

Clients'/ Auditors' attributes and external audit fees among listed non-financial companies in Nigeria

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Keywords

External Audit, Audit Fees, Listed Companies, Big 4, Nigeria

Abstract

This paper examined the clients' and the auditors' attributes as factors capable of determining external audit fees to be paid/payable by non-financial companies listed on the Nigerian Stock Exchange (NSE). Specific characteristics that were investigated to have significant influences on external audit fees are size, complexity, risk and auditor type. The study used secondary data gathered through content analysis of the sampled companies' annual reports and accounts from 2009-2012. The panel data obtained was analysed using descriptive statistics to depict patterns. Thereafter, OLS multiple regression technique was used to estimate the panel econometric model. The findings from this study appear to be largely consistent with previous works as the regressors significantly accounted for variations (adjusted $R^2=43\%$) in the pricing of external audit fees across industry. Surprisingly, the premium value for the Big4 was not only positive, but significantly higher suggesting the near dominance of the audit market by these big accounting firms in the Nigeria. No doubt, this trend has serious implications on the local and indigenous accounting firms to brace up and further improve on the provision of qualitative services to clients.

1 Introduction

Audit is no doubt a consequence of information asymmetry, brought about by the management of entities being better informed than the owners. The Report of the Committee on Basic Auditing Concepts, published in 1973 by the American Accounting Association (AAA) defines auditing as 'a systematic process of objectively obtaining and evaluating evidences regarding assertion about economic actions and events to ascertain the degree of correspondence between those assertion and established criteria and communicating the result to intended users'. The separation between owners of resources/entities and managers at the twilight of olden days and the dawn of the modern day commercial settings is the beginning of this principal-agent relationship. The managers who run the entity served as agents for the absentee owners (referred to as principal). The managers in fulfilling their stewardship role are duty-bound to reporting through the financial statements to the owners as to how well they have managed the owner's assets. However, because managers are responsible for reporting to the owners who cannot observe and possibly caution on the actions of the managers, the reports so prepared and presented by them may contain errors, material misstatements and even fraud; hence, the need for an audit. Therefore, the financial statement is, no doubt, the responsibility of the management of the reporting entity while the role of the auditor is that of lending credibility to the financial statements.

Audit, especially for profit-making organizations, is not gratuitous. The auditee/ client pay fees for the assurance provided through the audit engagement. The scientific explanation upon which the audit fees paid/payable by clients is based is the thrust of this paper. These bases and the methodology vis a vis factors capable of influencing these fees are issues that call for empirical investigation. Government concern, evidenced by the United States Senate Reports of Metcalf and later his successor, Dingell coupled with media attention in the 1970s pointed attention to the rationale behind the basis for the amount of audit fees charged by external auditors (Anderson and Zeghal, 1994). There is a consensus that the pioneer seminar work of Simunic (1980) triggered scientific inquiry in this area. Since then, various countries have been understudying their audit markets. This study therefore is an attempt to study the external audit fees and their determinants in Nigeria. The paper is structured as follows: the next section reviews previous works in this area, the section that follows discusses the data procedure and methodology. The empirical results and discussions follow closely before the conclusions and recommendation section.

2. Literature Review and Hypotheses Development

There is a consensus that Simunic's seminar work pioneered studies on the determinants of audit fees. It is afterward that various authors from different countries started to also investigate factors capable of influencing audit fees in their territories. These studies tilted towards the developed countries than the developing ones. From these studies, three (3) factors are discernable, namely auditee attributes, auditor attributes and the engagement peculiarities. This study addresses the first two- auditee/ client and auditor characteristics. They are further discussed below:

2.1 Auditee Attributes

2.1.1 Client Size

The most consistent result in all previous research has been that auditee's size is significant in providing explanations on the variations in the audit fees: Karim and Moizer, 1996; Simon & Taylor, 2002; Pong and Whittington, 1994; Joshi and Al-Bastaki, 2000; Chung & Narasimhan, 2002; Ho & Ng, 1996; Wilson, 2003; Ezzamel, Gwilliam and Holland, 2002; and Matthews and Peel, 2003. Chung and Narasimhan (2002) in their international study on audit fees found that client size accounted as a major determinant in audit fees charged to organizations. Wilson (2003) using samples of energy firms also replicated the result that firm size is positively related to audit fee. In addition, a time-series analysis by Matthews and Peel (2003) using UK companies on the antecedents of audit fees found that corporate size was the major determinant of audit fees 100 years ago.

