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AUDIT FEES AND AUDIT QUALITY: A STUDY OF LISTED COMPANIES IN THE DOWNSTREAM SECTOR OF NIGERIAN PETROLEUM INDUSTRY

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ABSTRACT

This study examined the relationship between audit fees and audit quality of listed companies in the downstream sector of the Nigerian petroleum industry. In order to achieve this objective, a total of nine (9) listed companies in the downstream sector of Nigerian Petroleum Industry were selected. Secondary data used for the study was extracted from the annual reports of the selected companies for eight (8) financial years (2007-2014). Audit quality which is the dependent variable was regressed on audit fees alongside leverage and age as control variables using the binary logit regression method. Finding shows that audit fee has a negative significant relationship with audit quality, while leverage also has an inverse relationship but was not significant. Firm age, on its part, had a positive sign and significantly associated with audit quality. It was therefore concluded that high audit fees have the likelihood of compromising auditors' independence, thereby, resulting in lower audit quality. The study recommends that regulators of the auditing practice should adopt measures that would regulate and monitor the audit pricing process in order to strike a balance that would curtail over-charging and or under-charging which evidence shows could impair the independence of the auditor, thereby affect audit quality.

1. INTRODUCTION

The issues regarding audit quality and the factors that can influence it have dominated the accounting literature in recent times. The reasons are not far-fetched, especially when one considers the magnitude of the incessant corporate scandals that rocked several already-established firms in the onset of the 21st century. Both international and indigenous researchers have thus, beamed their search-light on the factors that could impair audit quality. One of the factors that have remained recurrent in the audit quality discuss is the independence of the auditor (Karsemeijer, 2012).

There are two popular professional accounting bodies in Nigeria as it stands, they include: ICAN (Institute of Chartered Accountants of Nigeria) and ANAN (Association of National Accountant of Nigeria). Among the core mandate of these accounting bodies is to regulate professional accounting practices (including Auditing) in the country. The Companies and Allied Matters Acts [CAMA] of 2004 stipulates that all listed companies in Nigeria shall engage the services of an independent (external) auditor. The apparent onus of this demand is for the external auditor, in expressing his independent professional opinion on the "true and fair view" of the information contained in the financial report; lends credence on the reliability of the said information for the confidence-reassurance of the stakeholders.

In providing such an important service, the external auditor is entitled to a certain fee chargeable to the client (the auditee) as remuneration for the auditing endeavors. This fee is called "Audit fees". According to Oladipupo and Monye-Emina (2016) the audit firms are at freedom to charge what they consider fit as audit fees. In other words, the amount charged as audit fees could be discretional. Thus, the fees charged by an audit firm or eventually paid by the auditee (client) for audit services could be higher or even lower with respect to what another auditor may accept within a particular sector.

Previous researchers (see Al-Khoury *et al.* (2015)) have expressed concerns concerning how audit fees could affect audit quality; with majority contesting that audit quality can be strongly influenced by the fees paid to the auditor. At the core of such speculations, several schools of thoughts exist. For example; Karsemeijer (2012) argue that "the higher the audit fees, the more important a client is to the firm and so, independence and therefore the quality of the audit could be compromised". Conversely, Ettredge *et al.* (2007) opined that when a client (auditee) pays lower audit fees comparable with what other companies in the same industry are paying, there is every likelihood that the client becomes loyal to the audit firm which might lead to the auditor overlooking material misstatement and or allowing management to engage in aggressive income smoothing. On the other hand, Ettredge *et al.* (2007) equally argue that financial satisfaction (as a result of high audit fees paid an auditor) "may increase the professionalism and the effort exerted by the auditor which will enhance the audit quality".

This dominating linkage of audit fees as a significant factor in determining auditor independence viz-à-vis audit quality is apparent in prior literatures where the former (audit fees) is repeatedly applied as a proxy for audit quality (e.g. DeFond and Zhang (2014)) and auditor independence (see Okolie (2014); Babatolu *et al.* (2016); Maria (2016)). From the foregoing, it looks agreeable that audit fees (whether abnormally high or incredibly low) can influence auditor independence and by implication, audit quality. However, limited indigenous empirical evidences are available to that effect. The few existing studies all showed conflicting outcomes. For example: on one side, Oladipupo and Monye-Emina (2016) find that audit fees do not significantly affect audit quality in Nigerian quoted firms; the findings of Yuniarti (2011) using CPA firms in Indonesia equally towed the same line. On the other hand, Karsemeijer (2012) using US listed companies, finds that high audit fees are significantly associated with low audit quality; while a recent study by Babatolu *et al.* (2016) and that of Okolie (2014) equally find that audit fee is significantly related to audit quality. The conflicting evidence(s) continues.

It is on this premise that this study derived its core objective to examine the relationship between audit fees and audit quality among listed companies in the downstream sector of Nigerian petroleum industry. To achieve this objective the study Hpothesize that:

HO: Auditor fees have no significant positive relationship on audit quality.

