exchange for the period 2011-2015.

Model Specification

The study modifies Mohsen and Zadollah (2015) model which states that:

$$AAit = \beta 0+\beta 1\ OCit+\beta 2\ BSitt +\beta 3\ CEOit +\acute{\varepsilon}t \quad (1)$$

Where:

AAit: Earnings Management (Discretionary accruals) (the

dependent variable)

OCit: Institutional ownership i at time t (independent variable)

BSit: Percent share ownership in the Company i t (independent variable)

CEOit: Percent of the members' corporate executives outside i in period t (independent variable)

The study therefore modifies the model as follows:

$$M\text{-}SCOREit = \beta 0+ \beta 1\ Z\text{-}score\ it + \beta 2\ FMSit + \beta 3\ FMAit + \beta 4\ FPERFit+ \acute{\varepsilon}t \quad (2)$$

Where:

M-SCORE: Beneish M-Score, a proxy for earnings management (Dependent variable)

Z-score: Threat of bankruptcy (Independent variable)

FMS: Firm size (Control variable)

FMA: Firm age (Control variable)

FMPERF: Firm performance (Control variable)

Measurement of Variables

Earnings management as the dependent variable is measured using the Beneish M-Score. If M-Score is less than -2.22, the company is unlikely (low probability for earnings manipulation) to be a manipulator (represented by 0). If M-Score is greater

than -2.22, the company is likely (high probability for earnings manipulation) to be a manipulator. (represented by 1) (Beneish, 1999)

Threat of Bankruptcy is measured by the Z-score. The higher the Z score, the lesser the threat of bankruptcy and the lower the Z score, the higher the threat of bankruptcy

Firm size is measured by the Log of Total Assets;

Firm age is measured by the Number of listing years;

Firm performance is measured by the Annual stock price returns.

4. Presentation and Analyses of Result

In this section, we present the data collected, analyse and interpret them. Consequently, it involves the use of both mathematical and statistical methods to provide the basis for accepting or rejecting the research hypotheses raised at the beginning of the study. It therefore provide the basis for our recommendations and conclusions which are responses to the findings made. Models specified in the previous chapter are examined empirically. It involves conducting the preliminary analysis of the data comprising of descriptive and correlation analysis and thereafter, the regression analysis is conducted.

Table 2. Descriptive Statistics

	EMSCORE	ZSCORE	FMS	FMA	ASRT
Mean	0.460317	0.466508	3.813968	22.95238	1.043175
S.D	0.502426	0.201111	0.315286	15.27958	52.97322
Max	1.000000	1.350000	4.420000	47.00000	152.3800
Min	0.000000	-0.050000	3.140000	7.000000	-72.11000
Jarque-Bera	10.50169	88.65772	1.441275	8.448587	10.64000
JB-State Prob	0.005243	0.000000	0.486442	0.014636	0.004893
Observations	63	63	63	63	63

EMSCORE= Earnings Management Score; ZSCORE= Altman Z Score; FMS= Firm size; FMA= Firm Age; ASRT= Firm performance measured by annual stock price

Table 2 shows the descriptive statistics for the variables. As observed, earnings management score has the following statistics Mean= 0.460 which indicates that the average earnings management score is about 0.460. STD= 0.502, with maximum and minimum values of 1 and 0 respectively. ZSCORE; Mean= 0.467, STD= 0.201, with maximum and minimum values of 1.35 and -0.050 respectively. FMS shows the following statistics; Mean= 3.813, STD= 0.315, with maximum and minimum values of 4.42 and 3.14 respectively. FMA ; Mean= 22.952, STD = 15.280, with maximum and minimum values of 47.00 and 7.00 respectively. Finally, ASRT; Mean= 1.043,

STD= 52.973, with maximum and minimum values of 152.38 and -72.11 respectively.

