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Audit Quality and Cash – Based Earnings Management of Quoted Companies in Nigeria

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Abstract

This study examines the impact and relationship between audit quality and cash - based earnings management of companies in Nigeria. Using archival data based on a sample of 342 companies – year observations from the NSE and applying some commonly applied audit quality measures for purpose of robustness, a massive and all-inclusive multivariate analyses was conducted. The result showed that audit quality exerts significant negative relationship with cash - based earnings management of quoted companies in Nigeria. The study recommends that Professional Accountancy Bodies, the Financial Reporting Council of Nigeria and the Nigerian National Assembly should issue authoritative code for audit quality; companies should improve their earnings quality only through sales growth, cost control and cost reduction strategies; companies in Nigeria should present distinct statements of earnings quality while auditors should issue Integrated Audit Quality Assurance Report based on earnings quality assessment, supported by current best practices, statutorily backed by earnings monitoring of companies in Nigeria.

JEL classification numbers: G11, M41, M42, P34
Keywords: Audit Quality, Earnings, Earnings Management, Earnings Quality, Cash – Flow

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1 Introduction

The codes of best practice relating to audit quality are developed in different countries in order to curb the pervading vicious corporate collapses across the globe in the past decade and to guarantee integrity of auditors' reports in relation to corporate earnings and financial statements. Audit Quality (AQ) was first defined by DeAngelo as the market-assessed joint probability that a given auditor discovers a breach in the client's accounting system and reports the breach [1]. The European Supreme Audit Institution (EUROSAI) extended the definition of Audit Quality in 2004 to include the degree to which a set of inherent characteristics of an audit fulfill requirements [2]. Thus, the audit process assesses the probability of material misstatements and reduces the possibility of undetected misstatement to an appropriate assurance level [3] [4]. Audit Quality is recognized to influence financial reporting and strongly impact on investors' confidence [5]. Conventionally, external auditors play critical and highly challenging roles in assuring the credibility of financial reports [6] [7]. The demand for audit of companies' accounts is created by the agency problems which are related to the separation of corporate ownership from control [8] [9].

Earnings management is a strategy used by company managers to deliberately manipulate company earnings to match a predetermined target and involves the planning and execution of certain activities that manipulate or smooth income, achieve high earnings level and sway the company's stock price [10] [11]. Cash – based Earnings Management involves the manipulation of fundamental economic operations and cash flow activities of an organization in order to beautify or smooth earnings and to sway the share price of an organization. It involves a departure from normal operational practices, motivated by manager's desire to mislead, at least, some stakeholders into believing that certain financial reporting goals have been met in the normal course of operations [12]. Cash – based Earnings Management is therefore a purposeful action by management of a company to alter reported earnings in a particular direction, achieved by changing the timing and/or structuring of an operation, investment and/or financial transaction with cash flow effects and the accompanying sub-optimal business consequences [13]. The definition presupposes the existence of managerial intent in order to influence earnings by structuring transactions [11]. The motivation is firstly, the negative value implications of manipulating real activities that are thought to be one of the most serious forms of earnings management [14]. Secondly, cash - based (or Real) Earnings Management may adversely affect cash flows both in the short and in the long run by cutting discretionary expenditures. Cash - based earnings management involves managing earnings through the manipulations of Cash Flows, Sales and the operational activities of a firm.

The quality of reported earnings and the ability of audit quality to effectively constrain CBEM of companies across the world and Nigeria in particular, have become considerably questionable due to recent corporate accounting scandals [15] [16]. These corporate financial scandals pose a great challenge to the veracity, credibility, utility or value relevance of the audit function. A number of spectacularly large business failures, including Enron and Worldcom (in the USA), Cadbury Nigeria Plc; African Petroleum Plc [17]; Savannah Bank and African International Bank [18]; Wema Bank, Nampak, Finbank and Spring Bank [19]; and more recently Intercontinental Bank Plc., Bank PHB; Oceanic Bank Plc. and AfriBank Plc (in Nigeria) involved Cash – based earning management and accounting related scandals. These are known publicly reported cases that resulted in misleading financial reports. These failures created negative publicity and