There are various proxies that have been used in the literature as a measure of the auditee size. The two most prominent are total assets (Simunic, 1980 in Francis, 1984; Taylor and Baker, 1981 in Francis, 1984; Francis, 1984; Simon, 1985 in Simon and Francis, 1988; Simon & Francis, 1988; Butterworth and Houghton, 1995; Davis, et al., 1993; Firth, 1997) and sales (Ezzamel, et. al, 2002; Taffler and Ramalinggam, 1982 in Matthews & Peel, 2003). There equally studies that use both total assets and sales (Elliot and Korpi, 1978 in Anderson and Zeghal, 1994; Firth, 1985 in Butterworth and Houghton, 1995; Chen, Ezzamel and Gwilliam, 1993 in Chung and Narasimhan, 2002).

2.1.2 Client Risk

In most studies, there was also the variable of auditee's risk that plays a major role in the determination of audit fees (Che-Ahmad and Houghton, 1996; O'Sullivan, 2000; Karim & Moizer, 1996; Curry & Peel, 1998; Simon and Taylor, 2002). The profitability/ losses as reported by the client in their financial statements have since been used as proxies for representing the risk associated with the client. Consequently, enterprises that were making accounting losses could be expected to represent a higher risk thereby increasing the probable inability to pay the auditing firm their fees (Karim and Moizer, 1996). Walker and Casterella (2000) using data from over 3,000 companies in the United States, found that auditors are managing their exposure to audit risk based on the auditee's risk or auditee profitability by adjusting audit fees. However, Davis et al. (1993) used opinion type as a proxy for risk as it measured this variable in terms of the loss that will be incurred if an unqualified audit opinion is issued inappropriately. They further argue that this measure more closely reflects auditors' actual perception of risk but are aware that the assessment of risk in this manner is more subjective in nature compared to more quantitative measures.

2.1.3 Client Complexity

Another major variable used in explaining the variance between audit fee charges was the client's complexity (Hay, 2010). This was variously measured using the number of subsidiaries (Taylor & Baker, 1981 in Francis, 1984; Francis, 1984; Francis & Stokes, 1986 in Francis & Simon, 1987; Palmrose, 1986 in Francis & Simon, 1987; Francis & Simon, 1987; Simon & Francis, 1988; Butterworth & Houghton, 1995; Pong & Whittington, 1994; Davis et al., 1993; Wilson, 2003; Ezzamel et. al., 2002), the ratio of auditee's receivables and/or inventories to the auditee's total assets (Simunic, 1980 in Francis, 1984; Simon, 1995 in Simon & Francis, 1988; Firth, 1985 in Butterworth & Houghton, 1995; Francis & Stokes, 1986 in Francis & Simon, 1987; Simon & Francis, 1988; Simon & Taylor, 2002) and audit fee diversification (Simunic, 1980 in Francis, 1984; Chen, et al, 1993 in Chung & Narasimhan, 2002).

2.2 Auditor Attribute

Big-Four

A meta-analysis by Hay (2010) opined that the BigN (4, 5, 6 or 8 depending on the timing of the study) versus Non-BigN dichotomy yields convincing results in favor of a brand name premium in the majority of studies. Rubin (1988) using a framework similar to Simunic (1980) in Francis (1984) argued that auditor size can be measured by whether a firm is one of the Big Eight auditing firms (now big 4). It was further hypothesized that Big Eight firms are found to be associated with significantly higher audit fees. This relationship was supported by Firth (1997) that measured auditor size using the Big Six whereby it was shown that the Big Six firms have consistently charged a premium over other accounting firms for both small and large size clients. Karim and Moizer (1996) also provided an explanation for this relationship as the Big Six have access to higher quality staff and use higher quality procedures and so are more likely to detect errors and omissions. Moreover, Curry and Peel (1998) also posited in their paper using neural networks in predicting the cross-sectional variation in corporate audit fees that the Big Six do charge a superior (differential) for their services compared to their smaller counterparts.

An alternative view was postulated by Klein and Leffler (1981) in Deis and Giroux (1996) that brand name development or reputation is very important for assessing audit quality and consequently, audit fees. This point was further emphasized by Simunic and Stein (1987) also in Deis and Giroux (1996) who argued that credibility of audit services with external financial statement users which is closely related to an auditor's reputation is among the antecedents of audit quality. Gul (1999) using Hong Kong market data provided evidence in support of bigger and well-established audit firms such as the Big 6 charged higher audit prices compared to non-Big 6 firms because of product differentiation and competition. A study on UK companies also found further support for auditor's size having a positive impact on audit fees (Ezzamel, et. al., 2002).