Table 3. Pearson Correlation Result

Covariance Analysis: Ordinary; Sample: 165					
Included observations: 63;					
Correlation					
t-Statistic					
EMSCORE	EMSCORE	ZSCORE	FMS	FMA	ASRT
	1.000000				

ZSCORE					
	0.191752	1.000000			
	1.525950	-----			
FMS					
	0.080939	0.280361	1.000000		
	0.634232	2.281179	-----		
FMA					
	-0.282834	-0.001682	0.221648	1.000000	
	-2.303037	-0.013138	1.775282	-----	
ASRT					
	0.179675	0.129313	-0.019076	0.041784	1.000000
	1.426518	1.018516	-0.149015	0.326629	-----

From table 3 above, the correlation coefficients of the variables are examined. However of particular interest to the study are the correlation between; earnings management score and the explanatory variables. Earnings Management Score is positively correlated with ZSCORE [r=0.192], FMS [r=0.081] and ASRT [r= 0.180] while negatively correlated with FMA [r= -0.282].

Binary regression

To examine the causal-effect relationship between the dependent variable and independent variables and to test the formulated hypotheses, the binary regression analysis is used since correlation cannot reveal how the independent variables affect the probability of firms engage in earnings management. Three binary regression estimates are conducted; logit, probit and gompit and the results are presented in the table below;

Table 4. Binary regression results

	Model 1 (Binary Logit)	Model 2 (Binary Probit)	Model 3 (Binary Gompit)
C	-3.581 {-0.973} (0.331)	-2.219 {-0.997} (0.319)	-2.564 {-1.016} (0.310)
ZSCORE	1.597 {1.051} (0.293)	0.945 {1.090} (0.276)	1.576 {1.280} (0.201)
FMS	0.980 {0.966} (0.334)	0.612 {0.100} (0.320)	0.735 {1.082} (0.280)
FMA	-0.049 {-2.417} (0.016)*	-0.030 {-2.534} (0.011)*	-0.031 {-2.484} (0.013)*
ASRT	0.008 {1.490} (0.136)	0.005 {1.504} (0.132)	0.006 {1.503} (0.133)
McFadden R-Squared LR Statistics Log Likelihood (LL) Probability distribution N Obs with Dep = 0 Obs with Dep = 1	0.123 10.733(0.030)* -38.103 Logistic 63 34 29	0.124 10.821(0.029)* -38.059 Normal 63 34 29	0.132 11.462(0.022)* -139.110 Gev 63 34 29

Note: (1) Parentheses { } are Z-statistic; (2)Parentheses ( ) are P-values; (3) *5% level of significance

The study adopts the three widely used models of binary regression which are the Logit, Probit and Gompit models. The distinguishable quality of these models is the type of probability distribution they assume. For the Logistic binary regression model, a cumulative logistic probability distribution is assumed. The binary Probit model has a cumulative normal distribution property while the Gompit binary regression follows a generalized extreme value distribution. Unlike the probit and logit regressions which apply a symmetric link function so that the response curve approaches zero as the same rate it approaches one, the Gompit regression on the other hand uses an asymmetric link function given by the quantile function of the Generalize Extreme Value (GEV) random variable. (Calabrese & Osmetti, 2013) In Table 4.4, we observed that all three estimations; (logit, probit and Gompit) models did not show very impressive results. From the McFadden R-squared value, the results shows that for the logit estimation, the model explains about 12.3%, using the probit estimation the model explains that about 12.4% and using the Gompit estimation, the model explains 13.2% of the outcome of the dependent variable.