loss of confidence in the capital market. There is therefore a concern about the quality of accounting income and its relationship with the quality of the auditing process which has been observed to increase over time following the periodical clusters of business failures, frauds, and litigations. The issue is whether these corporate collapses are not the outcome of poor audit quality and the inability of the audit function to arrest earnings management.
The focus of external users on reported earnings as a central variable for making decisions and recent corporate scandals means that earnings management has become a matter of great concern. Using numbers, management may abuse "big bath" restructuring charges, premature revenue recognition, reserves and write-offs of purchased in-process research and development (R&D) [11]. These practices threaten the credibility of financial reporting. There are issues regarding earnings management that require factual and not fictional accounting to accentuate the importance of company accounts that are true and fair. The essence of this requirement is that companies must not distort, hide, fabricate and present, in whole or in part, deceitful financial reports.
Next to the focus on reported income statement, earnings analysts and investors may focus more on cash flows rather than the income statement of a company. As a result of corporate scandals analysts and stakeholders lose faith in accounting income-based measurements. Sufficient cash flows from operating activities are essential for these companies to remain profitable and viable in the future. Lack of cash flows could result in bankruptcy or for a company to turn into a takeover prey. Since investors use the cash flow statement to make investment decisions, highly motivated and intelligent management teams involve in Cash – based earnings management to create ways to influence the true picture of a company's cash flow from operations (CFO). The reason why corporate executives have greater willingness to engage in Cash – based earnings management than through accruals management is because accrual-based earnings management is more likely to draw auditor or regulatory scrutiny than cash – based decisions such as those related to product pricing, production, and expenditures on research and development or advertising [20] [21].
The underlying fundamental real economic activities manipulation is accomplished by a wide variety of operating decisions. These operating decisions may be suboptimal and weaken the firm's operating performance in the long run. Real activities manipulation can reduce firm value because actions taken in the current period to increase earnings can have a negative effect on cash flows in future periods [12].
Many accounting scandals of the past decade have involved outright manipulation of accounting data through operating activities manipulations including recording fictitious inventory and hiding liabilities even in the face of audited financial reports. It has been reported that the companies that have involved in real accounting scandals along with a number of lesser known companies greatly involved in transactions where the accounting was technically correct but which served primarily to obfuscate the financial health of the organizations and the results of their operations [4]. A common trend and threat among the companies that are involved in accounting and financial scandals are gross lack of integrity, character and transactions involving related parties [16] [22] [23].
Given the above scenario, the major problem of this study is to determine whether audit quality can significantly constrain or minimize the negative consequences of cash – based earnings management of quoted companies in Nigeria. The study attempts to ascertain and establish whether there are significant relationships between Audit quality and the level of cash – based earnings management of quoted companies in Nigeria. This study assumes that CBEM in an emerging market like the Nigerian Stock Exchange (NSE) is

likely to present some problems for a true and qualitative earnings report. Healy and Wahlen point out that earnings management studies have paid only negligible attention to its real economic consequences [11]. While there is growing evidence that firms engage in cash – based earnings management [12][13][25], there is no evidence on its economic consequences, and in particular, how these effects compare to those of discretionary accruals manipulations. Consistent with [20][24] have shown that managers have shifted away from "discretionary accruals management" to cash – based earnings management in the post Sarbanes-Oxley Act (SOX) period.

Anecdotal as well as empirical evidences on the effects of AQ on cash – based earnings management of non-financial institutions may exist in the developed countries [12] [13] [25]. In the case of Nigeria, we are not aware of any existing study relating to the effects and association between audit quality and cash – based earnings management of quoted companies in the non – financial institutions as at the time of this study.