3. Data and Methodology

3.1 Sample Selection

The sample comprised audit engagements for twenty (20) listed public limited liability companies, whose shares were also quoted on the Nigeria Stock Exchange (NSE) between 2009- 2012. These sampled companies (see appendix 1) excluded the financial companies as previous researches on audit fees posit that a different fee structure exist in such industry [Simunic, (1980); Firer and Swartz, (2007)]. In all, the final sample consists of 80 (20 companies per year) data set observations. The data required are gathered through a content analysis of the annual reports and accounts of the concerned years of the chosen companies. This is made possible as most of the variables, especially audit fees, auditor identity, total assets are statutorily meant to be disclosed, while the ratio of receivables plus inventories to total assets (RECINV) are computed.

3.2 Model Specification and Estimation Techniques

The economic model used in the study (which was in line with what is mostly found in the literature) in functional form is given as:

$$Y = \beta_0 + \beta F_{it} + e_{it} \dots\dots\dots (1)$$

Where, Y is the dependent variable; β_0 is constant, β is the coefficient of the explanatory variable (audit fees determinants), F_{it} is the explanatory variable and e_{it} is the error term (assumed to have zero mean and independent across time period).

By adopting the economic model as in equation (1) above specifically to this study, equation (2) below evolves as:

$$\ln AFEE_{it} = \beta_0 + \beta_1 TASS_{it} + \beta_2 LOSS_{it} + \beta_3 INVREC_{it} + \beta_4 BIG4_{it} + e_{it} \dots\dots\dots (2)$$

Where $\beta_1, \beta_2, \beta_3,$ and $\beta_4 \geq 0$

Initially, the space and time dimensions of the pooled data are disregarded during the estimation of equation (2). This is the pooled OLS regression. This technique appears too simple and naïve as the uniqueness of the individual listed Nigerian companies is not taken into consideration. In order to do this, equation 3, being the company fixed effect model, is stated as follows:

$$\ln AFEE_{it} = \beta_0 + \beta_1 TASS_{it} + \beta_2 LOSS_{it} + \beta_3 INVREC_{it} + \beta_4 BIG4_{it} + \sum \beta_5 Idum + e_{it} \dots\dots\dots (3)$$

Similarly, in order to capture the time effect in the sense that the audit fee model shift over the selected years, three time dummies, one for each year are introduced with 2009 set as the base year for comparison. Therefore, equation (4) is as stated below:

$$\ln AFEE_{it} = \beta_0 + \beta_1 TASS_{it} + \beta_2 LOSS_{it} + \beta_3 INVREC_{it} + \beta_4 BIG4_{it} + \sum \beta_5 Tdum + e_{it} \dots \dots \dots (4)$$

Where Idum= company dummies (from 1-19); and Tdum= time dummies

However, correcting for the ignorance expressed through the dummies in equations (3) and (4), equation (5) further evolves which then accounts for the ignorance in the disturbance term. This is the random effect specification.

$$\ln AFEE_{it} = \beta_0 + \beta_1 TASS_{it} + \beta_2 LOSS_{it} + \beta_3 INVREC_{it} + \beta_4 BIG4_{it} + \mu_{it} + e_{it} \dots \dots \dots (5)$$

Where μ_{it} is the variable used to control for random effect.

The descriptive statistics such as mean, standard deviation, range, etc are adopted to describe the studied variables. A zero order correlations among the independent variables are also computed to identify probable relationships as well as existence of multi-collinearity problem. The adjusted R-square and F-test are criteria used to detect a robust model; while the hausman test is deployed to make comparison between the fixed effect and the random effect, the L-M test for random effects is also used to select between the pooled and the random effect regression models.

The variables are as described in the next section

3.3. Variable Description

Table 1 below shows the variables and their descriptions as used in this study.

Table 1: Dependent and Independent Variable Description

Variable Type	Variables	Description/ Measurement
Dependent Variable	lnAFEE	Log of audit fees
Independent Variables	Size	Log of total assets
	Risk	Loss for the current year (1 if loss for the current year and 0 if otherwise)
	Complexity	Total Inventory+ Receivables/total assets
	Big4	1 if big4 and 0 if otherwise

4. Empirical Results and Discussions

4.1. Descriptive Statistics

The summary of the descriptive statistics are shown in table 3 in the appendices. The average audit fee for the period is N22million with a standard deviation of N24million. The maximum amount paid/payable as external audit fee was N127million. The nil amount shown as the minimum was in respect of two companies who did not report on the face of their annual accounts the exact amount paid as such. Similarly, average total assets for the period is N40,341,219, standard deviation is N57,723,037 with a minimum of N872,374 and maximum value of N253,633,629. The receivable inventory ratio depicts a mean value of 0.3672, standard deviation of 0.1907 with a minimum value of 0.044 and a maximum value of 0.873.