2. CONCEPTUALIZING AUDIT QUALITY AND AUDIT FEES

Based on available literature, audit quality is a multi-dimensional construct that has proved quite difficult to quantify and measure. Until now, it appears there is still no uniform definition of audit quality. Riyatno (2007) as cited in Yuniarti (2011) supports this assertion as he portrays "audit quality as something that is abstract, difficult to measure and can only be perceived by the users of audit services". However, the definition of audit quality by DeAngelo (1981) that "audit quality measures the probability that an auditor will ascertain and straightforwardly report material errors, falsification and exclusion discovered in a client's accounting system", appears to be the most desired definition used by previous researchers. To other researchers such as Baothem and Ussahawanitchkit (2009) "audit quality is the probability that an auditor will not issue an unqualified report for financial statements containing material errors". To this researcher, audit quality represents the willingness to uncover any material misstatements and unethical accounting practices in the financial statement, and conveying such information appropriately without bargain. Several proxies are usually adopted in measuring audit quality including: discretionary accruals, the use of a Big4 audit firms, as well as audit fees among others.

Audit fees, on its part, represent the amount charged by the auditor for an audit process performed for the accounts of an enterprise (Walid, 2012). As earlier mentioned, listed companies are statutorily required to have their accounts audited by an external auditor without compromising the quality of audit, it is expected that they would want the fees they pay to be reasonable. On the side of the auditors, they would also expect to receive adequate fees for their services in order to maintain their services at a satisfactory level. In addition to companies and auditors, the public in general and shareholders may equally be concerned that the audit fee is not set at such a level - either too high or too low, in order not to undermine the confidence of the audit opinion (Walid, 2012). According to Jusoh *et al.* (2013) the reputation of most audit firms and the quality of their audit services are often related to the amount paid for the audit functions.

According to Okolie (2014) higher audit fees are reflected in higher costs resulting from greater audit quality. Francis (2004) as cited in Karsemeijer (2012) contested that "higher audit fees imply higher audit quality, ceteris paribus, because the higher audit fees are imposed because of either greater effort or more specialized auditors". Moizer (1997) also asserts that audit fee is associated with higher audit quality resulting in higher reputation of the auditors. Thus, since larger audit firms receive larger audit fees than smaller audit firms as previous studies such as Copley (1991) and Wooten (2003) have shown, which ultimately is expected to translate to higher audit quality; why has majority of the crisis-ridden firms in recent past been audited by the top-cadre audit firms. In fact, Dabor and Dabor (2015) report that "the entire failed banks in Nigeria in the last decade had wonderful audited financial reports; most of the banks even declared huge profits but went under few months after such declarations".

2.1. Theoretical Framework

The Limperg's theory of Inspired Confidence of 1985 provides an underlying theoretical basis for this study. Although the DeAngelo (1981) economic theory of auditor independence which implies that audit fees create very different incentives for an auditor and have therefore opposing effects on audit quality also forms a direct link. The auditors' theory of inspired confidence also offers a linkage between stakeholders' requirement for credibly audited reports and the capacity of the audit processes to meet those needs.

The theory of inspired confidence posits that the auditor, as a confidential agent, derives his broad function from the need for expert and independent assessment plus the need for an expert and independent judgment supported by evidence. Minimizing the risk of undetected material misstatements implies that the accountant is under a duty to conduct his work in a manner that does not betray the confidence which he commands before the rational person even if the accountant may not produce what is greater than the expectation of the stakeholders (Limperg, 1985). The import of the theory of inspired confidence is that the duties of the auditors derive from the confidence that are bestowed by the public on the success of the audit process and the assurance which the opinion of the accountant conveys. Since this confidence determines the existence of the process, a betrayal of the confidence logically means a termination of the process or function.

Many companies seek tenders for audit services with a focus on audit quality. They correctly focus on matters such as expertise and experience of the engagement team, industry knowledge, the availability of specialist skills to deal with complex issues and auditor independence. However, some tenders focus on reducing fees and saving costs, inappropriately assuming that audit quality is only an issue for the audit firm. While there may be some instances where an effective but more efficient audit is obtained, there could be pressures in some audit firms to limit the impacts on margins. Both the auditee and the audit firm are expected to act rationally whilst trying to maximize their own utility which might not always be perfectly aligned between the two parties (Ross, 1973). The question that arises wherefrom is; how can the audit firm ensure that they acts in the best interest of the stakeholders and in commensurate with the huge amounts the clients pay for audit services in order not to compromise the confidence bestowed in them?

2.2. Review of Empirical Studies on Audit Fees and Audit Quality

The table 2.1 below shows summarized empirical studies related to this study.

