Accounting Conservatism and the Risk of Bankruptcy in the Nigerian Food and Beverage Firms

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Abstract

This study examined the effect of accounting conservatism on the bankruptcy risk in the Nigerian foods and beverages sector, from 2008 – 2018. The study used the ex-post facto research design. It thus used the documentary data which were obtained from the annual reports and accounts of the eight sampled firms which were selected from the population of twelve firms that were operating in the sector as at 31st December 2015. The data generated for the study were analysed using descriptive statistics, correlation and multivariate regression analysis among others. The results from the analysis were used to test the four hypotheses of the study. The findings of the study showed that Accounting Conservatism has a significant impact on Bankruptcy Risk in the Nigerian Foods and Beverages sector. The study concluded that the higher the provisions for depreciation, taxation, bad debt and gratuity made by a firm, the lower would be the risk of the bankruptcy. Similarly, provisions for depreciation and gratuity and that of taxation and bad debt shows an insignificant and significant relationship with the bankruptcy risk, respectively. The risk of bankruptcy of the sampled firms fell into a "grey area" with their total mean scores of 1.953591. For sustainable bankruptcy risk management, the study recommended that adequate provision for taxation and bad debt need to be encouraged and also arrangements for taxation and gratuity should be improved using appropriate Government policies. Finally, accounting standards-setting bodies should reconsider accounting conservatism as a reporting mechanism in response to the economic, legal, and political environment in which firms operate.

Keywords: Bankruptcy, conservatism, capital markets, political environment

JEL Classification Codes: M410, M480, M490

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1. INTRODUCTION

The purpose of financial statements is to provide useful and reliable information to its users. The principle of accounting conservatism is one of the safe information components of the financial statements. Therefore, accounting information is critical to the users of financial statements as well as the functioning of the capital markets. This is because most of the decisions to invest in the capital market, financing methods decisions and decisions on the entry or exit to a particular sector of the economy are adopted in conditions of uncertainty.

Accounting conservatism is one of the elements of accounting conventions underlying contemporary financial statements. Accounting conventions are the customs or traditions guiding the preparation of accounts, and they are adopted to make financial statements clear and meaningful. The concept of conservatism incorporates the traditional conservatism adage which is to ``anticipate no profits but anticipate all losses". Anticipating profits means recognising profits before there are verifiable legal claims to the revenue-generating those profits. Over the years, accounting researchers such as Watts (2003) have maintained that there are many benefits in the application of accounting conservatism which includes providing reliable information to capital markets, among others. This is because conservatism requires verifiability that minimises the potential for errors in measurement and similarly increases their liability of the resulting information.

Researchers in the field of accounting including Basu (1997), Pope and Walker (2003), Beaver and Ryan (2005), have identified two comprehensive forms of conservatism: (1) conditional conservatism, and (2) unconditional conservatism. Conditional conservatism occurs when the accounting system recognises negative economic news on a timelier basis than it recognises positive financial news. In other words, conditional conservatism is characterised by the asymmetric recognition of positive and negative economic news. Examples of conditional conservatism include the asymmetric treatment of loss and gain contingencies and accounting for inventory using the lower-of-cost-or-market convention. Unconditional conservatism occurs through the consistent under-recognition of net accounting assets. Unlike conditional conservatism, unconditional conservatism does not depend on news events. Examples of unconditional conservatism include immediately expensing research and development expenditures and accelerated depreciation. Therefore, the main difference between the two forms of conservatism is that the application of conditional conservatism depends on economic news events, while the application of unconditional conservatism does not (Abbas, 2011).

Biddle, Mary, and Song (2012:11) defined bankruptcy risk as to the probability that a firm will liquidate which are triggered when a firm cannot service its debt obligations. Evidence from financial statements shows that bankruptcy is the situation in which the cash and cash equivalents kept in such accounts are not adequate to meet the necessary demands. Empirical studies by Biddle, Mary, & Song (2011), Alipour, Rabiee, and Mohammad (2013) and Asemani, and Hematfar (2013) have since focused on establishing a connection between the risk of bankruptcy and firm's performances, though the evidence is inclusive. If firms adopt more accounting conservatism procedures, the outcome will

be a decrease in the aggregate of profits being reported in financial statements, and hence the perception of lower accounting performance; that is a downward bias in tests of the relationship between bankruptcy and firm's performance. Likewise, if market participants fail to identify a connection between accounting conservatism and the risk of bankruptcy, then the outcome is likely to be the financial failure and subsequent collapse of such firms. Therefore, the extent of any connection between accounting conservatism and bankruptcy risk is of considerable interest.

Also, studying whether bankruptcy risk is associated with the application of accounting conservatism in financial statements is essential for different stakeholders such as shareholders, creditors, employees, customers and government, whose interests are adversely affected by firm's failure. Among the firm' stakeholders; shareholders are concerned about dividends and capital gains; creditors are interested in debt and interest repayments, employees about future career and compensation, customers about the supply of products and services and government about regulatory compliance, payment of taxes and employment generation.

The proponents of conservatism, including Ball, Robin and Wu (2003) and Watts (2003a & 2003b), disagree with the position taken by the standard-setting bodies away from conservatism in the accounting conservatism frameworks and accounting standards. They argue that accounting conservatism is driven by some fundamental economic forces, and is an efficient reporting mechanism in response to the economic, legal, and political environment in which firms operates. Furthermore, they postulate that if conservatism is compulsory replaced by the neutrality and fair value, firms will likely adopt sub-optimal accounting techniques that will damage their economic efficiency, in particular, their contracting ability. Therefore, the academic literature has supplied theoretical explanations for why the demand for conservatism might exist, and it has also provided empirical evidence that the need for conservatism varies in ways predicted by the theory (Ryan & Zarowin, 2003 & Watts, 2003a).