2 Literature Review

Cash – based (or real earnings) earnings management is accomplished in a number of ways. There is evidence that cash – based earnings management may be achieved through overproduction [26]. Another type of real or cash - based earnings management may be strategic timing of exercise of employee stock options to affect the denominator of earnings per share [27] [28]. Prior studies declare that firms with negative earnings changes report higher incomes from asset sales [29]. CEOs may reduce spending on Research and Development (R&D) toward the end of their tenure to increase short-term earnings [30]. Extant literatures provide evidence that is consistent with reduction of R&D expenditures to meet earnings benchmarks [31] [32]. In Iran, Mashayekhi, Mehrani, Mehrani and Karami find that listed firms in Tehran Stock Exchange (TSE) do earnings management when their operating performance is poor and they tend to choose income increasing accounting strategies [33]. Further evidence provides that income has a weaker performance leading to a higher motivation compared with non-income smoother in TSE [34].

There are few studies about how managers use specific transactions, other than cutting R&D expenditures, to influence earnings. Some of the studies focus on stock repurchases [29][36]; some examine the sales of fixed assets [29] [35]; some deal with sale price reductions [37]; some overproduction, managing of sales, advertising, SG&A expenses to effect CBEM [12] [25]; and others examine the tradeoff between discretionary and cash - based earnings management [13].

Herrmann examines the usage of income from the sale of fixed assets and marketable securities to manage earnings and found a negative relation between income from asset sales and management forecast error [35]. When current reported operating income is below (above) management's forecast of operating income, firms increase (decrease) earnings through the sale of fixed assets and marketable securities. Bartov had earlier examined the sales of fixed assets and shows that the profit from sales of assets is negatively correlated with earnings changes. He uses this to argue that firms facing earnings declines boost profits through increased asset sales [29].

Prior research has examined the management of sales, reduction of discretionary expenses and overproduction [12]. Gunny examines the extent to which CBEM affects subsequent operating performance and whether investors anticipate the performance consequences of

real management [25]. The results provide evidence that CBEM has an economically significant impact on future performance. Zang studied whether managers use real manipulation and accrual manipulation as substitutes in managing earnings and studies the order in which managers make these decisions [13]. Evidence is also available that following the passage of SOX, accrual-based earnings management declined significantly, while CBEM increased significantly [24] consistent with the results of a survey by Graham, Harvey and Rajgopal in 2005 [20], suggesting that firms switched to managing earnings using real cash flow manipulations, possibly because these techniques, while more costly, are likely to be more difficult for auditors and regulators to detect. Ewart and Wagenhofer found factors that determine the intensity of the substitution of accounting accruals by CBEM and the welfare effects, such as substitution rates between accrual and CBEM by managers, the real cost of earnings management and the precision of the market knowledge about the manager's incentives [14].
Summing up, a number of authorities agree on AQ as a function of audit firm size and demonstrate that larger audit firms possess greater capacity to measure Audit Quality [1][38][39][40][43] [46][47][48]. The major proposition of this study is that cash - based Earnings Management depends on Audit Quality and we maintain that this study extends the AQ proxy of Audit Firm Size (AFS) to include other perceived AQ proxies.

3 Methodology

This study is based on a sample of 342 company – year observations from the NSE for the fiscal years, 2006 to 2011. Using some commonly applied audit quality measures together for purpose of robustness, a massive and all-inclusive multivariate analyses was conducted in order to show whether audit quality exerts significant relationship with real cash - based earnings management of quoted companies in Nigeria. In this study we measure Audit Quality by applying Audit Firm Size (AFS) in terms of Big-4 and Non-Big-4 audit firms, Audit Fees (AF) which also measures Auditor Independence, Auditor Tenure (AT); and Audit Client Importance (ACI). The study adopts the models developed by Dechow, Kothari and Watts [49], used by Roychoadhury [12] and Cohen, Dey and Lys [24] to consider three metrics used to measure the levels of manipulations of fundamental economic activities of management. The hypothesis of this study applies to Cash – Based Earnings Management as follows:

H_0: There is no significant relationship between Audit Quality and Cash - Based Earnings Management (CBEM) of quoted companies in Nigeria;

In order to investigate the company's total level of earnings management through cash flow manipulations, first, we generate and measure the normal level of real cash - based earnings management activities using the three manipulation schemes. Second, the abnormal levels of each type of real activities manipulation are measured as the residual from the relevant estimation models as follows:

3.1 Abnormal Levels of Cash Flow from Operation (CFO)

Abnormal CFO is actual CFO minus the normal level of CFO calculated using the estimated coefficients from the regression equation below. All variables in the model are scaled by lagged total assets ($A_{i,\ t-1}$). This model is functionally expressed and run as a cross-sectional regression for each company and year as follows:

$$\frac{CFO_{it}}{Assets_{\ i,t-1}} = \beta_{1t}\frac{1}{Assets_{\ i,t-1}} + \beta_2\frac{Sales_{\ i,t}}{Assets_{\ i,t-1}} + \beta_3\frac{\Delta Sales_{\ i,t}}{Assets_{\ i,t-1}} + \in_{i,t} \quad (1)$$

Where:

CFO = Normal (expected) Cash Flow from operations,
$Assets_{\ i,\ t-1}$ = Total Assets of company i, in year t – 1,
Sales = Sales Revenues,
ΔSales = Change in sales revenues over time ($S_t - S_{t-1}$),
$e_{i,t}$ = Error Term

The abnormal CFO is then computed as actual CFO minus the normal level of CFO estimated using the coefficient from the above equations.

3.2 Abnormal Level of Production Costs (Prod)

To estimate the normal level of production costs, defined as the sum of cost of goods sold (COGS) and change in inventory during the year, we estimate COGS as a linear function of contemporaneous sales as follows:

$$\frac{COGS_{i,t}}{Assets_{\ i,t-1}} = \beta_{1t}\frac{1}{Assets_{\ i,t-1}} + \beta_2\frac{Sales_{\ i,t}}{Assets_{\ i,t-1}} + \in_{i,t} \quad (2)$$

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

$$\frac{\Delta INV_{i,t}}{Assets_{\ i,t-1}} = \beta_{1t}\frac{1}{Assets_{\ i,t-1}} + \beta_2\frac{\Delta Sales_{\ it}}{Assets_{\ i,t-1}} + \beta_3\frac{\Delta Sales_{\ i,t-1}}{Assets_{\ i,t-1}} + \in_{it} \quad (3)$$

Using the sum of the above two equations, we estimate the normal level of production costs:

$$\frac{Prod_{\ it}}{Assets_{\ i,t-1}} = \beta_1 + \frac{1}{Assets_{\ i,t-1}} + \beta_2\frac{Sales_{\ it}}{Assets_{\ i,t-1}} + \beta_3\frac{\Delta Sales_{\ i,t-1}}{Assets_{\ i,t-1}} + \beta_4\frac{\Delta Sales_{\ i,t-1}}{Assets_{\ i,t-1}} + \in_{it} \quad (4)$$

Where: $Prod._{i,t}$ = COGS plus INV. = Normal (expected) Production Cost for company i in year t.
$Assets_{\ i,t-1}$ = Total Assets of company i in year t – 1,
$Sales_{\ i,t}$ = Sales Revenues for company i, in year t,
$\Delta Sales_{\ i,t}$ = Change in Sales for company i, in year t,
$\Delta Sales_{\ i,t-1}$ = Sales Revenues for company i, in year t – 1,
$e_{i,t}$ = Error Term for company i, in year t,

The abnormal production cost is computed as the (residual) difference between the value of the sum of COGS plus change in stock and the normal level predicted by equation (4).