Table-2.1. Summary of Recent Empirical Studies

Author(s)/ Year	Variables	Methodology	Country of Research	Major Finding(s) on Audit Fees
Babatolu *et al.* (2016)	Audit firm tenure, **audit fee** and audit firm rotation; against Audit Quality.	Secondary data (7 banks from Nigeria Stock Exchange) 2009-2013	Nigeria	A positive insignificant relationship exists between audit fee and audit quality
Maria (2016)	**Audit Fees** (Auditor independence), Audit firm Rotation; against Audit Quality	Secondary data (2604 companies from New York Stock Exchange) 1997 – 2015	United States	Positive significant relationship between Audit fees and Audit Quality
Oladipupo and Monye-Emina (2016)	Abnormal **audit fees** against Audit Quality	Secondary data (50 companies quoted on the Nigeria Stock Exchange) 2005-2012	Nigeria	Abnormal audit fees does not have significant effect on Audit quality
Hossain *et al.* (2015)	Audit Team Composition, **Audit fees,** audit firm size; against Audit Quality	Secondary data (1,080 year-firm observations) 2008-2012	Japan	Audit fees are based on the size of an audit team; and has a positive association with audit quality
Khan and Haq (2015)	Abnormal (excess) **audit fees** and Audit quality	Secondary data (150 non-financial firms) 2007-2011	Pakistan	The quality of audit is not impaired when auditors are paid extra (excess) audit fee
Al-Khoury *et al.* (2015)	**Audit fees**, audit tenure and mandatory rotation; against Auditor Independence	Primary data administered on 85 Auditors and Public Accountants	Jordan	There is a negative significant relationship between Audit fees and Auditor Independence
Jacob *et al.* (2015)	Big4, **audit fees;** against Audit quality	Secondary data (495 BSE firms) 2000-2013	India	Large audit firms earn significantly higher abnormal fees; such abnormal fees are not associated with reduction in the quality of audit and reported earnings
Moraes and Martinez (2015)	Audit tenure, **audit fees;** against Audit quality	Secondary data (300 firms) 2009-2012	Brazil	Audit firms that charge less audit fees tend to be more relaxed regarding earnings management by their client
Okolie (2014)	Auditor Independence (**Audit fees)** and audit tenure; against Discretionary Accruals	Secondary data (57 companies listed in NSE) 2006 – 2011	Nigeria	Higher audit fee is likely to result in impairment of auditor independence and could create greater opportunities for accrual manipulation.
Kasai (2014)	financial institutions' shareholdings, **audit quality;** against Audit Quality	Secondary data (1,720 Japanese companies) 2004-2007	Japan	Higher audit fees are likely to compromise auditors' independence, thereby, lowering audit quality.
Suseno (2013)	Auditor independence, **audit fees**; on Audit Quality	Primary data from 73 Public Accountant offices	Indonesia	Audit fees significantly influences the auditing quality
Karsemeijer (2012)	Non-audit fees and **Audit fees;** against Earnings Management (proxy for Audit Quality)	Secondary data (2,568 US listed companies) 2010 only	United States	Positive significant association between audit fees and the absolute value of discretionary accruals (meaning that high fees are associated with low audit quality).
Yuniarti (2011)	Audit firm size and **Audit fees;** against Audit Quality	Primary data from 37 Certified Public Accountants and External Auditors	Indonesia	Audit fee significantly affects the quality of audit.
Choi *et al.* (2010)	Abnormal **audit fees** against Audit Quality	Secondary data (7,061 companies) 2000-2003	Hong-Kong	Lower audit fee(s) is not significantly associated with audit quality; abnormally high audit fees are negatively associated with audit quality.

Source: Fieldwork (2016)

3. METHODOLOGY

The population of this study consists of ten (10) listed companies in the downstream sector of the Nigerian petroleum industry. However, one of the companies (Seplat Petroleum PLC) was inevitably excluded from the sample due to incomplete data, having been listed in 2012. Finally, nine (9) of the companies formed the sample size (see appendix for the list of the sampled companies) and was thus used for the analysis for a period of eight (8)

financial years (2007 – 2014). Cross sectional data was gathered from the annual reports of all ten listed companies in the downstream sector of Nigerian petroleum industry.

In analyzing the relationship between auditor fees and audit quality, the binary probit model estimation technique was utilized considering that dependent variable (audit quality) is binary (1 and 0). Thus, the ordinary least squares (OLS) multiple regression model cannot yield reliable coefficients and inference statistics where the dependent variable is dichotomous in nature.

The model developed for the study basically relates auditor fee with audit quality measured, in line with previous literatures, as 1 if firm *i* is audited by a Big4 audit firm at year *t* and 0 otherwise. The Big4 audit firms includes; Akintola Williams Deloitte, KPMG, PricewaterhouseCoopers and Ernst & Young. Studies like Skinner and Srinivasan (2012) provide both theoretical and empirical justification for the use of big audit firms as a proxy for audit quality.

Two (2) other variables (leverage and age) were included as control variables in line with previous studies such as Bergstresser and Philippon (2006). The age of the company was included as older companies would likely wish to preserve their reputation and ensure high quality reports. Leverage was equally included to control for the effect of financial policies adopted by the company on audit quality outcome. The econometric analysis was conducted using Eviews 8.0 computer software. Several diagnostic assumption tests such as VIF, serial-correlation, heteroscedaticity and normality assumption tests were conducted prior to the regression estimation.

3.1. Model Specification and Measurement of Variables

The general expression of the model goes as:

$$\text{Audit Quality} = f(\text{Audit fees}) \quad \text{.....Equ (1)}$$

Infussing the two (2) control variables, we have:

$$\text{Audit Quality} = f(\text{Audit fees, Leverage, Age}) \quad \text{.....Equ (2)}$$

Expressing the model in econometric form:

$$AQit = = \beta_0 + \beta_1 LnAFEE_{it} + \beta_2 LEV_{it} + \beta_3 AGE_{it} + e_t \quad \text{.....Equ (3)}$$

Where:

β_0 = Intercept; $\beta_{1\text{-}3}$ = Unknown Coefficients

AQ = AUDIT QUALITY = measured by the likelihood that a sampled firm employs the services one of the big audit firms earlier listed. A dummy value of 1 is assigned if the firm uses any of the big4 and 0 if otherwise.

LnAFEE = AUDIT FEES = measured using natural logarithm of total fees paid by company *i* in year *t* for audit services.