A disagreement, therefore, arises among the followers and the challengers of accounting conservatism, which may have in part stimulated the academic research into accounting conservatism and other related topics, such as bankruptcy risk, in the past decade. Against this backdrop, this study is carried out to attempt to understand the important and exciting phenomenon of accounting conservatism by examining its relationship with the risk of bankruptcy, to ensure that financial statements show the true positions of the affairs of the reporting firms and its going concern status.

2. LITERATURE REVIEW

Conceptual framework

The concept of accounting conservatism is one of the oldest and most important practical conventions underlying financial reporting since the 19th century (Watts, 2003). It has been described by Sterling (1970) as the most influential principle of valuation in accounting and is being practiced by organisations as an essential attribute of earnings. As highlighted by Roslinda (2009), the concept of accounting conservatism has also been used by previous studies (Penman & Zhang, 2002 and Ball & Shivakumar, 2005) to measure earnings quality.

The concept of accounting conservatism was regarded as a way to employ a less optimistic accounting preference that resulted in lower book values while handling accounting transactions or events when varied alternatives are present. It ensures that expenses/costs are not understated, and incomes/revenues are not

overstated in the accounts. Conservatism in accounting seems to be closely associated with the realisation concept, as it implies that a profit should not be recognised before it is being realised.

Accounting conservatism is an important convention of financial reporting. However, in spite of its significant role in both accounting theory and practice, there is yet to be any acceptable definition (Givoly, Hayn & Natarajan, 2007; Roslinda, 2009; Francis & Martin, 2010). As a result, various explanations of conservatism have been developed in the literature. Bliss 1924 (as cited by Watts, L. R., 2002) defined accounting conservatism in an extreme form, as a rule, to "anticipate no profit, but anticipate all losses." But one of the official definition of accounting conservatism is that offered in the glossary of the Statement of Financial Accounting Concepts (SFAC) Number two (2) by the Financial Accounting Standards Board (FASB), that, "it's a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered" (FASB, 1980:6). The statement offered the explanation that if two estimates of amounts to be received or paid in the future are about equally likely, conservatism dictates using a less optimistic estimate.

Accounting conservatism, as viewed by modern researchers and accounting standard setters, is a principle under which accountants exercise a reasonable degree of prudence in recognising transactions subject to genuine economic uncertainties. The relevant of conservatism in accounting practices to the modern business world has remained a predominant characteristic of the accounting field for several centuries. According to Watts (2003), different stakeholders to the firm are subjected to asymmetric information, asymmetric payoffs and limited liability. An essential benefit of accounting conservatism is that it helps reduce moral hazard problems created by asymmetric payoffs and information by producing accounting figures that can be used in contracts among different parties. Krugman (2009) defined moral hazard to mean any situation in which one person decides how much risk to take, while someone else bears the cost if things go badly. The problem occurs whenever a borrower of funds engages in behaviours that are not in the best interest of the lender. It also arises in a principal-manager problem, where the manager acts on behalf of the principal. The manager usually has more information about his or her actions or intentions than the principal does because the principal cannot wholly monitor the manager.

The changing nature of company failures due to economic pressures such as the use of creative and window-dressed accounting (earning manipulations) and fundamental changes in new technology have raised the risk of corporate failures, which is an indication of resource misallocation which is undesirable from a social point of view (Aharony, Jones & Swary, 1980). The term "bankruptcy" was derived from the medieval practice in Italian city-states of breaking the benches of a merchant who may have left without paying his creditors (Krekeler, Strother & Madison, 2006). It is a legally declared inability or impairment of ability of an individual or company to pay its creditors (Karles & Prakash, 1987). While on the other hand, the risk is defined as a condition in which actual income might deviate from the expected (Zeitun, Tian & Keen, 2007). While Black's Law Dictionary (7^{th} edition) defined insolvency as the condition of being unable to pay debts as they fall due or in the usual course of business. It also described bankruptcy as the statutory procedure usually triggered by insolvency, by which a person is relieved of most debts and undergoes a judicial supervised reorganisation or liquidation for the benefit of his creditors. From the above definitions, it can be deduced that insolvency occurred when a person or a business entity is unable to meet its

obligations, and bankruptcy proceedings are used to secure the debt owed the creditors.

According to Biddle et al. (2011), bankruptcy risk is the probability that a firm will liquidate, which are triggered when a firm cannot service its debt obligations. Therefore, the risk of bankruptcy is the inability of a firm to settle its financial-banking transaction or to repay in time the borrowed amounts under the conditions established with its third parties and by the loan agreement. Bankruptcy can be categorized into involuntary or voluntary. Creditors may file a bankruptcy petition against a debtor (involuntary bankruptcy) to recover a portion of what they are owed or initiate a restructuring. But in the majority of cases, however, bankruptcy is initiated by the debtor (a voluntary bankruptcy) that is filed by the insolvent individual or organisation. Karles and Prakash (1987) clarified that bankruptcy is a process which begins financially and is consummated legally via a court of competent jurisdiction.

