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Effect of Auditor Industry Specialization and Audit Tenure on Cash-Based Earnings Management of Quoted Manufacturing Companies in Nigeria

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ABSTRACT

This study empirically asserted the effect of auditor industry specialization and audit tenure on cash-based earnings management of quoted manufacturing companies in Nigeria. The fact that the study relied on pasted events, the ex-post facto research design was adopted for this research. The population of the study comprised 72 quoted manufacturing companies in Nigeria between 2009 and 2018. Deploying the filtering sampling techniques a sample size of 43 quoted manufacturing companies was drawn from the study population. Multiple linear regression model was employed using the ordinary least squares method (OLS). Data were analyzed using the statistical package Stata 14.2 model. Audit quality was measured by Auditor Industry Specialization (AUIS) and Audit Tenure (AUDT) while Cash-Based Earnings Management was measured by Abnormal level of Cash Flow from Operation (ABCFO), Abnormal level of Discretionary Accruals (ABDEX) and Abnormal level of Production Cost (ABPRO).The result indicated that auditor industry specialization has a positive and insignificant effect on ABCFO and ABPR; a negative and insignificant effect on ABDISEX. Implying that auditor industry specialization was unable to reduce earnings manipulation in ABCFO and ABPRO under the period covered. This study also concludes that there is a negative and insignificant relationship between audit tenure, ABCFO, ABPRO and ABDISEX. From this optic, the findings from this study leads to a conclusion that audit quality constrains cash-based earnings management of quoted manufacturing companies in Nigeria. Therefore, the study recommends that regulatory authorities should make a policy that encourages audit firms in Nigeria to create departments within their firms that specialize along industry lines. As this will adequately equip the audit firms with the necessary competence, expertise and experience to easily detect, prevent and mitigate cash-based earnings management in Nigeria.

1.0 INTRODUCTION

Financial statement serves as the basic medium of communication between firms and stakeholders by mitigating the level of information asymmetry between management and other interested stakeholders. Apparently, financial statements are the most important output of any accounting system. Hence, the quality, accuracy and credibility of accounting information have effect in the capital market on its users and in estimating the firms' viability (Otusanya & Lauwo, 2010). Similarliy, Olabisi, Taofeek and Akinrinloa (2017) documented that shareholders, investors and the general public patronizes firms with steady income as this will guarantee earnings from future investment in the long-run and mitigate uncertainties associated with risk.

Cash-based earnings management is a purposeful action to alter reported earnings in a particular direction, which is achievable by changing the timing or structuring of business transaction, investment, the sale of assets or other discretionary expenses which has suboptimal business consequences (Zang, 2012). Accordingly, Zang (2012) documented that these cash-based earnings management activities are significantly different from accruals-based manipulations as they have direct effect on cash flows of firms. Similarly, Zgarni, Hlioui and Zehri (2016) argued that firms accounting flexibility moves downwardly, as audit scrutiny moves upwardly. Hence, firms might most likely to resort to cash-based earnings management. Furthermore, accruals-based earnings management is more likely to draw auditor or regulatory scrutiny than cash-based earnings manipulation (Gunny, 2010).

Although, there is a large literature on earnings management, there is a dearth of evidence on how it affects companies' cash-based earnings management in Nigeria. Accordingly, it is imperative therefore, to explore further how managers of quoted Nigerian manufacturing companies engage in cash-based earnings management. It is based on this that the present study

seeks to bridge the gap in the literature by providing an empirical evaluation of the effect of auditor industry specialization and audit tenure on cash-based earnings management of quoted Nigerian manufacturing companies.

Hence, this study differs from the previous studies in the following aspects: (i) Prior literature is limited on the relationship between auditor industry specialization and audit tenure on cash-based earnings management within the Nigerian context. (ii) Furthermore, this study applied three matrixes as measures of cash-based earnings management techniques in measuring earnings management within the Nigerian context. Okolie (2014) however established this relationship but his study is limited in view of the fact that it focused on only one measures of audit quality (audit firm size), ignoring other variables and the study applied the average of the three matrix of cash-based earnings management. Accordingly, this study will increase the existing knowledge by deploying three matrixes separately but not the average as measures of cash-based earnings management.