LEV = LEVERAGE = measured as total debt scaled by total assets

AGE = COMPANY AGE = measured as difference between current year and company's year of incorporation

E = Error term

The *apriori* expectations were predicted as: $\beta_1 > 0$; $\beta_2 < 0$; and $\beta_3 > 0$

The descriptive statistics table above provides information about the sample characteristics. AQ showed a mean value of 0.597 with a with a minimum and maximum of 0 and 1 respectively, implying that over half of the sampled companies are audited by the Big4 audit firms. Also from the result, the average audit fee cumulatively paid by the sampled firms during the period studies was N3,299,033 (in millions). The lowest audit fee paid during the period was N5500 (in millions) while the highest was N29,977,000. More so, leverage (LEV) has a mean value of 0.743 implying that majority of the sampled companies depend on external financing in financing their assets. The average age of the sample companies is 24 years. It was also noted that the probability values of the Jarque-Bera statistics are low for all the series, signifying an evenly distributed data set.

4. DATA ANALYSES AND INTERPRETATION

Table-4.1. Descriptive Statistics

	AQ	AUDFEE	LEV	AGE
Mean	0.597222	3299033.	0.743446	23.83333
Median	1.000000	34782.00	0.816845	22.00000
Maximum	1.000000	29977000	4.338958	58.00000
Minimum	0.000000	5500.000	-4.32867	2.000000
Std. Dev.	0.493899	6919491.	1.245341	13.62578
Skewness	-0.39646	2.429015	-0.5064	0.877564
Kurtosis	1.157177	7.833991	8.661229	3.733639
Jarque-Bera	12.07411	140.9037	99.22583	10.85611
Probability	0.002389	0.000000	0.000000	0.004392
Sum	43.00000	2.38E+08	53.52814	1716.000
Sum Sq. Dev.	17.31944	3.40E+15	110.1121	13182.00
Observations	72	72	72	72

Source: Researchers Computation (2016)

Table-4.2. Correlations Matrix

Covariance Analysis: Ordinary					
Probability	AQ	LNAFEE	LEV	AGE	
AQ	1.000000				

LNAFEE	-0.219878	1.000000			
	-1.885785	-----			
	0.064*	-----			
LEV	-0.121422	-0.059825	1.000000		
	-1.023466	-0.501434	-----		
	0.3096	0.6176	-----		
AGE	0.337301	0.494675	-0.151473	1.000000	
	2.997739	4.762233	-1.282109	-----	
	0.004**	0.000**	0.2040	-----	

Source: Eviews 8.0 (2016) **. Correlation is significant at the 0.01 level
*. Correlation is significant at the 0.10 level

The correlation matrix in table 4.2 portrays how the variables are associated with each other. As portrayed, a negative correlation exists between LnAFEE and AQ (r = -0.22); and also between AQ and LEV (r = -0.12). This suggests that audit fees and audit quality moves in opposite direction, just as leverage and audit quality. thus, an increase in one will ultimately lead to a decrease in the other. However, while the association between audit fee and AQ is fairly-strong at 10%, that of LEV and AQ is not significant at any level. Also, AGE appeared to correlate positively with AQ and Audit fees with r=0.34 and r = 0.49 respectively. Both associations was equally statistically strong at 1% levels (on both ends) suggesting that older firms are likely associated with higher audit fees and high audit quality. It was also observed that there was no issue of high-correlation; the highest correlation was between AGE and LnAFEE (0.495). This suggests that multicollinearity problem would not occur in the series. The VIF test below further re-affirms that.

Table-4.3. The Variance Inflation Factors (VIF) test for Multicollinearity

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	0.047165	19.48683	NA
LNAFEE	0.000401	24.75875	1.324393
LEV	0.001620	1.393808	1.023799
AGE	1.79E-05	5.541097	1.350642

Source: Eviews 8 (2016)

The test for multicollinearity was performed using the Variance Inflation Factors (VIF). From the result, all the VIF values are very close to the value of 1 which suggests that there is no multi-collinearity problem between the variables. The highest centered VIF as seen above is 1.350642, this shows the fitting appropriateness of the model of the study.

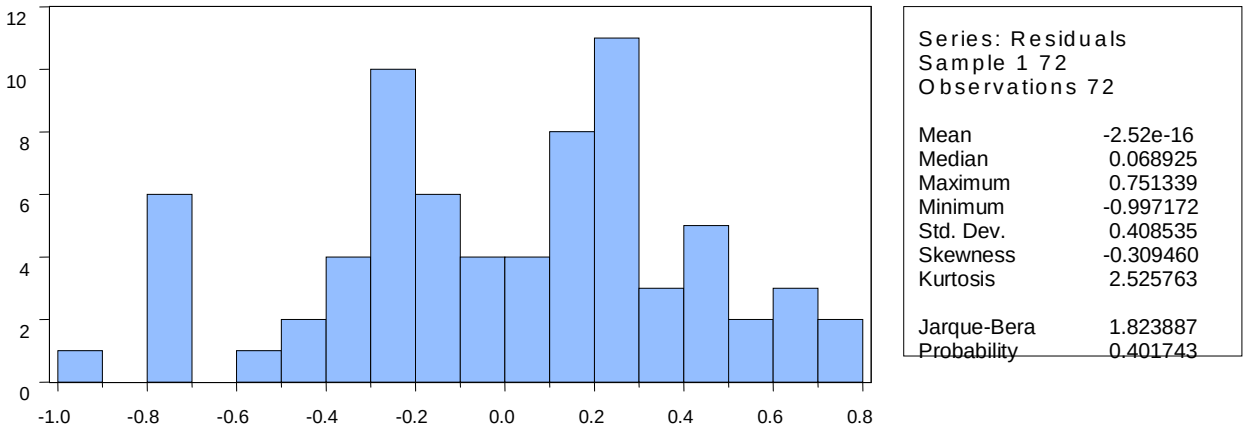

Figure-4.1. Normality Test

Source: Eviews 8.0 (2016)

The output in figure 4.1 checks for the normality of the residuals of a regression line. As shown in the result, which a combination of the entire 72 observations of the study, the Jargue Bera statistic stood at 1.82 with a corresponding probability value of 0.4017 (40.2%). Since the p-value is far beyond the benchmark of 5%, we cannot reject the null hypothesis. This implies that the population residual (u) is normally distributed and fulfills the assumption of a good regression line.