In Nigeria, the Companies and Allied Matters Act (CAMA) 1990 governed corporate insolvency proceedings while the Bankruptcy Act 1979 is reserved for individuals; an insolvent firm may be put into liquidation or sometimes referred to as winding-up, while an insolvent person would be declared a bankrupt. Section 108 of the Bankruptcy Act 1979 explicitly prohibits the court from making a receiving order against any association or firm registered under the CAMA. But the provisions governing firm's insolvency can be found in Section 408 of the CAMA which spells out circumstances wherein the court would wind up a firm. The combined effect of Sections 408, 409 and 410 of the CAMA is that a creditor can present a winding-up petition against a debtor firm on the ground that the firm is unable to pay its debts. For this purpose, a firm is deemed unable to pay its debts if, among other things; a creditor to whom the firm is indebted in a sum exceeding =N=2,000 then due; has served a written demand on the firm requiring the firm to pay the amount due and the firm has for three (3) weeks. After that, neglected to pay the sum or to secure or compound for it to the reasonable satisfaction of the creditor.

Watts (2003) and Basu (1997) believe that examining the relationship between accounting
conservatism and the risk of bankruptcy is of significant importance since it has enlightened the traditional rationale of the accounting conservatism that arose at least a millennium years ago in reaction to demands by the providers of capital to assist in their lending and liquidation decisions. Furthermore, doing so is of interest to the company's stakeholders more especially shareholders for capital gains and dividends, creditors for settlement of loans, employees for payment of salaries and compensation, customers for providing of products and services and governments for generating tax revenues.

Biddle et al. (2011) highlighted three (3) linkages between accounting conservatism and bankruptcy risk as follows: (i) the role of accounting conservatism in increasing the firms' cash keeping level which causes suitable financial resources and lowers bankruptcy risk. (ii) By understating net income and assets, conservatism reduces the amount distributable to providers of capital, thus retaining more cash in the firm, reduce the bankruptcy risk of loss firms and delayed their bankruptcy, and (iii) accounting conservatism procedures lead into rapid identification of bad news and loss projects, and hence reduce the bankruptcy risk of the firms. Conservatism also lowers financing costs (Ahmed et al. 2002), increases cash flows from operations, investing, and financing sources by improving investment efficiency and encouraging precautionary cash savings (Francis & Martin, 2010).

Empirical Review

Biddle et al. (2011), in their study, predicted that accounting conservatism reduces bankruptcy risk and the philosophy that eventually bankruptcy is a condition of insufficient cash from internal or external sources. They tested their predictions using firm-year observations of non-financial U.S. listed firms for the period 1989–2007. The study adopted one of the bankruptcy risk measure derived from the Altman model, measured unconditional and conditional conservatism using industry-adjusted book-to-market ratios and accumulated non-operating accruals respectively. Their empirical analysis, which is consistent with their predictions, showed that conditional and unconditional conservatism via increasing cash flows and information clarity reduced the bankruptcy risk in the firms. The study suggests that when bankruptcy is increased, the demand of providers of firms' capital and auditors to prevent risk-shifting to themselves and wealth transferring to shareholders is increased to apply more conservatism in financial reporting. Similarly, Alipour et al. examined the relations between accounting conservatism and bankruptcy and the empirical results showed that conservatism reduces the risk of bankruptcy. This finding was consistent with the theory and research which suggests the benefits of accounting conservatism to protect owners' interests if the company is facing bankruptcy.

The findings of the empirical study carried out by Asemani and Hematfar (2013) also revealed that there is a significantly negative relationship between conditional conservatism and bankruptcy risk. That is, increased risk of bankruptcy decreased the levels of conditional conservatism. On their part, Moridipour, Mousavi, and Darash (2014) conducted a study on the relationship between conditional conservatism and level of bankruptcy using Khan and Watts (2010) model to evaluate conditional conservatism while the level of bankruptcy has been measured using the Altman Model. The result of the analysis showed a significant negative relationship between conservatism and bankruptcy risk. That is, the use of conservative procedures, such as late identification of earnings and speedy recognition of losses and expenses, in preparation of financial information, reduced the level of corporate bankruptcy.

On their part, Razmeh, Dowraghi, and Maryam (2014) examined the relationship between conservative accounting and the risk of bankruptcy. Conservatism, in their study, was measured through indicators accruals (Givoly & Hayn model) while bankruptcy indicators were used to measure the risk of bankruptcy. The results showed that there is a negative relation between conservative accounting practices among the sampled firms and the risk of bankruptcy.

Conversely, a positive and significant relationship between accounting conservatism and firms' bankruptcy risk, was found to exist by Khani et al. (2011). These researchers used Givoly and Hayn model and Altman model as a measure of conservatism - independent variable and firms' bankruptcy risk - dependent variable, respectively. Conclusively, due to the controversies mentioned above, therefore, this study intends to assess the relationship between accounting conservatism, bankruptcy risk and other control variables using data from Nigerian Stock Exchange (NSE) for the period 2004 to 2015.

Investors can use either debt or equity to finance the acquisition of assets. Financial leverage refers to the amount of debt in the capital structure of the business firm. It is the degree to which business is utilising borrowed funds. Too much debt or leverage increases the risk of default and bankruptcy, but it also increases the firm's returns on equity due to its tax advantages (Hsu & Jang, 2008). Firms' financial leverage has been recognised as one of the main factors that explain the risk of bankruptcy (Lee,

Koh & Kang, 2011). They believed that leverage is considered as the main factor in the firm's financial distress and the fact that leverage will increase bankruptcy is a universal assumption. According to Brealey and Myers (1986), leverage tends the firm's increased risk because financial markets have shown that leveraged firms will have more risks due to the potential expenses of financial distress.