3.3 Abnormal Level of Discretionary Expenses (Disex)

We express discretionary expenses as a function of lagged sales and estimate the following model to derive 'normal' levels of discretionary expenses:

$$\frac{DiscExp_{it}}{Assets_{i,t-1}} = \beta_{1t}\frac{1}{Assets_{i,t-1}} + \beta_2\frac{Sales_{i,t-1}}{Assets_{i,t-1}} + \in_{it} \quad (5)$$

For every firm year, abnormal discretionary expenses (Abdisex) represent the (residual) difference between the actual disex and normal (expected) disex calculated using the corresponding company – year parameters. CBEM is estimated as the sum of abnormal CFO, abnormal production cost and abnormal discretionary expenses.

3.4 Model for Effect and Relationship between AQ and CBEM

Linear regression analyses were used to test the relationship between the dependent variable (CBEM) and the identified independent AQ variables. The following regression equation relates the most commonly used audit quality attributes, AFS, AF, AT, ACI to CBEM specified as follows:

$$\mathbf{CBEM_{i,t} = a_0 + \beta_1 AFS_{i,t} + \beta_2 AF_{i,t} + \beta_3 AT_{i,t} + \beta_4 ACI_{I,t} + \beta_5 CFO_{i,t} + \beta_6 Gwth_{i,t} + \beta_7 CoySize_{i,t} + \beta_8 Lev_{i,t} + e_{i,t}} \quad (6)$$

The variables in the model are measured and described in the table below.

Table 1: Measurement of Variables

S/N	VARIABLES	DEFINITION	TYPE	MEASUREMENT
1	CBEM	Cash - Based Earnings Management	Dependent	Abn. CFO + Abn. Prod. Cost + AbDisex.
2	AFS	Audit Firm Size	Independent	Dichotomous: '1' if company is audited by a Big4, '0' otherwise
3	AF	A measure of Auditor Independence	,,	Natural Log of the Audit Fees Paid by the company.
4	AT	Audit Tenure	,,	Length of auditor-client relationship: '1' if 3 yrs^{+} & '0' if otherwise.
5	ACI	Degree of Audit Client Importance to the Audit Firm	,,	% of Turnover of each company to Total Turnover of Clients of the auditor within the sample size.
6	CFO	Cash Flow From Operations	Control	CFO as % of Total Assets at end of Year 't'.
7	Gwth	Growth Prospects of the Company	,,	(Market Value divided by Book Value of Equity) = MPS/BVPS
8	CoySize	Company Size	,,	Natural log of company Total Assets
9	Lev.	Leverage	,,	$\frac{\text{Total Debts}}{\text{Equity}}$

4 Data Analyses

4.1 Descriptive Statistics

Table 2 below presents the result for the descriptive statistics conducted on the variables.

Table 2: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std.Dev	Jarque-Bera	Probability
CBEM	305.3242	-26938.7	554242.3	-108663	67688.19	5198.002	0.000
AFS	0.702771	1	1	0	0.457615	76.42107	0.000
AF	6.821742	6.9	8.22	5.04	0.577794	16.92742	0.000
AT	0.942065	1	1	0	0.233914	3459.362	0.000
ACI	5.536801	1	54.63	0.01	9.839493	1723.826	0.000
CFO	11.66365	11.7	99.49	-126.16	16.67328	3494.981	0.000
GWTH	8.667909	2.7	1228.33	-24.64	72.64753	922498.7	0.000
COSIZE	9.879723	9.97	11.66	7.87	0.790002	10.88827	0.004
LEV	5.505743	1.39	685.82	-15.7	43.15786	696687	0.000

Source: computation derived from Eviews 7.0 by the author

Table 3 below shows the regression assumptions test for the model of study. As shown in the table, COSIZE appears to have VIF's values exceeding 10 and hence the variable is dropped from the multiple regression models relating to CBEM and AQ. The Breusch-pagan-Godfrey test for heteroscedasticity was performed on the residuals as a precaution. The results showed probabilities less than 0.05 which suggest the likely existence of heteroscedasticity. As an appropriate method to treat heteroskedasticity, we adopt Robust Standard Errors to address the issue of errors that are not independent and identically distributed. The Lagrange Multiplier (LM) test for serial correlation reveals that the hypotheses of zero autocorrelation in the residuals were not rejected. This was because the probabilities (Prob. F, Prob. Chi-Square) were greater than 0.05. The LM test did not therefore reveal serial correlation problems for the model. The performance of the Ramsey RESET test showed high probability values that were greater than 0.05, meaning that there was no significant evidence of misspecification.