Table-4.4. Result of the Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.295221	Prob. F(3,68)	0.8287
Obs*R-squared	0.925704	Prob. Chi-Square(3)	0.8192
Scaled explained SS	0.629915	Prob. Chi-Square(3)	0.8896

Source: Eviews 8.0 (2016)

The result presented in table 4.4 shows that the p-value (0.8192 or 81.9%) of the corresponding observed chi-square value is greater than 5%. Hence, we cannot reject the null hypothesis. This means that the error variance is not serially correlated. Hence, the null hypothesis of homoskedastic error term (which is desirable) can be assumed.

Table-4.5. Result of the Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.689840	Prob. F(2,66)	0.1924
Obs*R-squared	3.507324	Prob. Chi-Square(2)	0.1731

Source: Eviews 8.0 (2016)

From the Breusch-Godfrey serial correlation (LM) test result in table 4.5, the p-value of the observed R square value is 17.3% which is far greater than the critical values at 5% significant level. Hence, the null hypothesis of no serial correlation is thereby accepted accordingly.

Table-4.6. Result of the Binary Probit Estimation

Dependent Variable: AQ
Method: ML - Binary Probit (Quadratic hill climbing)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.105809	0.789910	2.665885	0.0077
LnAFEE	-0.279669	0.076224	-3.669065	0.0002
LEV	-0.149627	0.098610	-1.517367	0.1292
AGE	0.076335	0.018016	4.236999	0.0000
McFadden R-squared	0.279182	Mean dependent var		0.597222
S.D. dependent var	0.493899	S.E. of regression		0.412313
Akaike info criterion	1.082950	Sum squared resid		11.56016
Schwarz criterion	1.209431	Log likelihood		-34.98619
Hannan-Quinn criter.	1.133302	Deviance		69.97238
Restr. deviance	97.07355	Restr. log likelihood		-48.53678
LR statistic	27.10118	Avg. log likelihood		-0.485919
Prob(LR statistic)	0.000006			
Obs with Dep=0	29	Total obs		72
Obs with Dep=1	43			

Source: Eviews 8.0 (2016)

Table 4.6 shows the outcome of the binary probit regression technique adopted for the study. From the table, the McFadden R-squared value, which shows the combined explanatory effect of the independent variables on the dependent variable (AQ), stood at 0.279 showing that the model has an explanatory power of about 28%. What this portends is that about 72% of the systematic variation in the dependent variable (AQ), proxied here using the Big4, was not accounted for in the model and have been contained by the error term. On the overall significance level of the model, the model passed the significance test even at 1% level with LR statistic (goodness-of-fit test) and corresponding probability value of 27.101 and 0.000006 respectively. Thus, the explanatory variables were capable of explaining the variations in the dependent variable (AQ).

An evaluation of the slope coefficients of the explanatory variables and the corresponding Z-statistics values revealed that audit fees (LnAFEE) has a negative (sign) significant relationship with audit quality (AQ). This was depicted by the slope coefficient of -0.27967; and the z-Statistics (-3.669) and probability value of 0.0002 which are statitically significant at 0.01 (1%) levels. Thus, a unit increase in audit fee (LnAFEE) will ultimately cause a significant decrease in audit quality (AQ) by up to 27.97%. Similarly, the variable of leverage (LEV), which acts as a control variable in the study, also showed an inverse relationship with audit quality (AQ) in agreement with the *apriori* expectation. However, unlike the variable of audit fee (LnAFEE), the relationship between leverage and audit quality is not statically significant because the p-value of 0.1292 exceeds the 0.05 benchmark. The last control variable, company age (AGE) is positively associated with audit quality (AQ) and passed the significance test at 1% levels. This suggests that the older a firm becomes, the more likely that the audit quality will increase significantly.

5. DISCUSSION OF FINDINGS

Based on the outcome of the results, audit fees showed an inverse significant relationship with audit quality. It can therefore be interpreted that higher audit fees may likely lead to a decline in audit quality. This results is in tandem with those obtained by Al-Khoury *et al.* (2015) in Jordan market, Okolie (2014) using Nigerian data; and Kasai (2014) using Japanese data. The implication of this result may erupt divided perceptions, considering that large audit firms are practically associated with higher audit fees for which high quality audit service is envisaged. More so, Veronica and Anggraita (2016) and Okolie (2014) also support this position when they argued that paying higher audit fees paid to an external auditor is likely to increase the economic bond between the auditor and the auditee, thereby impairing the auditor's independence. On this submission, our result appears to have alligned with the underlying expectation relying on the assumption that an impaired auditor independence will likely leads to an auditor allowing for aggressive earnings management which will cause the quality of audit to plummet. The case of

Africa Petroleum (now Forte Plc), as reported by Aliyu and Ishaq (2015) where about 24 billion Naira credit facilities were not disclosed in the financial statement is a typical instance of how earnings management could be condoned due to impaired auditor independence. The findings of Maria (2016); Moraes and Martinez (2015) and Gupta *et al.* (2009) which find that audit quality declined when the audit fee is abnormally low but higher when the audit fee was astronomically high as the auditors who earned excess fees will be mindful of the perceived threat to their independence while discharging their duties and thus, take necessary steps to preserve their reputation capital.