Prior studies such as Ohlson (1980) suggested that larger firms are less likely to go bankrupt. This is because such firms are usually well developed, operated, and relatively stable, and hence, they do not go bankrupt as quickly as those small ones. But recent studies propose otherwise, that larger firms need to maintain their existences in both national and international markets, and hence have a higher risk of bankruptcy than smaller firms. Ahmed et al. (2002) confirming this opinion showed that large firms other than small firms used more accounting conservatism procedures to mitigate the risk of bankruptcy.

Firm size has been used as an essential predictor of bankruptcy in prior studies such as the ones of Biddle et al. (2011), Poorzamani and Anhari (2013) and Razmeh et al. (2014). It is calculated by the natural logarithm of the market value of equity, sales and or total assets at the end of the year. Consequently, this study adopted the natural logarithm of total assets at the end of the year as a proxy of firm size in line with the works of Zhang (2008), Cano-Rodríguez (2010), Poorzamani and Anhari, (2013) and Razmehet. Al. (2014). Empirically, the relationship between firm size and bankruptcy had been tested by Khani et al. (2011), and they found that small firms have a high risk of bankruptcy. Poorzamani and Anhari (2013), using firm size as one of the control variables, discovered an insignificant relationship with the risk of bankruptcy. Furthermore, Razmehet. et al. (2014), examined the relationship between the risk of bankruptcy and firm size and their results showed that there is a significant relationship between firm size and the risk of bankruptcy.

Theoretical Framework

There are several theories which attempted to clarify the demand for accounting conservatism. The earliest clarification is the contracting theory (Basu, 1997; Watts, 2003b). Other theories have been suggested, for example, the increase in shareholder litigation, conservatism in the tax system and that of the regulation (Basu, 1997; Watts, 2003b). These theories examined different sources of the demand for accounting conservatism and explained the rise of conservatism in financial statements (Watts, 2003a).

The contracting theory is associated with the demand for accounting conservatism in the debt-holders contract. Also, many agreements have been used to reduce agency problems related to the separation of ownership and control within a firm and accounting has been used for many centuries by organizations to facilitate contracting (Watts & Zimmerman, 1986). Accounting conservative is required in contracting between debt-holders and managers. Debt-holders have asymmetric payoffs from their investment in the firm in that; they do not share the excess returns when the firm does well, but they receive a lower return when the firm fails to meet its obligation. Therefore, debt-holders require the firm to adopt accounting conservatism to avoid overstatement of value and to reduce, in turn, the potential excessive dividend payments to shareholders and other stakeholders (Ahmed et al., 2002 & Ball, et al. 2006).

Also, the performance of managers is measured by accounting figures, and they usually have more information than shareholders; hence, they have motivations to artificially inflate short-term earnings by choosing aggressive accounting to increase their compensation contracts in the eyes of

the shareholders (LaFond & Watts, 2008). It is for this reason that, shareholders demand that the firm adopt conservative accounting to offset managerial optimism (Roslinda, 2009). In their study, Chen, Hemmer, and Zhang (2007) show that accounting conservatism reduces managers' incentives for earnings management and improves contract efficiency, i.e. conservatism in accounting reduces the likelihood of additional outflows to managers at the expense of shareholders and also additional distributions to shareholders at the expense of debt-holders.

The shareholder litigation theory argues that firms adopt accounting conservatism to avoid litigation costs because losses from the understatement of earnings and net assets are less likely to lead to litigation than overstatement of earnings and net assets (Watts, 2003a; Beaver & Ryan, 2005). This is especially the case when the company is involved in a take-over. The acquiring party might file a lawsuit when the net assets turn out to be overstated since they will receive less than they have initially bought. So, auditors and managers are given motivations to practice conservatism to reduce litigation risk. Basu (1997) ascertained that earnings are more conservative in periods where auditors' legal liability increases. Additional, litigation determinant is supported in Huijgen and Lubberink (2005) who found that conservatism is more pronounced in UK cross-listed firms (in the US) than for firms with a UK listing because the cross-listed firms face a higher threat of litigation and a stricter enforcement regime.

This study adopted the contracting theory because various contracts exist in a firm such as contracts between the firm and the debt-holders (debt contracts), management compensation contracts, employment contracts, and cost-plus sales contracts. The debt-contracting theory is one of the most widely accepted clarifications for conservatism and also the most widely researched (Ahmed et al., 2002; Beatty, Weber & Yu, 2008 and Zhang, 2008).

3. METHODOLOGY

Research Design

This study adopted ex-post facto research design because the study entails the use of annual reports and accounts of the quoted companies in Foods and Beverages sector of the Consumer Goods Industry of the Nigerian Stock Exchange.

The population of this study consists of all quoted companies in the Foods and Beverages Sector of the Consumer Goods Industry of the Nigerian Stock Exchange. As at the end of December 2018, there were twelve (12) listed firms in the Foods and Beverages Sector, as shown below:

Table 1: Population of the Study

FOODS AND BEVERAGES SECTOR				
S/N	**NAME OF FIRM**	**NSE Classification**	**Year of Listing**	**Years of Operations after Listing**
1	Honeywell Flour Mills Plc	Food products	2009	6
2	Big Treat PLC	Food products	2007	8
3	Flour Mills Nigeria PLC.	Food products	1978	37
4	National Salt Company Nig. PLC	Food products	1992	23
5	Northern Nigeria Flour Mills PLC	Food products	1978	37
6	Cadbury Nigeria PLC.	Food products - Diversified	1976	39
7	Nestle Nigeria PLC	Food products - Diversified	1979	37

8	UTC Nigeria PLC	Food products	1972	43
9	Union Dicon Salt PLC	Food products	1993	22
10	Dangote Flour Mills PLC	Food products	2008	7
11	Dangote Sugar Refinery PLC	Food products	2007	8
12	7-UP Bottling Company PLC	Beverages – Non Alcoholic	1986	29

Source: NSE FACTBOOK (2017/2018)

Table 1 shows the number of listed firms in the Foods and beverages sector as at 31st December 2015. Also shown in the last three (3) columns of the table are the NSE classifications, year of listing and years of operations after listing.