To this end, this study specifically sought to:

i. Evaluate the effect of auditor industry specialization on cash-based earnings management of quoted manufacturing companies in Nigeria.
ii. Determine the effect of audit tenure on cash-based earnings management of quoted manufacturing companies in Nigeria.

2.0 Theoretical Framework

2.1 Agency Theory

The agency theory exhibits a conflict of interest between the managers and shareholders of firms which is as a result of separation of ownership from control. Varici (2013) documented that the managers actions should be in consonance with the expectations of the shareholders with a sound monitoring mechanism. Therefore, the agency theory framework has the ability to explain the motivations for cash-based earnings management. Form this optic, it can be seen that high

quality auditors can be an effective mechanism for mitigating cash-based earnings manipulation. Thus, agency theory provides the natural backdrop upon which this study is based.

3.0 Conceptual Framework and Hypotheses Development

3.1 Auditor Industry Specialization (AUIS): According to Dunn and Mayhew (2004) industry specialist auditors have more industry specific knowledge and expertise about the client's business and industry than non-specialist auditors. Thus, the higher demand for auditor industry specialization is created by the agency problems which are associated to the separation of ownership from control (Okolie, 2014). Also, Olabisi, Agbatogun and Akinrinlola (2017) suggested that for every increase in auditor specialization, there is a decrease in cash-based earnings management. Consequently, the constraints of cash-based earnings management from industry expertise may likely motivate managers to alter cash-based activities during the accounting period with the aim of meeting earnings targets.

Several empirical studies found a relationship in terms of the association between auditor industry specialization and earnings management. Zgarni, Hlioui and Zehri (2012) documented a negative association between auditor industry specializations and cash-based earnings management. However, Chen, Moroney and Houghton (2005) found a positive relationship between auditor industry specializations and cash-based earnings management.

Based on the results of the empirical studies and discussions above, this study expects a positive relationship between auditor industry specialization on cash-based earnings management of quoted manufacturing companies in Nigeria. Therefore, the hypothesis is stated in the following alternative forms.

H_{01}: There is a significant positive association between Auditor Industry Specialization and cash-based earnings management of quoted manufacturing companies in Nigeria.

3.2 Audit Tenure (AUDT): According to Myers, Myers and Omer (2010) audit tenure implies the number of years or the duration an auditor is retained by the firm. Inua and Okoh (2018) opined that a long association between the auditor and his client may constitute a threat to independence as personalities and familiarity may develop between the parties, which may likely lead to less vigilance on the part of the auditor. The main argument has been whether the length or duration an audit firm is retained with a client affects the quality of the audit (Lyner & Roma, 2004). The arguments are conflicting, while some researchers argued that longer tenure (5-10

years) decreases audit quality, others asserted that longer auditor tenure improves audit quality (Myers, Myers & Omer, 2010).

Empirical evidence supported the view that auditor tenure is associated with earnings management. Davis (2009) demonstrated that both short and long term auditor engagements were associated with the increased use of discretionary accruals to meet forecast earnings in the pre-sox period. Zgarni, Hlioui and Zehri (2012) found no relation between audit tenure and cash-based earnings management. While Okolie, Izedonmi and Enofe, (2013) found no relation between audit tenure and cash-based earnings management. Their studies suggested that the deterioration of audit quality over time may also be a consequence of the auditor becoming less independent from the client firm. Also, Olabisi, Agbatogun and Akinrinlola (2017) opined that shorter audit tenure cover the result and decreased earnings management. However, the length of the auditor client relationship is also argued to be positively associated with earnings management as shorter auditor tenure lacks client specific knowledge (Okolie, Izedonmi & Enofe, 2013). Conversely, Mohammed, Vahid and Reza (2016) argued that a longer auditor client relationship can compromise auditor independence leading to economic bonding between the auditor and the client firm.

Hence, this explanation indicates that there is a correlation between audit tenure and cash-based earnings management. Thus, based on the aforementioned assumptions the study expects a positive relationship between audit tenure and cash-based earnings management of quoted manufacturing companies in Nigeria. Therefore, the hypothesis is stated in the following alternative forms.

H_{02}: There is a significant positive association between Audit Tenure and cash-based earnings management of quoted manufacturing companies in Nigeria.