The two control variables of leverage and age displayed a negative and positive relationship with audit quality respectively. However, the former is not significant (p=0.129) while the latter (AGE) passed the significance test at 1% (p=0.0000). The slope coefficient signs of the two variables (LEV and AGE) aligned with the expectation, because the basic assumption is that older firms have more to protect including reputation and are most likely not to compromise; while highly levered firms may be tempted to save costs and engage in lowering audit fees which may negatively affect the audit quality. Ashbaugh *et al.* (2003) supports that higher amount of debt ratio is generally associated with lower earnings quality.

6. CONCLUSION AND RECOMMENDATIONS

This study basically examined the relationship between audit fees on audit quality in Nigeria. The major research question was to find out if audit fees (whether high or low) have significant influence in determining audit quality. to address this fundamental question, cross sectional data was gathered from the annual financial reports and statements of nine (9) out of the ten (10) oil and gas companies in the Downstream Sector of Nigerian Petroleum Industry listed on the floor of Nigeria Stock Exchange for 8 financial years. Audit quality was taken as the dependent variable is measured as a dummy variable by assigning the value of 1 if the company was audited by one of the Big4 audit firms in a particular year, and 0 if not. Audit fees, on its part, was taken as the independent variable, along two other control variables – leverage and age. The audit fee variable was measured as the natural log of total fees paid recorded as auditor remuneration in the financial reports assessed. In all, the data set amounted to panel of 72 observations which was analyzed using descriptive statistics, correlation and binary logit estimation technique.

Based on the outcome of the results, it can be concluded that a dominating majority of the sampled companies employ the services of one of the Big4 audit firms and over 50% of the firms are highly levered. On the major research question of the study, the result showed that higher audit fees is associated with lower audit quality, thereby supporting the assumption that "higher audit fees are likely to compromise auditors' independence and, thereby, result in lower audit quality". It was also evident from the correlation result that older firms are most likely to pay more audit fees and are also associated with higher audit quality (see table 4.2). On the variable of leverage and firm age, is was ascertained that audit quality is invariant to firm leverage, while firm age is a significant factor in explaining variations in both audit fees and audit quality.

It is recommended that regulators of the auditing practice should adopt measures to regulate and monitor the audit pricing process in order to strike a balance and reduce over-charging and under-charging which several school of thoughts suggest could be used to impair the independence of the auditor.

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Appendix One (RESULTS)

Dependent Variable: AQ				
Method: ML - Binary Logit (Quadratic hill climbing)				
Covariance matrix computed using second derivatives				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
C	3.657341	1.416037	2.582801	0.0098
LnAFEE	-0.474943	0.136971	-3.467461	0.0005
LEV	-0.242980	0.167408	-1.451426	0.1467
AGE	0.126117	0.031361	4.021513	0.0001
McFadden R-squared	0.278011	Mean dependent var		0.597222
S.D. dependent var	0.493899	S.E. of regression		0.412371
Akaike info criterion	1.084528	Sum squared resid		11.56337
Schwarz criterion	1.211010	Log likelihood		-35.04302
Hannan-Quinn criter.	1.134881	Deviance		70.08604
Restr. deviance	97.07355	Restr. log likelihood		-48.53678
LR statistic	26.98751	Avg. log likelihood		-0.486709
Prob(LR statistic)	0.000006			
Obs with Dep=0	29	Total obs		72
Obs with Dep=1	43			
Dependent Variable: AQ				
Method: ML - Binary Probit (Quadratic hill climbing)				
Covariance matrix computed using second derivatives				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
C	2.105809	0.789910	2.665885	0.0077
LnAFEE	-0.279669	0.076224	-3.669065	0.0002
LEV	-0.149627	0.098610	-1.517367	0.1292
AGE	0.076335	0.018016	4.236999	0.0000
McFadden R-squared	0.279182	Mean dependent var		0.597222
S.D. dependent var	0.493899	S.E. of regression		0.412313
Akaike info criterion	1.082950	Sum squared resid		11.56016
Schwarz criterion	1.209431	Log likelihood		-34.98619
Hannan-Quinn criter.	1.133302	Deviance		69.97238
Restr. deviance	97.07355	Restr. log likelihood		-48.53678
LR statistic	27.10118	Avg. log likelihood		-0.485919
Prob(LR statistic)	0.000006			
Obs with Dep=0	29	Total obs		72
Obs with Dep=1	43			

Descriptive Statistics

	AQ	AUDFEE	LEV	AGE
Mean	0.597222	3299033.	0.743446	23.83333
Median	1.000000	34782.00	0.816845	22.00000
Maximum	1.000000	29977000	4.338958	58.00000
Minimum	0.000000	5500.000	-4.328674	2.000000
Std. Dev.	0.493899	6919491.	1.245341	13.62578
Skewness	-0.396456	2.429015	-0.506401	0.877564
Kurtosis	1.157177	7.833991	8.661229	3.733639
Jarque-Bera	12.07411	140.9037	99.22583	10.85611
Probability	0.002389	0.000000	0.000000	0.004392
Sum	43.00000	2.38E+08	53.52814	1716.000
Sum Sq. Dev.	17.31944	3.40E+15	110.1121	13182.00
Observations	72	72	72	72