For this study, therefore, the sample size was determined by introduction of a filter which must be fulfilled by a firm before being included in the list of the sampled firms i.e., such firm must have been in operations on the floor of the NSE for the last twelve (12) years as at December 31, 2018. The filter was included to ensure easy accessibility to audited accounts and also for comparable data of the sampled firms from 2008 to 2018.

Table 2: Sample Size

FOODS AND BEVERAGES SECTOR				
S/N	**NAME OF FIRM**	**NSE Classification**	**Year of Listing**	**Years of Operations after Listing**
1	Flour Mills Nigeria PLC.	Food products	1978	34
2	Northern Nigeria Flour Mills PLC	Food products	1978	34
3	Cadbury Nigeria PLC.	Food products – Diversified	1976	36
4	Nestle Nigeria PLC	Food products – Diversified	1979	33
5	UTC Nigeria PLC	Food products	1972	40
6	National Salt Company Nig. PLC	Food products	1992	20
7	7-UP Bottling Company PLC	Beverages – Non Alcoholic	1986	26
8	Union Dicon Salt PLC	Food products	1993	22

Source: Researchers, (2019).

Table 2 above shows the sample size of the study.

Methods of Data Collection

All accounting variables are extracted from the annual accounts and reports of the sampled firms in the Foods and beverages sector. Annual accounts and reports constitute the source of data for the study. Therefore, the source of data utilized by this study is secondary.

Procedure for Data Analysis and Model Specification

In an attempt to determine the variations independent variable (bankruptcy risk) due to variation in any of the independent variables (i.e., accounting conservatism), this study used multiple regression analysis. This is because multiple linear regressions are expected to explain the variation in dependent variable due to variation in any of the independent variables.

Accordingly, the linear regression equations for the hypotheses are specified below:

$BR_{it} = \alpha + \beta 1 DEPLIAB_{it} + \beta 2 TAXLIAB_{it} + \beta 3 BDETLIAB_{it} + \beta 4 GRATLIAB_{it} + FZ_{it} + FL_{it} + \varepsilon_{it}$

Where:
BR= Bankruptcy Risk = Z-SCORE
DEPLIAB = Depreciation Liability
TAXLIAB = Tax Liability
BDETLIAB = Bad Debt Liability
GRATLIAB = Gratuity Liability
FZ = Firm Size
FL = Financial Leverage
β= partial derivatives or gradient of the independent variables.
α = Overall BR intercepts (i.e. value of BR when the values of all other independent variables are zero).

The linear regression equation above shows each of the hypothesis. Therefore, the researcher intends to examine the impacts of the independent variables on the dependent variable.

Variables used as Measurement Tools for the Study

The measurements of the variables used in this study are discussed below:

Measuring Bankruptcy Risk

The model for assessing the risk of bankruptcy has been classified into two, according to Kleinert (2014); Accounting-based models, among which is the Altman model and Market-based bankruptcy models. Accounting-based bankruptcy models use information from the financial statement of firms to predict eventual bankruptcy risk and consequently take into account the firm's previous performances as a base to predict future performances. While the Market-based models include data from the market such as interest rates and share prices and do not only rely on financial information. Limitations of the market-based models are that it is time-consuming, need a longer time horizon, and some events are still hard to be taken into account. However, in the literature, a bankruptcy model with high analytical power remains a challenge since no model performs with 100% accuracy rate (Kleinert, 2014).

In the late 1960s, it was Beaver who established a univariate financial ratio analysis for forecasting bankruptcy risk based on accounting data. Altman (1968) opposed the approach as susceptible to defective interpretation and established the first Multivariate Discriminate Analysis (MDA) by combining a set of financial ratios in a linear multivariate framework and calculated Z-Score as a measure of bankruptcy risk. The conclusion was that by this approach, the ratios would take on greater statistical significance than the sequential ratio comparisons. The linear function according to Altman model is as follows:

$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$

Where:
X_1= working capital / total assets
X_2= retained earnings / total assets
X_3= earnings before interest and taxes / total assets
X_4= book value of equity/book value of total liabilities
X_5= sales / total assets
Z = Firm's bankruptcy risk, i.e., Z-Score.

Note that; If Z-Score > 2.99, the firm fell into the non-bankrupt category if Z-score < 1.81, risk of bankruptcy is imminent in such firm. While if 2.99 < Z-score > 1.81, the firm fell into a 'gray area' where uncertainty often arises.