Table 3: Regression assumptions test for Model Relating to Dependent Variable (CBEM)

Variance inflation test for Multicollinearity				
Variable	Coefficient Variance	Centered VIF		
C	8.85E+09	NA		
AFS	2.10E+08	4.883		
AF	5.06E+08	4.883		
AT	1.32E+09	1.4021		
ACI	492313.4	2.1774		
CFO	135007	1.1585		
GWTH	9397.693	3.111		
COSIZE	5.08E+08	10.120*		
LEV	17515.89	2.8020		
Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.526353	Prob. F(1,182)	0.4709	
Obs*R-squared	0.608941	Prob. Chi-Square(1)	0.4352	
Heteroskedasticity Test: Breusch-Pagan-Godfrey				
F-statistic	3.34704	Prob. F(9,184)	0.0043	
Obs*R-squared	19.1978	Prob. Chi-Square(9)	0.0076	
Scaled explained SS	96.39948	Prob. Chi-Square(9)	0.0023	
Ramsey RESET Test				
	Value		Probability	
t-statistic	0.45634		0.783	
F-statistic	0.6736		0.325	
Likelihood ratio	0.5423		0.231	

Source: Computation derived from Eview 7.0 by the author. *VIF values exceed 10.

4.2 Panel Unit Root Test

In conducting the panel unit root, the Augmented Dicky Fuller test is utilized. However, for robustness, we also conduct the unit root test using the Breitung t-stat and the Im, Pesaran and Shin W-stat. All tests are conducted at intercept and trend and the results are presented and analyzed below:

Table 4 (i): Augmented Dickey Fuller (ADF) Unit Root Test

Null Hypothesis: Unit root (individual unit root process)		
Exogenous variables: Individual effects		
Automatic selection of maximum lags		
Automatic lag length selection based on AIC: 0 to 14		
Method	Statistic	Prob.**
ADF - Fisher Chi-square	570.45	0.000
ADF - Choi Z-stat	-17.2136	0.000

** Probabilities for Fisher tests are computed using an asymptotic Chi – square distribution. All other tests assume asymptotic normality.

Table 4 (ii): Breitung Unit Root Test

Null Hypothesis: Unit root (common unit root process)		
Exogenous variables: Individual effects, individual linear trends		
User-specified maximum lags		
Automatic lag length selection based on AIC: 0 to 3		
Method	Statistic	Prob.**
Breitung t-stat	-7.22855	0.000

Source: Computation derived from Eview 7.0 by the author

Table 4 (iii): Im, Pesaran and Shin unit root test

Null Hypothesis: Unit root (individual unit root process)		
Exogenous variables: Individual effects, individual linear trends		
User-specified maximum lags		
Automatic lag length selection based on AIC: 0 to 3		
Method	Statistic	Prob.**
Im, Pesaran and Shin W-stat	-109.105	0.000

Source: Computation Derived from Eviews 7.0

Table 4 (i), (ii) & (iii) above provide summary reports of panel unit root tests on the residuals of the regressions reported. The p-values reported in the Table 4 (i) suggests that the hypothesis of no unit root can be rejected at least at the 5% level; the ADF Fisher statistic (570.45) and the Choi Z-stat. (-17.214) for the stacked residuals indicate that the null hypothesis of non-stationarity is strongly rejected. Furthermore, the Breitung Unit Root Test was performed and the results shows the Breitung t-stat (-7.2286) and p-value (0.00) as presented in table 4 (ii) and suggests that the null hypothesis of non-stationarity is strongly rejected at 5%. The Im, Pesaran and Shin unit root test was performed as an additional check to confirm the stationarity of the data. The results shows the Im, Pesaran and Shin W-stat (-109.105) and p-value (0.000) as presented in table 3 (iii) and suggest that the null hypothesis of non-stationarity is strongly rejected at 5%.