3.3 Cash-Based Earnings Management: Wilson, (2013) defined cash-based earnings management as the application of managerial discretion over alternative operational methods with the intent to influence financial statements. These real economic actions are not easily noticeable by outsiders to distinguish the suboptimal decisions from the optimal.

The cash-based earnings management was developed by Dechow, Kothari and Watts (1998) and it was employed by Roychoadhury, (2006) and Cohen and Zarowin (2010) to consider three metrics deployed to study and estimate the levels of manipulations of fundamental economic

activities of management. These metrics include; Abnormal levels of Cash Flow from Operations (ABCFO); Abnormal levels of Discretionary Expenses (ABDEX); and Abnormal levels of Production Cost (ABPRO). Which are applied in this study to measure the cash-based earnings management.

4.0 METHODOLOGY

This study adopted the ex-post-facto research design. The population of the study comprises all the 74 firms in the manufacturing sectors quoted on the Nigerian Stock Exchange (NSE) as at 31st December, 2018. The filtering sampling technique was adopted because the researcher has the predetermined criteria for the companies to meet before they are sampled in order to help achieve the set objectives of the study. The sample has been selected from the NSE quoted firms and excluded; firms for which the data could not be found or incomplete data exists consistently for 10 years from 2009 - 2018. The secondary source of data was utilized in this study.

4.1 Measures of Cash-based Earnings Management

In order to analyze the effect of auditor industry specialization and audit tenure on cash-based earnings management, this study used the Abnormal Level of Cash Flow from Operation (ABCFO), Abnormal Level of Production Costs (ABPRO) and Abnormal Level of Discretionary Expenses (ABDISEX) as stated and empirically estimated by (Cohen, Dey, & Lys 2008). Thus, these can be expressed as follows

Abnormal Level of Cash Flow from Operations

By using the models implemented by Roychowdhury (2006), abnormal level of cash flow from operations is expressed as a linear function of sales in the last period and changes in sales.

We estimate the following function by each year:

$$\frac{CFO_t}{Assets_{i,t-1}} = \beta_1 \frac{1}{Assests_{i,t-1}} + \beta_2 \frac{REV_{i,t-1}}{Assets_{i,t-1}} + \beta_3 \frac{\Delta REV_{i,t-1+} D}{Assets_{i,t-1}} + \epsilon it \quad \ldots\ldots (1)$$

Abnormal Level of Discretionary Expenses are computed as the difference between each firm's actual discretionary expenses and the expected discretionary expenses. Discretionary expenses are defined as the sum of Advertising expenses, Research and Development expenses (R & D); and Selling, General and Administrative expenses (SG & A).

Discretionary expenses are modeled for each industry and year as:

$$\frac{DiscExp_t}{Assets_{i,\,t-1}} = \beta_1 \frac{1}{Assests_{i,\,t-1}} + \beta_2 \frac{Sales_{i,\,t-1}}{Assets_{i,\,t-1}} + D + \epsilon_{it} \quad \ldots\ldots (2)$$

Therefore, for every firm year, abnormal discretionary expenses (ABDISEX) are expressed as the difference between the actual discretionary expenses and expected discretionary expenses calculated using the corresponding company – year parameters.

Abnormal Level of Production Costs

Abnormal Level of Production Costs are computed as the difference between each firm's actual production costs and the estimated production costs. To estimate the normal level of production costs, cost of goods sold (COGS) is estimated as a linear function of contemporaneous sales as follows:

$$\frac{COGS_{it}}{Assets_{i,\,t-1}} = \beta_1 \frac{1}{Assests_{i,\,t-1}} + \beta_2 \frac{Sales_{it}}{Assets_{i,\,t-1}} + \epsilon_{it} \quad \ldots\ldots (3)$$

Applying the model for inventory growth which is stated as a linear function of the contemporaneous and lagged change in sales to estimate inventory cost as follows:

$$\frac{\Delta INV_{it}}{Assets_{i,\,t-1}} = \beta_1 \frac{1}{Assests_{i,\,t-1}} + \beta_2 \frac{\Delta Sales_{it}}{Assets_{i,\,t-1}} + \beta_3 \frac{\Delta Sales_{i,\,t-1}}{Assets_{i,\,t-1}} + \epsilon_{it} \quad \ldots\ldots (4)$$