Over the last 49 years, Altman (1968) model has been proved by various studies as the most famous when it comes to Accounting-based bankruptcy risk models. According to Elliott and Elliott (2006), the Z-score can be employed to rise above some of the limitations of univariate financial ratio analysis as it assesses the stability of a firm and more significantly predicts the risk of bankruptcy. Al-Rawi, Kiani, and Vedd (2008) posited that the Altman's MDA approach integrated financial ratios very well and thus determine the likelihood of bankruptcy

Measuring Accounting Conservatism

To measure accounting conservatism, this study adopted the proxy used by Feleaga, Dragomir, and Feleaga (2010), i.e. Provision to Total Liabilities Ratio (PLR). Where PLR stands for the ratio of short and long-term provisions to total liabilities. It is used as a proxy for the degree of uncertainty associated with the settling of a company's obligations. The study also employs one test variable (i.e. PLR) as a measure of the degree of conservatism. The provisions are recognized strictly, according to IAS 37 (Abbas, 2011).

Measuring Firm Size

In measuring firm size, the study adopted the natural logarithm of total assets at the end of the year. This was used by Zhang (2008), Cano-Rodríguez (2010), Poorzamani and Anhari, (2013) and Razmehet. Al. (2014) in their various studies.

Measuring Financial Leverage

The study employed the ratio of total debt with the total assets in measuring the financial leverage of a firm. Where total debt is the book value sum of short-term debt and long-term debt as obtained in the studies of Biddle et al. (2011) and Poorzamani and Anhari (2013).

4. ESTIMATION RESULTS AND DISCUSSION OF FINDINGS

Descriptive Statistics Result

Table 3 Descriptive Statistics Result

Variables	Obs	Mean	Std. Dev.	Min	Max
Z-SCORE	96	1.953591	19.910390	-64.599860	5.428680
DEPLIAB	96	7.550557	4.199354	0.210000	20.560000
TAXLIAB	96	11.981930	10.328670	-18.279600	37.705360
BDETLIAB	96	4.951982	8.687191	0	44.050000
GRATLIAB	96	11.369370	8.844287	0	37.287010
FZ	96	2.628641	1.050700	1.740801	6.770700
FL	96	2.560700	3.920700	4.835545	2.240800

Source: Computed using STATA 12.0 from Annual Reports and Accounts of the sampled Firms

Table 3 shows the descriptive statistics of both dependent and independent variables of the study, and it could be deduced that the number of observations is ninety-six (96) because the sample of eight (8) of the food and beverages' firms were selected for twelve (12) years between 2008 and 2018. The table indicates that over the 12 years, the firms in the sector have an average Z-SCORE of 1.953591; meaning that the aggregate data of all the sampled firms for the period under study fell into a 'grey area' where uncertainty often arise as indicated by the Altman model. The minimum and maximum values are -64.59986 and 5.42868, respectively, and it also shows the average indicators of variables used.

The table reveals that on the average, the mean provision for depreciation

(DEPLIAB) of the sampled firms is 7.55 with a minimum and maximum values of 0.21 and 20.56 respectively. Tax provision (TAXLIAB) on the average has a value of 11.98193 with a standard deviation of 10.33. It further indicates an average provision for bad debt (BDETLIAB) ranging between the minimum of 0 and maximum of 44.05. Also, provision for Gratuity (GRATLIAB) has a standard deviation of 8.84429 with an average of 11.36937 in the Nigerian Food and beverages sector. The standard deviations of Financial Leverage (FL) and Firm size (FZ) are 1.0507 and 3.9207, respectively.

Correlation Matrix

Table 4 Correlation Table

VARIABLES	Z-SCORE	DEPLIAB	TAXLIAB	BDETLIAB	GRATLIAB	FZ	FL	VIF
Z-SCORE	1							
DEPLIAB	-0.1635	1						1.37
TAXLIAB	0.3987	0.0245	1					1.12
BDETLIAB	-0.1468	0.0072	0.3298	1				1.23
GRATLIAB	0.0585	0.1882	-0.1462	-0.0005	1			1.16
FZ	-0.2447	0.1745	-0.0388	-0.2993	0.3315	1		1.36
FL	0.1546	-0.0744	-0.3053	-0.4101	-0.0525	0.0457	1	1.29

Source: Computed using STATA 12.0 from Annual Reports and Accounts of the sampled Firms

Table 4 shows the correlation coefficients on the relationship between the dependent variable - Bankruptcy Risk (proxy by Z-SCORE), the independent variables (DEPLIAB, TAXLIAB, BDETLIAB & GRATLIAB) and the control variables (FL & FZ). The values of the correlation coefficient ranged from -1 to 1. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative), and the absolute values thereon suggest the strength, with larger values signifying stronger relationships. The correlation coefficients on the main diagonal are 1.0 because each variable has a perfect positive linear relationship with itself.

The results presented in Table 4.2 also indicates that three (3) of the explanatory variables TAXLIAB, GRATLIAB, and FZ are positively correlated with the Z-SCORE variable, which means that an increase in the provision for Tax Liability (TAXLIAB), Gratuity Liability (GRATLIAB) and as well as that of the Firm Size (FZ) will invariably increase the risk of bankruptcy. While, on the other hand, DEPLIAB, BDETLIAB, and FL are negatively correlated with the Z-SCORE variable; meaning that they have inverse relationship with the dependent variable. Correspondingly, the relations between some of the explanatory variables are positive, and some are negative.

Tests for Model Validation and Fitness

For regression results to be accurate, valid, and relied upon, the results obtained must be free from an abnormality, multicollinearity, and serial correlation. To achieve this, the following tests were carried out to ensure robustness;

Normality Test

Normality Test was conducted to check for data distribution patterns of the research data, and the Shapiro-Wilk test was used for this purpose. The results of the tests, therefore, suggests that the data of the dependent variable did not differ significantly from a normal distribution, as evidenced by the p-value which is higher than 0.05.