4.2 Least Square (Multiple) Regression

Table 5: Regression test for Model (Dependent Variable = CBEM)

	POOLED OLS		PANEL OLS (FIXED EFFECTS)		PANEL OLS (RANDOM EFFECTS)	
Variable	Coefficient	Prob.	Coefficient	Prob.	Coefficient	Prob.
C	-7.886	0.965	-81635.1	0.264	6636.137	0.000*
EXPLANATORY VARIABLES						
ACI	354.52	0.497	361.382	0.000*	184.325	0.000*
AF	9275.325	0.586	-16610.3	0.057**	-8126.98	0.001*
AFS	-21120.7	0.314	9319.279	0.437	-46344.9	0.000*
AT	4187.274	0.497	2655.3	0.532	21384.54	0.613
CONTROL VARIABLES						
CFO	34.188	0.353	30.311	0.498	-151.022	0.142
GWTH	4.635	0.001*	3.598	0.000*	25.645	0.002*
LEV	-8.154	0.000*	-8.061	0.000*	31.0125	0.073**
AR(1)	0.279	0.000*				
R^2	0.893		0.899		0.11	
ADJ R^2	0.879		0.887		0.07	
F-Stat	63.756		77.781		2.831	
P(f-stat)	0.000		0.000		0.008	
D.W	1.64		1.75		1.5	
Hausman test	**0.632**					

Source: Computation derived from Eview 7.0 by the author. * Significant at 5% **significant at 10%.

Table 5 above, shows the result for the multiple regression model with the inclusion of all the explanatory variables (AQ measures) together in the model after controlling for the effects of a number of exogenous variables.

5 Discussion of Regression Results and Findings

In estimating the models, we employed the pooled OLS and Panel effects estimations. Our preference for the variable estimates used in discussing the results is based on the descriptive statistic and Hausman Test.

Descriptive statistics showed the mean value of Audit firm Size (0.702) and suggests that majority of the companies in the sample were audited by the Big-4 Audit Firms. This may be related to the level of perceived audit firm quality being associated with Audit Firm Size (in terms of the Big-4 audit brand names) by quoted companies in Nigeria. This result agrees with the findings of previous studies [1]; [40] [41][42] [43] [44] [45]. Other prior studies agree on audit quality as a function of audit firm size and demonstrate that larger (Big 8, Big 6, Big 5 or Big 4) audit firms possess greater capacity to constrain and minimise earnings management [38] [39] [46] [47] [48]. Our result shows a considerable cluster of audit firm choice around the Big-4 audit brand names.

The mean value of CBEM (305.3242) along with the standard deviation (67688.19) indicates a large presence of 'Real Earnings' Manipulations by the companies in the sample. This corroborates the evidence in the USA by Graham et al [20] and [24] that accrual-based EM is more likely to draw audit and regulatory scrutiny than real decisions. Hence corporate managers may have shifted away from Discretionary Accrual Management to Real cash - based Earnings Management in the post Sarbanes – Oxley Act (SOX) period. This situation appears to be ostensibly replicated in Nigeria, perhaps because of the effects of globalization of World accounting and economic policies, and an anticipation of the adoption of SOX, IFRSs and similar codes of best practices which partial presence is indicated by the promulgation of Financial Reporting Council of Nigeria Act, 2011.

The descriptive statistic revealed that on the average, companies (about 94%) engage their audit firms for over three (3) years. The study reveals a considerable experience of a substantial number of audit firms in this distribution. Audit Tenure is defined in this study as the length of the auditor-client relationship. In Nigeria, it is professionally required that audit tenure should not exceed three years but this does not appear to be enforced.