The LR statistic for all three models revealed that they were all statistically significant and valid in explaining the outcome of the dependent variable [logit=0.030<0.05; probit= 0.029<0.05; gompit= 0.022<0.05]. Looking at the marginal effects of the study's independent variables, it is seen that the ZSCORE has a positive and insignificant impact (logit result, β_1=1.597, p=0.293; probit result, β_1=0.945, p=0.276; Gompit result= β_1=1.576, p=0.201) on the likely extent of banks engaging in earnings management practices. Firm Size (FMS) impacts positively but insignificantly (logit result, β_2= 0.980, p=0.334; probit result, β_2= 0.612, p=0.320; Gompit result = β_2= 0.735, p=0.280) on the on the likely extent of banks engaging in earnings management practices. Firm age (FMA) has a negative but significant impact (logit result, β_3=-0.049, p=0.016; probit result, β_3=-0.030, p=0.011; Gompit result, β_3= -0.031, p=0.013) on the likely extent of banks engaging in earnings management practices in Nigeria. It is also evident that firm financial performance as measured by annual stock price (ASRT) has a positive but not statistically significant impact (logit result, β_4=0.008, p=0.136; probit result, β_4=0.005, p=0.132; Gompit result, β_4= 0.006, p=0.133) on the likely extent of banks engaging in earnings practices in Nigeria.

Hypotheses Testing and Discussion of Findings

H_{o1}: Bankruptcy threat has no significant impact on the likelihood of an upward earnings manipulation in Nigerian listed banks

The null hypothesis that bankruptcy threat has no significant impact on the likelihood of an upward earnings manipulation in Nigeria listed banks is not rejected. This is because the significant statistic value (p=0.201) is less than 0.5. Thus implies that earnings management practices seem not to be induced by bankruptcy threat. This seems to be in tandem with the result of Franceschetti and Koschtial (undated); Amoa-Gyarteng (2014), notes the existence of no empirical evidence on the assertion that the threat of bankruptcy is a significant motivation for an upward manipulation of earnings. Our finding negates the result of Kangarzadehlouei, (2009). Among all the explanatory variables in the study, only firm age has a significant but negative impact on upward earnings manipulation. Other explanatory variables in the model though positive, has an insignificant impact on upward earnings management.

5. Conclusion and Recommendations

The study investigates the causal relationship between the threat of bankruptcy and the likelihood of earnings manipulation in Nigerian listed Banks for the period 2011-2015, using the Altman Z-score and the Beneish M-score models. Adopting an expost-facto research design within a panel framework, the study uses binary regression models in testing the hypothesis. Data were analyzed using Eview 8.0 and the result reveals that bankruptcy threat has no significant impact on the likelihood

of an upward earnings manipulation in Nigeria listed banks. We advocate that less emphasis be placed by regulators on the bankruptcy position of banks when probing into issues of earnings manipulation as banks manipulate their earnings not necessarily because of the threat of bankruptcy, but submit that non-potentially bankrupt firms involve in upward earnings manipulation as well. We also recommend that further studies be carried out to investigate the threat of bankruptcy and earnings manipulation using proxies other that the Altman Z-score and the Beneish M-score. Our study should be viewed in the light of its limitations. First the study adopts probability measures of bankruptcy threat and earnings management; second, our study did not consider a downward manipulation of earnings which could result from bankruptcy threat. Our study is likely the first using Nigerian data in examining the threat of bankruptcy and earnings manipulation nexus. Our study has both regulatory and policy implications.

The implication of our findings is that the manipulation of earnings in Nigerian banks is spurred significantly by other factors outside the threat of bankruptcy. By this, regulators are to place less emphasis on the bankruptcy position of banks when probing into issues of earnings manipulation. Banks manipulate their earnings not just because of the threat of bankruptcy as non-potentially bankrupt firms are also associated with upward earnings manipulation. The manipulation of earnings may make a firm escape bankruptcy and regulatory sanction, but not for long, as the true position of the firm will definitely be revealed. This is in line with the well-known case of Enron. This implies that earnings manipulation in potentially bankrupt firms is discovered sooner than later. Therefore, bankruptcy threat may bring about not just an upward earnings manipulation, but also a downward earnings manipulation, so as to attract the sympathy of creditors. What then are the significant motivations for an upward earnings manipulation? This provides a gap to be filled by further research. Further studies should investigate the likelihood of Bankruptcy and Earnings manipulation using proxies other than those used in this study, which are highly probable. Also, other sectors of the Nigerian economy other that listed banks should be examined. Also, the threat of bankruptcy on a downward earnings manipulation should be considered, alongside the motivation for an upward earnings manipulation.

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