Durbin-Watson and Baltagi-Wu LBI Test
This test is conducted on either random effect or fixed effect to ascertain the presence of serial correlation. Based on these, the test was conducted on random effect as selected by Housman test. The result shows that the p-value and as such, the model has no serial correlation.

Multicollinearity Test
Therefore, the commonly used technique in determining the presence of multicollinearity is the Variance Inflation Factor (VIF). The rule is that VIF of more than 10 indicates the presences of Multicollinearity (Kurawa & Kabara, 2014). The result from the Regression Models shows that the Variance Inflation Factor (VIF) of all the models are less than ten, ranging from 1.12 to 1.37, which indicates absence of any serious Multicollinearity. VIF of 5.00 can still be a proof of absence of multicollinearity (Doane & Steward 2007, Muhammad 2009, Barde 2009 cited in Samaila, 2014). Hence, the predictive ability of the independent variables is not adversely affected by their relationship.

Test for Heteroskedasticity
This test was conducted to ensure that the regression model fits all the values of the independent variables, and this is possible only if the residuals do not vary with the independent variable and therefore are random. A p-value of less than 5% indicates the presence of heteroskedasticity, while a p-value of greater than 5% indicates the absence of homoskedasticity. The test conducted signifies that the variation of the residuals or term errors is not constant, which would affect inferences in respect of beta coefficient, coefficient of determination (R^2), (Samaila, 2014).

Regression Results
The Multiple Regression Analysis is used to examine the impact of Accounting Conservatism on Bankruptcy Risk of the sampled firms. The regression result shows the summary of the Ordinary Least Square (OLS), Random Effects (RE) and Fixed Effects (FE) estimation techniques which are presented in Table 5 below. When using Multiple Regression analysis, there is a possibility of endogeneity occurring, in a situation whereby certain variables are omitted, and these lead to measurement errors. In order to examine whether endogeneity exists, which could potentially lead to biased coefficient, a Housman Specification test to choose between Fixed Effect (FE) and Random Effect (RE) Regression was performed

OLS					FIXED-EFFECT				RANDOM-EFFECT			
Variables	Coef.	Std. Err.	T	P>/t/	Coef.	Std. Err.	T	P>|t|	Coef.	Std. Err.	Z	P>|z|
Depliab	-4.872833	5.169498	-0.94	0.349	6.482897	5.81789	1.11	0.270	-4.872833	5.169498	-0.94	0.346
Taxliap	-9.736082	1.902529	-5.12	0.000	13.74233	2.603847	5.28	0.000	-9.736082	1.902529	-5.12	0.000
Bdetliab	-6.565653	2.36536	-2.78	0.007	-5.491448	3.212305	-1.71	0.092	-6.565653	2.365358	-2.78	0.006
Gratliab	-3.866856	2.262561	-1.71	0.091	3.496356	2.304429	1.52	0.134	-3.866856	2.262561	-1.71	0.087
Fl	3.7106	2.0606	1.81	0.075	-4.6306	1.8606	-2.49	0.015	3.7106	2.0606	1.81	0.071
Fz	-4.4707	5.3807	-0.83	0.409	6.3207	5.7507	1.10	0.276	-4.4707	5.3807	-0.83	0.406
cons	102.3586	56.80794	1.80	0.075	-34.81495	59.45556	-0.59	0.560	102.3586	56.80794	1.80	0.072
R-squared	0.3320											
Adj R-squared	0.2800											
Within					0.3692				0.3076			

Between		0.0012	0.0408
Overall		0.2735	0.3320
F value	6.38	4.40	38.28
Prob>F	0.0000	0.0004	0.0000
Hausman test (Prob>Chi)	0.1487		

Table 5 Multiple Regression Results on the impact of independent variables on the dependent variable

Source: Computed using Stata 12.0 from Annual Reports and Accounts of the sampled Firms 2004-2015

Table 5 above shows the regression results of Ordinary Least Square (OLS), Fixed Effects (FE), and Random Effects (RE). The dependent variable used in this model is the Bankruptcy Risk proxy by Z-SCORE. However, analysis and interpretation were only made on the RE as the Hausman test suggests that it is more efficient than the Fixed Effect as Prob>Chi value is not statistically significant.

The OLS results indicate that the coefficient of determinations "R-squared" is 0.332, meaning that the variables considered in the model account for about 33% change in the dependent variables, that is BR, while the remaining 67% is explained by other variables not included in this model. In the same vein, the analysis of variance indicates that the model fitness is appropriate with F-value of 6.38 and P-value of 0.0000 at 5% level of significance. The overall model shows that accounting conservatism has a significant impact on the bankruptcy risk. This implies that the attributes of accounting conservatism under this study predicted the level of bankruptcy risk in the Food and beverages firms in Nigeria.

In the RE estimations, the regression results in table 5 above revealed that Depreciation liability (DEPLIAB) of the sample firms in Food and beverages sector had a negative and insignificant impact at 5% level on BR, while Tax liability (TAXLIAB) had a negative and significant on BR. Also, Bad debt liability (BDETLIAB) has a negative but significant relationship, and Gratuity liability (GRATLIAB) has a negative but insignificant impact on the BR. On the other hand, Financial leverage (FL) has a positive but negligible impact on BR, and Firm size (FZ) has a negative and insignificant relationship with the BR. In general, the overall probability is significant at 5% level, and this signifies that Accounting Conservatism has a considerable impact on Bankruptcy Risk in the Nigerian Food and beverages sector.