Applying the summation of equation (2) and (3), the normal level of production costs will be estimated as:

$$\frac{Prod_{it}}{Assets_{i,\,t-1}} = \beta_1 \frac{1}{Assests_{i,\,t-1}} + \beta_2 \frac{Sales_{it}}{Assets_{i,\,t-1}} + \beta_3 \frac{\Delta Sales_{it}}{Assets_{i,\,t-1}} + \beta_4 \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + \epsilon_{it} \quad \ldots\ldots (5)$$

Where:

Pro_{it} = COGS plus ΔINV= Normal (expected) production cost for company i in $period_t$,

$Assets_{i,\,t-1}$= Total assets of company i in $period_{t-1}$,

$Sales_{it}$ = Sales revenues for company i, in $period_{t,}$

$\Delta Sales_{it}$ = Change in sales for company i, in $period_{t,}$

$\Delta Sales_{i,\ t-1}$ = Change in sales revenues for company i, in $period_{t-1,}$

CFO_t = Cash Flow from Operation for $period_t$

$REV_{i,\ t-1}$ = is the sales revenue for time $period_{t-1,}$

$\Delta\ REV_{i,\ t-1}$ = change in sales revenue of company i, for time period $_{t-1,}$

$DiscExp_t$ = Discretionary expenses for $period_t$

COGS = Cost of goods sold expenses

INV= Inventory increased/decrease

β = Represents firm's specific parameters,

D = is a dummy variable if sales decreases compared with its last period, and

ϵ_{it} = Error term for company i, in $period_{t.}$

4.2 Independent Variables

Auditor Industry Specialization (AUIS): is estimated as a dummy variable with the value, 1 if Market Size of the audit (MS) ≥ 20 percent and 0 otherwise (Tyokoso & Tsegba, 2015).

Audit Tenure (AUDT): is estimated as a dummy variable where 1 denotes a tenure of 3 years above, otherwise 0 (Okolie, Izedonmi & Enofe, 2013).

4.3 Model Specification

Using multiple regression analysis, two models were constructed for the study as follows:

$$ABCFO_{it} = \beta_o + \beta_1 AUIS_{it} + +\beta_2 AUDT_{it} + \epsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots, \ldots \quad (6)$$

$$ABPRO_{it} = \beta_o + \beta_1 AUIS_{it} + +\beta_2 AUDT_{it} + \epsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (7)$$

$$ABDISEX_{it} = \beta_o + \beta_1 AUIS_{it} + +\beta_2 AUDT_{it} + \epsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots, \ldots \quad (8)$$

Where:

$ABCFO_{it}$ = Abnormal Cash Flow from Operation for firm i in year t

$ABPRO_{it}$ = Abnormal Level of Production Cost for firm i in year t

$ABDISEX_{it}$ = Abnormal Level of Discretionary Expenses for firm i in year t

B_0 = Constant of the Model;

β_1 = Co-efficient of the Model;

AUIS = Auditor Industry Specialization for firm i in year t;

AUDT = Audit Tenure for firm i in year t;

ϵ_{it} = Error term

5.0 DISCUSSION

Table 1: Descriptive Statistics

VARIABLES	N	MEAN	SD	MIN	MAX
ABCFO	430	0.314	0.120	0.023	0.959
ABPROD	430	0.318	0.157	0.006	1.330
ABDISEX	430	0.275	0.111	0.019	1.066
AUIS	430	0.460	0.499	0	1
AUDT	430	0.700	0.459	0	1

Source: Stata 14.2 Result Output

Table 1 report a mean value of 0.314 for Abnormal Cash Flow from Operations and Standard Deviation of 0.120. The table depicts a mean value of 0.318 for Abnormal Production Cost and Standard Deviation of 0.157. Also, the Table 1 shows a mean value of 0.275 for Abnormal Discretionary Expenses and Standard Deviation of 0.111. The minimum and maximum values of Abnormal Cash Flow from Operations; Abnormal Production Cost and Abnormal Discretionary Expenses during the study period are 0.023 and 0.959; 0.006 and 1.330 and 0.019 and 1.066 respectively depicting a range variation cash based earnings management of quoted manufacturing companies in Nigeria. The mean also indicates that quoted manufacturing

companies in Nigeria are manipulating real activities by temporarily increasing sales, overproducing to report lower cost of goods sold, and reducing discretionary expenditures to improve reported margins.