4.2 Zero-Order Correlation Results

This is also as shown in table 4. The results from the table show clearly the absence of significant correlation among the independent variables, and by extension non-existence of a multi-collinearity problem. The highest correlation recorded from the table is between total assets (logTA) and the receivable inventory ratio (RECINV) of 0.438; this is insignificant. This is a necessary condition before any meaningful regression can be attempted.

4.3 Regression Results

The results of the multivariate OLS regressions for the panel data is as shown in tables 5a, 5b and 5c for the pooled, fixed effect and the random effect respectively. Besides, the estimated results of the L-M test for random effects and the Hausman test are depicted in tables 6a and 6b respectively.

The adjusted R² for the pooled regression results was 0.2624 indicating that the linear composite of the independent variables entered into the regression only significantly accounted for 26% of the variations in the audit fee. With the exception of the RECINV used to proxy complexity that is negatively insignificant,

all others are positively associated with the audit fee. However, the duo of total asset and Big4 are significant.

The fixed effect clearly shows that there is neither any company nor time fixed effects as none of the intercept values for the twenty non-financial companies are statistically significant. This is seen to be the same for the time effect, suggesting that the audit fee function did not change much over the period considered, hence it is time invariant. However, there is a significant increase in the adjusted R^2 to 0.4298 indicating that 43% of the variations in the external audit fees are accounted for by the linear aggregate of the independent variables. However, only LOSS and Big4 are statistically significant in the case of the company fixed effect model while total assets and Big4 show statistical significance and only accounted for 26% (adjusted R^2) in the case of time effect. This is similar to the estimates as obtained for the pooled regression.

The estimates from the random effect shows that company size (total assets) and the Big4 variables are statistically significant. The model also significantly accounted for 27% (within), 49% (between) and overall (30%) of the differences in the audit fees paid or payable during the period.

A casual examination of the results for all the OLS regression suggests nearness and similarities in the variables. With the exception of RECIINV used to proxy complexities, the client's size (total assets), risk (LOSS) and auditor type and size (Big4) display statistical significance. This is consistent with previous studies of Hassan and Naser (2013), Soyemi and Olowookere (2013), Hallak and Silva (2012), Firer and Swartz (2007), Gonthier and Schatt (2007), Simon, et. al (1995), Larcker and Richardson (2004), Carcello, et al., (2002), Cullinan (1998), Karim and Moizer (1996), Palmrose (1996), Che- Ahmad and Houghton (1996), Butterworth and Houghton (1995), Pearson and Trompeter (1994), Chen, et. al., (1993), Maher, et. al., (1992), Simon and Francis (1988), Francis and Simon (1987), Francis and Stokes (1986), Francis (1984) and the pioneer Simunic (1980). Taylor and Simon (2003) earlier confirmed the existence of pricing premium in Malaysia, Honk Kong and Nigeria.

On the formal test criterion for selecting the appropriate model, the Hausman test favours the fixed effect regression model ($\text{Chi}^2(4) = (b-B)'((v_b - v_B)^{-1}) = 18.43; \text{Prob} > \text{chi}^2 = 0.001$) while the L-M test favours the pooled regression estimates (Test: $\text{var}(u) = 0; \text{Chi}^2(1) = 0.24; \text{Prob} > \text{chi}^2 = 0.625$).

5 Conclusions and Recommendations

This research paper is aimed at providing empirical explanations on the effective factors that are capable of significantly influencing external audit fees paid by the auditee for auditing services rendered. Overall, the findings are largely consistent with previous works of authors who have attempted to also study the nature of their audit markets in their various territories.

However, not only did the findings from this paper suggest the presence of audit pricing premium among the top and big accounting firms in Nigeria, the value of the pricing premium was significantly higher when compared with the values of other territories, both in the developed economies and emerging ones, who have also found the existence of premium. This presupposes the near dominance of these big accounting firms in the audit market. This trend is not unconnected with the positive and higher perception of clients towards western institutions and companies in Nigeria. Besides, these so called big4 firms might also have strategically targeted the big companies in the country, especially those ones whose operations transcends the borders of our great country, Nigeria. Consequently, this trend should serve as a wake-up call to the local and indigenous accounting firms to also brace up and further improve on the rendering of qualitative services.