Correlation Matrix

Covariance Analysis: Ordinary
Included observations: 72

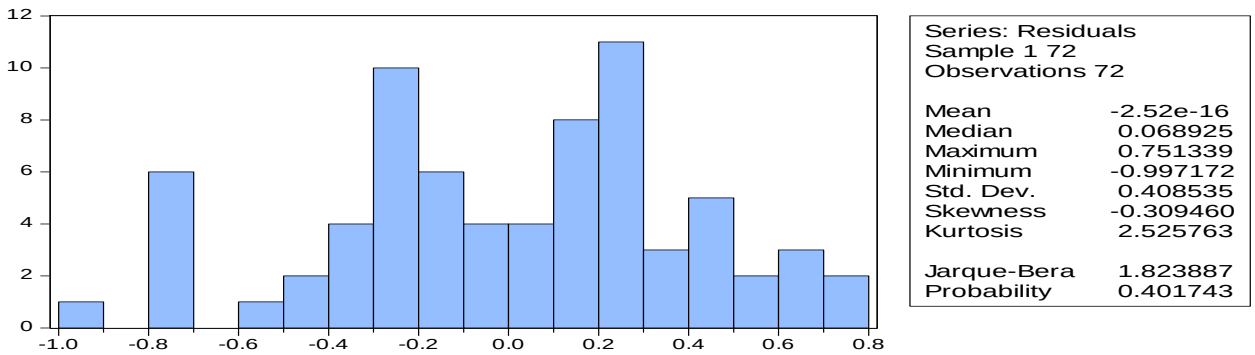
Correlation				
t-Statistic				
Probability	**AQ**	**LNAFEE**	**LEV**	**AGE**
AQ	1.000000			

LNAFEE	-0.219878	1.000000		
	-1.885785	-----		
	0.0635	-----		
LEV	-0.121422	-0.059825	1.000000	
	-1.023466	-0.501434	-----	
	0.3096	0.6176	-----	
AGE	0.337301	0.494675	-0.151473	1.000000
	2.997739	4.762233	-1.282109	-----
	0.0038	0.0000	0.2040	-----

Variance Inflation Factors
Included observations: 72

	Coefficient	**Uncentered**	**Centered**
Variable	Variance	VIF	VIF
C	0.047165	19.48683	NA
LNAFEE	0.000401	24.75875	1.324393
LEV	0.001620	1.393808	1.023799
AGE	1.79E-05	5.541097	1.350642

Normality Test



Auto-Correlation Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.689840	Prob. F(2,66)	0.1924
Obs*R-squared	3.507324	Prob. Chi-Square(2)	0.1731

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Included observations: 72
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.059832	0.217998	0.274460	0.7846
LNAFEE	-0.003873	0.019984	-0.193788	0.8469
LEV	-0.015204	0.040700	-0.373568	0.7099
AGE	-6.52E-05	0.004184	-0.015572	0.9876
RESID(-1)	0.171021	0.123800	1.381433	0.1718
RESID(-2)	0.121720	0.123967	0.981875	0.3297
R-squared	0.048713	Mean dependent var		-2.52E-16
Adjusted R-squared	-0.023354	S.D. dependent var		0.408535
S.E. of regression	0.413278	Akaike info criterion		1.150261
Sum squared resid	11.27269	Schwarz criterion		1.339983
Log likelihood	-35.40939	Hannan-Quinn criter.		1.225790
F-statistic	0.675936	Durbin-Watson stat		1.942034
Prob(F-statistic)	0.643152			

Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.295221	Prob. F(3,68)	0.8287
Obs*R-squared	0.925704	Prob. Chi-Square(3)	0.8192
Scaled explained SS	0.629915	Prob. Chi-Square(3)	0.8896

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Included observations: 72

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.219977	0.108127	2.034432	0.0458
LNAFEE	-0.001361	0.009969	-0.136528	0.8918
LEV	-0.002602	0.020041	-0.129815	0.8971
AGE	-0.001564	0.002104	-0.743329	0.4598
R-squared	0.012857	Mean dependent var		0.164582
Adjusted R-squared	-0.030693	S.D. dependent var		0.204722
S.E. of regression	0.207840	Akaike info criterion		-0.250145
Sum squared resid	2.937423	Schwarz criterion		-0.123664
Log likelihood	13.00523	Hannan-Quinn criter.		-0.199793
F-statistic	0.295221	Durbin-Watson stat		1.749637
Prob(F-statistic)	0.828716			

Appendix Two (Data)