Furthermore, Table 1 shows that auditor industry specialization (AUIS) had a mean value of 0.46 (*SD*=0.499) during the study period. This statistics suggests that 46% of the sampled companies were audited by industry specialist auditors during the period of the study. The remaining 54% of the sampled manufacturing companies in Nigeria were audited by non-industry specialist auditors. The auditor industry specialization has minimum and maximum values ranging from 0 and 1 respectively.

Moreover, information from Table 1 also shows that auditor tenure had average mean value of 0.700 during the study period. The mean statistic is an indication that about 70% of the sampled listed manufacturing companies in Nigeria have audit tenure of three and above time period. The result is an indication of external auditor's long term tenure. When this happens it enables the auditor to acquire client's specific knowledge and its financial reporting practices necessary for a more effective audit. The range of minimum and maximum also is 0 and 1 respectively.

Table 2: Shapiro-Wilk Test for Normality of Variables

Variable	Obs	W	V	Z	Prob>z
ABCFO	430	0.959	12.185	5.969	0.000
ABPROD	430	0.869	38.532	8.718	0.000
ABDISEX	430	0.820	52.878	9.473	0.000
AUIS	430	0.999	0.167	-4.275	1.000

AUDT	430	0.996	1.095	0.217	0.414

Source: Stata 14.2 Result Output

This assumption entails that that the error term also called the residual is normally distributed. According to Field (2013), normality of residuals should not be confused with the normality of the variables. If the error terms are non-normally distributed, confidence intervals may be too wide or narrow. Thus, Shapiro-Wilk test indicates that the error term is not normally distributed with all the errors terms been significant ($p<0.05$).

Outliers: The cook's distance was used to test whether there are outliers of influential observation. Since the cook's distance shows no value greater than 1.00 the study concludes that there are no outliers or influential observations.

Table 3: Variance Inflation Factors

	VIF
AUIS	1.08
AUDT	1.03
Mean VIF	1.06

Source: STATA 14.2 Result Output.

The rule-of-thumb is that VIF>10 indicate multicollinearity. Since VIF for the variables ranges from 1.03 – 1.06, the independent variables are not strongly (perfectly) correlated. Thus, no one independent variable does influence the other independent variable(s).

Table 4: Summary of Regression Results

Variables	**$ABCFO_{i-t}$**	**$ABPROD_{i-t}$**	**$ABDISEX_{i-t}$**
Intercept	0.108	0.086	0.122
z-statistics	(3.830)	(3.220)	(3.240)
p-value	[0.000]	[0.001]	[0.001]
AUIS	0.015	0.023	-0.017

z-statistics	(0.970)	(0.890)	(-1.350)
p-value	[0.332]	[0.372]	[0.178]
AUDT	-0.017	-0.007	-0.011
z-statistics	(-1.630)	(-0.640)	(-1.000)
p-value	[0.103]	[0.522]	[0.317]
Wald ($\square^2$)	180.53	111.48	121.09
p-value	0.0000	0.0000	0.0000
R-Squared (R^2)	0.3595	0.3137	0.2776
N	430	430	430
Companies	43	43	43

The numbers in parentheses () and [] are *z*- values and $p>z$ respectively

Source: STATA 14.2 Result Output.

ABCFO = abnormal cash flows from operation, $ABPROD/A_{t-1}$ = abnormal production cost, $ABDISEX/A_{t-1}$ = abnormal discretionary expenses and all other variables are as defined before. This study expected a positive coefficient on all the audit quality variables (AUIS and AUDT). The results are shown in Table 4 with the analysis in the ensuing. The *Wald*($\square^2$) in Table 4 indicate that all the three estimated model are significantly fit *Wald* ($\square^2$)=180.53, $p<0.001$ for the ABCFO model, *Wald* ($\square^2$)=111.48, $p<0.001$ for the ABPROD model, *Wald* ($\square^2$)=121.09, $p<0.001$ for the ABDISEX model. N=430 in Table 4.6 indicates the number of observations while companies equal to 43 depicts the groups (number of companies in the sample). The overall explanatory power of the models, the R^2 = 0.3595, 0.3137, 0.2776 and 0.4489 for ABCFO, ABPROD and ABDISEX models respectively. This suggest that, audit quality account for between 27.76% to 44.89% variation in the cash-based earnings management of the quoted manufacturing companies in Nigeria depending on the method of estimating cash-based earnings management employed. Also, Table 4 also reported the estimates of β-values, these values indicate the individual contribution of each audit quality proxy to the prediction of real earnings

management (residual) in the models. By letting β_0 represent intercept and $\beta_1 - \beta_2$ represent the regression coefficients for the two predictors.