The inclusion of all explanatory variables (Audit quality measures) together in the model indicates that the Random effects estimation is valid as shown by the Hausman test. Audit Firm Size is observed to impact significantly (p=0.000) on real cash - based earnings management with a negative slope coefficient (-46344.9); Audit Tenure appear to exert a positive effect (21384.54) on real cash - based earnings management but this is insignificant at 5% (p=0.613) while Audit fees impacts significantly (0.001) on real cash - based earnings management with a negative slope coefficient (-8126.98). Although ACI appeared positive (184.325) and significant (0.000), ACI does not fall among the three most commonly applied perceived AQ proxies. Without prejudice to the outcome of ACI therefore, these results provide strong evidence to reject the null hypothesis (H_0) and accept the alternative hypothesis of a significant negative relationship between audit quality measures and real cash - based earnings management activities of quoted companies in Nigeria.

The results imply that when audit quality is high, real management activities is minimized. However, since there are no codes of best practice to provide sanction when real cash - based earnings management is detected by the Auditor; there is a tendency for corporate managers to shift away from managing discretionary accruals to engaging more in real cash - based earnings management activities. The effect is that real cash - based earnings management and cash flow manipulations increase. This probably accounts for the dominant (heavy) presence of real cash - based earnings management among the companies in our sample.

5.1 Recommendations

This study recommends that:

1. The management of quoted companies in Nigeria should, as a legal mandate, provide a "statement of the quality of its earnings" arrived at using acceptable and uniform criteria and make assertions that the earnings of the company have not been manipulated (managed) during the period.
2. The auditors of quoted companies in Nigeria should conduct Earnings Quality Assessment (EQA) following Earnings Management detection metrics and the techniques

enumerated in this study and issue "Integrated Audit Reports" which will include EQA reports and Internal Control Reports in addition to normal annual audit reports.

3. The three years professional requirement for Auditors in Nigeria should be backed up by law and enforced.

4. Companies should earn income only through sales growth and cost cutting activities since repeatable and fairly predictable earnings that come from sales and cost reductions presents the company's earnings as high quality earnings in the eyes of investors.

5. Enhanced annual internal inspections and triennial peer reviews should further compel an enhancement of audit quality to minimize the risk of an undetected material misstatement.

6. Companies in Nigeria should adapt or adopt currently available best practices like the provisions of US Public Companies Accounting Oversight (Sarbanes Oxley's) Act, 2002 followed by a statutorily backed earnings monitoring of companies in Nigeria.

5.2 Conclusion

This study has examined and documented evidences that are consistent with the relationship and effects which audit quality exerts on earnings management from the perspective of the manipulations of real cash - based economic operations of companies listed on the Nigerian Stock Exchange (NSE). Based on a sample of 342 companies – year observations from the NSE for the fiscal years, 2006 to 2011, and using some commonly applied audit quality measures together for purpose of robustness, a massive and all-inclusive multivariate analyses was conducted. The result showed that audit quality exerts significant negative relationship with real cash - based earnings management of quoted companies in Nigeria.

In arriving at the above conclusions, quoted financial institutions, unquoted companies and other firms located within the informal sector of the Nigerian economy were excluded; the sample covered six years of data drawn from annual accounts of sampled companies. The effects of inflation on figures related to financial statements and the estimation of cash - based operating activity manipulations (real earnings management) of quoted companies in Nigeria were ignored.

The reported results and findings of this study present obvious implication for regulators such as the Securities and Exchange Commission, the professional accountancy bodies, the Financial Reporting Council of Nigeria, the National Assembly, etc. in their supervisory position to distinguish between legitimacy, outright fraudulent reporting and earnings statements that reflect the desires of management rather than the underlying performance of the company and to impose appropriate disciplinary sanctions on offenders.

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