COMPANIES	Year	AQ	Audfee	LEV	AGE	LNAFEE
Beco Petroleum PLC	2007	1	3660000	0.89579	21	15.112974
Beco Petroleum PLC	2008	1	3500000	0.833324094	22	15.068274
Beco Petroleum PLC	2009	0	4000000	0.543206476	23	15.201805
Beco Petroleum PLC	2010	1	5000000	0.171231764	24	15.424948
Beco Petroleum PLC	2011	0	4177456	0.269045129	25	15.245213
Beco Petroleum PLC	2012	0	5220000	0.286521686	26	15.468008
Beco Petroleum PLC	2013	0	5550000	0.196236421	27	15.529308
Beco Petroleum PLC	2014	0	5689000	0.177332117	28	15.554045
Conoil Plc	2007	1	14000	0.340462334	18	9.5468126
Conoil Plc	2008	1	16000	0.512350454	19	9.680344
Conoil Plc	2009	1	16500	0.469970204	20	9.7111157
Conoil Plc	2010	1	18000	1.776312563	21	9.798127
Conoil Plc	2011	0	19500	1.573890811	22	9.8781697
Conoil Plc	2012	1	21000	0.708086783	23	9.9522777
Conoil Plc	2013	0	25000	0.305817622	24	10.126631
Conoil Plc	2014	0	27500	0.566726398	25	10.221941
Eterna Oil & Gas Plc	2007	1	5500	0.961815899	18	8.6125034
Eterna Oil & Gas Plc	2008	0	6000	1.671180067	19	8.6995147
Eterna Oil & Gas Plc	2009	1	8000	1.26953124	20	8.9871968
Eterna Oil & Gas Plc	2010	1	7890	1.300886781	21	8.9733514
Eterna Oil & Gas Plc	2011	1	8000	0.68594409	22	8.9871968
Eterna Oil & Gas Plc	2012	1	10000	0.864877974	23	9.2103404
Eterna Oil & Gas Plc	2013	1	11000	0.760001226	24	9.3056506
Eterna Oil & Gas Plc	2014	1	12000	0.816403803	25	9.3926619
Forte Oil (Formerly AP)	2007	1	22000	0.872141631	23	9.9987977
Forte Oil (Formerly AP)	2008	0	28000	0.892326858	24	10.23996
Forte Oil (Formerly AP)	2009	1	32000	0.898603377	25	10.373491
Forte Oil (Formerly AP)	2010	1	53956	0.91961	26	10.895924
Forte Oil (Formerly AP)	2011	0	33828	0.789714908	2	10.429044
Forte Oil (Formerly AP)	2012	0	41273	0.834470088	3	10.627964
Forte Oil (Formerly AP)	2013	0	48841	0.913622707	4	10.796325
Forte Oil (Formerly AP)	2014	0	65345	0.833305853	5	11.087436
JAPAUL OIL	2007	0	700000	0.726121897	13	13.458836
JAPAUL OIL	2008	0	1200000	0.749360393	14	13.997832
JAPAUL OIL	2009	0	2500000	0.86191	15	14.731801
JAPAUL OIL	2010	0	3500000	0.52134782	16	15.068274
JAPAUL OIL	2011	0	4000000	0.16033138	17	15.201805
JAPAUL OIL	2012	0	4500000	1.115106	18	15.319588
JAPAUL OIL	2013	0	4650000	0.351775533	19	15.352378
JAPAUL OIL	2014	0	4800000	0.438140779	20	15.384126
Mobil Oil	2007	1	8349	0.881988356	29	9.0298971
Mobil Oil	2008	0	8349	0.095626211	30	9.0298971
Mobil Oil	2009	1	11736	-4.328673818	31	9.3704163
Mobil Oil	2010	1	11678	-3.006806104	32	9.365462
Mobil Oil	2011	1	12365	-2.055455543	33	9.4226252
Mobil Oil	2012	1	12940	-1.796748878	34	9.4680786
Mobil Oil	2013	1	23823	0.093154018	35	10.078407
Mobil Oil	2014	1	28177	3.270297519	36	10.246261
Mrs OIL (formerly Texaco, Chevron)	2007	1	8400	3.752664657	30	9.035987
Mrs OIL (formerly Texaco, Chevron)	2008	1	9000	3.413469154	31	9.1049799
Mrs OIL (formerly Texaco, Chevron)	2009	0	10500	4.25058446	2	9.2591305
Mrs OIL (formerly Texaco, Chevron)	2010	0	13500	4.338957661	3	9.510445
Mrs OIL (formerly Texaco, Chevron)	2011	1	12500	0.154361768	4	9.4334839
Mrs OIL (formerly Texaco, Chevron)	2012	1	17114	0.203187141	5	9.7476521
Mrs OIL (formerly Texaco, Chevron)	2013	1	24914	0.791850504	6	10.123185
Mrs OIL (formerly Texaco, Chevron)	2014	1	24914	0.76784	7	10.123185
OANDO (Unipetrol, AGIP)	2007	1	35736	0.834314516	15	10.483914
OANDO (Unipetrol, AGIP)	2008	1	55200	0.843219434	16	10.918718

OANDO (Unipetrol, AGIP)	2009	0	86700	0.843068244	17	11.370209
OANDO (Unipetrol, AGIP)	2010	0	135000	0.802335551	18	11.81303
OANDO (Unipetrol, AGIP)	2011	0	130100	0.81728719	19	11.776059
OANDO (Unipetrol, AGIP)	2012	1	164956	0.783580563	20	12.013434
OANDO (Unipetrol, AGIP)	2013	1	169802	0.89996	21	12.042388
OANDO (Unipetrol, AGIP)	2014	1	171000	0.139012191	22	12.049419
Total Nig Plc	2007	1	17000000	0.857609488	51	16.648724
Total Nig Plc	2008	0	15000000	0.93713042	52	16.523561
Total Nig Plc	2009	1	19000000	0.883301609	53	16.75995
Total Nig Plc	2010	1	20900000	0.862137636	54	16.85526
Total Nig Plc	2011	1	22990000	0.844706141	55	16.95057
Total Nig Plc	2012	1	22990000	0.90045	56	16.95057
Total Nig Plc	2013	1	25289000	0.859383115	57	17.04588
Total Nig Plc	2014	1	29977000	0.759511289	58	17.215941