This study also present regression results from Table 4 revealed that auditor industry specialization does not significantly prevent cash-based earnings management. ABCFO, (β_1 = 0.015, z = 0.970, p = 0.332) and ABPRO (β_1 = 0.023, z = 0.890, p = 0.372). The positive coefficient of ABCFO and ABPRO indicates that auditor industry specialization was not able to constrain but increases cash-based earnings management of the sampled quoted manufacturing companies in Nigeria. This result also confirms the *a priori* expectation that auditor industry specialization were not able to constrain but increases cash-based earnings management in relation to ABCFO and ABPRO. This finding agrees with Andra (2014), who also documented a negative association between AUIS and REM.

The result depicts a negative coefficient of ABDISEX at (β_1 = -0.017, z = -1.350, p = 0.178) on Cash-based earnings management. The result however, contradicts the study's expected positive coefficient on industry specialist auditors and ABDISEX. Prior research generally documented that dominant auditors distinguish themselves from their competitors by devoting additional skills and resources to develop greater market shares, which is geared towards enhancing their industry-specific knowledge (Mayhew & Wilkins, 2003).

Finally, the regression results from Table 4 revealed that audit tenure does not significantly prevent cash-based earnings management. The effect of auditor tenure on the level of cash-based earnings management is negative with the coefficient of ABCFO, (β_2 = -0.017, z = -1.630, p = 0.103); ABPRO, (β_2 = -0.007, z = -0.640, p = 0.522) and ABDISEX, (β_2 = -0.011, z = -1.000, p = 0.317). This is contrary to the a priori expectation implying that the probability to manage earnings to decrease cash-based earnings management is not related to audit tenure of the sampled quoted manufacturing companies in Nigeria. From this optic, it can be concluded that

longer auditor tenure may also result in mitigating the opportunities for cash-based earnings management. Thus, the study findings provides empirical evidence that auditor tenure impact on the level of cash-based earnings management of quoted manufacturing companies in Nigeria however the effect is not statistically significant.

5.1 Test of Hypotheses

Two hypotheses were formulated for testing in this study with the aim that by testing them the research question will be answered and research objectives achieved. *Z-test* from the regression results presented in Table 4 is employed in testing the hypotheses. At 0.05 critical levels, the decision rule is to accept the null hypothesis if the computed statistic falls within the limit of two critical values ($\pm$1.96) and reject the null hypothesis if otherwise. Alternatively, the null hypothesis is rejected if the computed *p*-value is less than the critical value (0.05) otherwise the null hypothesis is accepted.

Hypothesis One

Hypothesis one postulates that auditor industry specialization has no significant effect on earnings management of quoted manufacturing companies in Nigeria. Since three matrix of measuring cash-based earnings management were investigated in this study the hypothesis is divided into $H_{01.1}$, $H_{01.2}$ and $H_{01.3}$. The hypothesis is restated as:

The hypothesis is restated as:

$H_{01.1:}$ Auditor industry specialization has no significant effect on abnormal level of cash flow from operation of quoted manufacturing companies in Nigeria.

$H_{01.2:}$ Auditor industry specialization has no significant effect on abnormal level of production cost of quoted manufacturing companies in Nigeria.

$H_{01.3:}$ *Auditor industry specialization has no significant effect on abnormal level of discretionary expenses of quoted manufacturing companies in Nigeria.*

From Table 4 the calculated *z*-statistics is significant at (*z*= 0.970, *p*= 0.332). Given that *z*-statistics is greater than ±1.96 and the *p*-value is more than 0.05, this study accepted $H_{01.1}$ and concluded that auditor industry specialization has no significant effect on abnormal level of cash flow from operation on cash-based earnings management of quoted manufacturing companies in Nigeria. Also, from the information in Table 4 the *z*-statistics and the corresponding p-value is statistically significant (*z*= 0.890, *p*= 0.372). Since the *z*-statistics is in between ±1.96 and the *p*-value is more than 0.05 this study accepts $H_{01.2}$ and concluded that auditor industry specialization has no significant effect on abnormal level of production cost of quoted manufacturing companies in Nigeria. However, from the information in Table 4 the *z*-statistics and the corresponding p-value is not statistically significant at (*z*= -1.350, *p*= 0.178). Since the *z*-statistics is in between ±1.96 and the *p*-value is more than 0.05 this study equally accepted $H_{01.3}$ and concluded that auditor industry specialization has no significant effect on abnormal level discretionary expenses of quoted manufacturing companies in Nigeria.