Discussion of Findings

The finding from the first research question shows that provision for depreciation has a negative and insignificant relationship with bankruptcy risk in the Nigerian Food and beverages sector. This has been indicated by the coefficient of DEPLIAB, which is -4.872833 with 0.346 as the corresponding probability. The level of the relationship is weak, as noted in the correlation result of -0.1635, and this suggests that any rise in the provision for depreciation will lower the bankruptcy risk. As such, the null hypothesis ($\mathbf{H_{o1}}$) should be accepted.

The second research question describes whether there is any relationship between provision for taxation and bankruptcy risk; it proves there was. It was found that there is a negative and significant relationship between the two variables. The negative and significant nature of the relationship has been indicated by the coefficient of TAXLIAB which is -9.736082 with 0.000

as its corresponding probability. The level of the relationship is also not strong as reported by the correlation result of 0.3987. Hence, the null hypothesis (H_{o2}) should be rejected.

The third research question shows that there is also a negative and significant relationship between bankruptcy risk and provision for bad debt liability. This has been indicated by the coefficient of BDETLIAB, which is -6.565653 with 0.006 as its corresponding probability. The level of the relationship is not as strong as shown by the correlation result of -0.1468. Therefore, the null hypothesis (H_{o3}) should be rejected.

The fourth research question shows that there is a negative and non-significant relationship between bankruptcy risk and provision for gratuity, which shown by the coefficient of GRATLIAB which is -3.866856 with 0.0087 as its corresponding probability. The level of the relationship is also not strong, as indicated by the correlation result of 0.0585. This shows that only 5.85% of the variation in BR can be explained by GRATLIAB but the remaining 94.15% by other variables. Consequently, the null hypothesis (H_{o4}) should be accepted.

Overall, the study established that Accounting Conservatism (AC) has a significant impact on Bankruptcy Risk in the Nigerian Food and beverages Sector. This result is in agreement with the work of Biddle et al. (2011), Alipour et al., (2013), Asemani and Hematfar (2013) and Moridipour et al. (2014). Furthermore, the variables in table 4.3 show a significant relationship between the dependent and independent (TAXLIAB & BDETLIAB) variables. This result is in agreement with the work of different authors such as Heidarpour and Khani (2013), Poorzamani and Anhari (2013) and Razmeh et al., (2014) who found out that there is a significant relationship between the dependent and independent variables.

On the findings on the control variables, the study discovered that financial leverage has a positive and non-significant relationship with the BR. This shows the same outcome with the work of Poorzamani & Anhari (2013), which stated that firm size has a positive relationship with bankruptcy risk. While it was found out that there was a negative and insignificant relationship between firm size and BR and this collaborated the work of Mohammad, Mahmoud & Ensieh (2013) which has the same result with the finding of this study on the negative relationship of firm size with that of bankruptcy risk.

5. CONCLUSION AND RECOMMENDATIONS

The work examined the relationship between Accounting Conservatism and Bankruptcy Risk in Nigeria. Based on the findings of this study, the following conclusions are drawn:

a) Provision for Depreciation shows a negative and insignificant relationship with Bankruptcy risk in the Nigerian food and beverages sector. This suggests that any rise in the provision for depreciation will not affect the level of bankruptcy.
b) Provision for Tax liability shows a negative and significant relationship with bankruptcy risk. This implies that as the provision for tax liability increase, the level of bankruptcy risk decreases.
c) Provision for Bad debt indicates a negative and significant relationship with bankruptcy risk, which means that any increase in bad debt provision will lead to a decrease in the level of bankruptcy risk of the sampled firms.
d) Provision for gratuity displays a negative and insignificant relationship with bankruptcy risk. This suggests that any rise in the provision for gratuity will not affect the level of bankruptcy.

e) The study concludes that the bankruptcy risk of the sampled firms fell into a 'grey area' where uncertainty about their risk of bankruptcy often arises. This is because the mean of their Z-SCORE indicates 1.953591.
f) Accounting conservatism (taxation and bad debt) shows a significant relationship with the bankruptcy risk, while gratuity and depreciation shows an insignificant relationship. Therefore, the study of conservatism accounting is necessary for the management of bankruptcy risk in Nigerian food and beverages sector.
g) Financial leverage shows a positive and non-significant relationship with the bankruptcy risk. Increase in financial leverage will affect bankruptcy risk positively.
h) The study concludes that an increase in firm size will make bankruptcy risk to decrease. This is because there was a negative and insignificant relationship between the variable and bankruptcy risk.

The following are the recommendations that are made based on the conclusions of the study;

a) To mitigate the risk of bankruptcy in the Nigerian Food and beverages sector, adequate provisions for taxation and bad debt need to be encouraged using appropriate government policies. That is, considering the negative and significant relationship that exists between the variables.
b) The level of provisions for depreciation and gratuity should be improved for sustainable bankruptcy risk management because their relationships are negative and insignificant. Therefore, reasonable improvement will lead to a more negative relationship that will eventually lead to a corresponding decrease in the bankruptcy risk of the sector.
c) Sampled firms should do more to increase provisions opportunities in their operations. Doing this will go a long way to improving their average Z-Score.
d) Accounting standards-setting bodies (FASB and IASB) should reconsider accounting conservatism as a reporting mechanism in response to the economic, legal, and political environment in which firms operate. Hence, if accounting conservatism is replaced, firms will undoubtedly damage their contracting efficiency.

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