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Appendices

Table 2: List of Nigerian Quoted Companies used in the Study

S/N	Companies	Sector
1	Livestock Feeds Plc	Agriculture
2	R T Briscoe Nigeria Plc	Automobile
3	Guinness Nigeria Plc	Beverages
4	Nigeria Breweries Plc	Beverages
5	7UP Bottling Company Plc	Beverages
6	Flour Mills Nigeria Plc	Food Producers & Processors
7	Honeywell Flour Mills Plc	Food Producers & Processors
8	Cadbury Nigeria Plc	Food Producers & Processors
9	Vitafoam Nigeria Plc	Household Goods
10	Lafarge WAPCO Plc	Construction & Building Materials
11	CAP Plc	Construction & Building Materials
12	Berger Paints Plc	Construction & Building Materials
13	D N Meyer	Construction & Building Materials D N Meyer
14	Beta Glass Company Plc	Packaging/ Containers
15	Learn Africa Nigeria Plc	Printing/ Publishing
16	Chams Nigeria Plc	Telecommunication
17	NAHCO	Transport
18	Redstar Express Nigeria Plc	Transport
19	Transnational Corporation Nigeria Plc	Diversified Industries
20	Unilever Nigeria Plc	Diversified Industries

Table 3: Summary of Descriptive Statistics for Selected Variables

Variables	Mean	Standard Dev.	Min.	Max
Audit Fees (N'000)	22,476.80	23,556.89	0	126,865
Total Assets (N'm)	40,341,218.66	57,723,036.51	872,374	253,633,629
Receivables/inventories	0.3672	0.1907	0.044	0.873

Source: Stata output of data input by the author

Table 4: Correlation Matrix of Independent Variables

	LogTA	LOSS	RECINV	Big4
LogTA	1.000			
LOSS	-0.220	1.000		
RECINV	0.438	-0.048	1.000	
Big4	0.186	0.079	-0.124	1.000

Source: Stata output of data input by the author

Table 5a: Pooled Regression Estimates

Dep. Var.: LogAFEE	Coefficients	Standard Errors	t-statistics
LogTA	0.371	0.131	2.82*
LOSS	0.031	0.239	0.13
RECINV	-0.757	0.429	-1.76
Big4	0.475	0.185	2.57*
Const.	1.333	1.021	1.31

Source: Stata output of data input by the author

Adj. R²=0.262; Prob>F=0.000; F (4, 75) =8.03

*sig @ 5%;

Table 5b: Fixed Effects Regression Estimates

Dep. Var.: LogAFEE	Coefficients		Standard Errors		t-statistics	
	Within/cid	year	Within/cid	year	within/cid	year
LogTA	0.694	0.389	0.673	0.133	1.03	2.93*
LOSS	1.107	0.039	0.403	0.240	2.75*	0.16
RECINV	-1.461	-0.721	1.070	0.432	-1.37	-1.67
Big4	0.986	0.471	0.416	0.185	2.37*	2.54*
Const.	-1.175	1.205	5.105	1.028	-0.23	1.17

Source: Stata output of data input by the author

*sig @ 5%

(a) Adj. R²(cid)=0.430; Prob>F=0.000; F(23, 56)=3.59;

(b) Adj. R²(year) =0.259; Prob>F=0.000; F(7, 72)=4.94;

(c) Adj. R²: within=0.306, between=0.332; overall=0.252;

Corr (u_i, x_b) = -0.734 Prob>chi²=0.0003; F (4, 56)=6.18

Table 5c: Random Effects (GLS Regression) Estimates

Dep. Var.: LogAFEE	Coefficients	Standard Errors	z-statistics
LogTA	0.382	0.150	2.56*
LOSS	0.180	0.259	0.69
RECINV	-0.791	0.482	-1.64
Big4	0.516	0.206	2.50*
Const.	1.213	1.159	1.05

Source: Stata output of data input by the author

Adj. R²: within=0.269, between=0.486; overall=0.296;

*sig @ 5%

Corr (u_i, x) =0 (assumed)

Prob>chi²=0.0000; wald chi² (4) =27.58

Table 6a: Estimated Results of L-M test for Random Effects

Estimated results	Var.	Sd= sqrt (var)
LogAFEE	0.564	0.751
E	0.321	0.567
U	0.038	0.196

Source: stata output

Test: var (u) = 0; Chi2 (1) = 0.24; Prob>chi2=0.625

Table 6b: The Hausman Fixed Test Results

Variables	Coefficients		Difference (b-B)	Sqrt (diag(v _b -v _B)) S.E
	(b)	(B)		
LogAFEE	0.694	0.382	0.312	0.656
LOSS	1.107	0.180	0.927	0.309
RECINV	-1.461	-0.791	-0.669	0.955
Big4	0.986	0.516	0.470	0.361

Source: stata output

Test: Ho: difference in coefficients not systematic

Chi2 (4) = (b-B)' ((v_b-v_B)⁻¹) =18.43; Prob>chi2 = 0.001