Hypothesis Two

$H_{02.1:}$ *Audit tenure has no significant effect on abnormal level of cash flow from operation of quoted manufacturing companies in Nigeria.*

$H_{02.2:}$ *Audit tenure has no significant effect on abnormal level of production cost of quoted manufacturing companies in Nigeria.*

$H_{02.3:}$ *Audit tenure has no significant effect on abnormal level of discretionary expenses of quoted manufacturing companies in Nigeria.*

To test Hypotheses 2, result of audit tenure in Table 4 was considered. From Table 4 the calculated *z*-statistics and corresponding p-value is not statistically significant at (z= -1.630, p=0.103). Since the *z*-statistics is within the critical range and the *p*-value is more than 0.05, this study accepts $H_{0.2.1}$ and concludes that audit tenure has no significant effect on ABCFO of quoted manufacturing companies in Nigeria. Also, from the information in Table 4 the *z*-statistics and the corresponding p-value is not statistically significant at (z= -0.640, p=0.522). Since the *z*-statistics is in between ±1.96 and the *p*-value is more than 0.05 this study accepts $H_{02.2}$ and concluded that audit tenure has no significant effect on abnormal level of production cost of quoted manufacturing companies in Nigeria. Furthermore, from the information in Table 4 the *z*-statistics and the corresponding p-value is not statistically significant (z= -1.000, p=0.317). Since the *z*-statistics is in between ±1.96 and the *p*-value is more than 0.05 this study accepts $H_{02.3}$ and concluded that audit tenure has no significant effect on abnormal level discretionary expenses of quoted manufacturing companies in Nigeria.

6.0 Conclusion

The study concludes that auditor industry specialization has a positive and insignificant effect on ABCFO and ABPRO of quoted manufacturing companies in Nigeria, indicating that auditor industry specialization does not significantly prevent ABCFO and ABPRO of quoted manufacturing companies in Nigeria. The study also concludes that auditor industry specialization has a positive and insignificant effect on ABDISEX of quoted manufacturing companies in Nigeria, implying that auditor industry specialization were unable to reduce earnings manipulation in the ABDISEX under the period covered.

This study also concludes that there is a negative and insignificant relationship between audit tenure, ABCFO, ABPRO and ABDISEX of quoted manufacturing firms in Nigeria meaning that

audit opinion issued have the effect of constraining cash- based earnings management a little. Thus, overall evidence from this study lead to a conclusion that audit tenure has effect on both ABCFO, ABPRO and ABDISEX of quoted manufacturing firms in Nigeria.

7.0 Recommendations

Hence, the study provides that longer audit tenure constrains cash-based earnings management, the study recommends that extension of audit tenure should be encouraged by the FRC. Furthermore, attentions should be given to firms attempting to smooth or increase earnings to attract investors in the stock market through unnecessary manipulation of cash–based economic activities.

8.0 Limitations of the Study

Firstly, earnings management is not a visible variable and consequently the accuracy of the measures of it in this study is highly debated. Secondly, due to limited data availability, a relatively small sample size remained. The drawn sample of 43 listed manufacturing companies in Nigeria might cause this research results to be biased.

9.0 Suggestions for Further Research

The limitations of this study provide avenue for future research. Firstly, earnings management is a wide concept with different measurement approaches, thus, future studies can employed other proxies of it such as reporting quality, timeliness, and restatements instead of solely focusing on the use of cash-based earnings management components from the models used in this study in order to get a more valid result. Finally, since this study is limited to the listed manufacturing companies in Nigeria, further research might investigate the financial services, non-listed firms, and even cross-country samples with differences in regulatory and economic factors. These differences might affect the quality of the audit and earnings.

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