Relationship between Audit Firm Size, Non-Audit Services and Audit Quality

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The study investigates the relationship between audit firm size, non-audit services and audit quality in Nigeria against the background of the global financial crisis. The population of the study is the commercial banks listed in the Nigeria Stock Exchange Market from where a sample of 18 banks was scientifically established. Well structured 200 copies of the instrument (questionnaire) were administered on the respondents who were selected using the purposive random sampling method. We had a response rate of 75%. We estimated the data using ordinary least squares regression method. Audit firm size and non-audit services were positive and statistically significant. Audit tenure and independence were positive but statistically insignificant while audit fee was negatively related to audit quality. Against the background of the findings, we concluded that the size of the audit firm increases the quality of audit, non-audit services give the auditor a comprehensive knowledge of the organisation thereby helping to increase audit quality.

Keywords: *Auditor independence, audit quality, non-audit services, audit fees, spillover reputation hypothesis, deep pocket hypothesis*

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Introduction

The post Enron financial reporting witnessed a vigorous debate on how to improve the quality and enhance the continuous relevance of the external auditor so as to maintain the public confidence in the integrity of the report of the auditor. Audit quality according to De Anglo (1981) is the market assessed joint probability that a given auditor will discover and report a breach of the client's accounting system.

The clamor for the review and upgrade of audit regulations worldwide has been ongoing but the climax was the Enron scandal which prompted a new wave of regulation (mandatory audit rotation) and the emergence of the Sarbanes-Oxley Act. This has to a reasonable extent helped to reposition financial reporting and governance procedures of quoted companies in the developed economies of the world.

The global financial crisis brought to the fore the critical importance of high-quality financial reporting and enhanced audit processes and procedure. Audit quality is both complex and controversial. Hence, it has not enjoyed universal definition or description. Audit quality and financial reporting quality are congenial twins as one cannot be separated from the other. Extant literature has not reached a consensus on the significance of both factors as there exist mixed results. Our study extends this line of research by investigating the relationship between audit firm size, audit fees and audit quality with Nigerian banking sector as a reference point. The choice of this sector is premised on the current financial crisis.

Relationship Between Audit Firm Size, Non-Audit Services And Audit Quality

As mentioned earlier, there exist mixed reports on the audit firm size, non-audit services and audit quality dynamics. This inconclusive nature of the issues makes it open for further discuss.

Audit firm size and audit quality: The reputation and deep pocket hypothesis are two justification for the almost consensus positive relationship between audit firm size and audit quality in Nigeria. The reputation of the audit firm usually comes to bare on the need to deliver accurate reports De Angelo (1981) found that larger firms have narrow tendency to compromise standard and hence higher chances of delivering higher quality audit compared to smaller audit firms. Because they are well established, there is little or no need to compete for jobs, lesser chances of compromising standards so as to retain clients. Moore and Scot (1989) advanced the significant positive relationship between firm size and audit quality. While most studies were focused on profit oriented companies, Krishnan and Shauer (2000) studied non-profit organisations and concluded that audit quality increases as one more from smaller audit firms to the larger firms. Greiger and Rama (2006) related audit firm size to going concern reporting accuracy using type 1 and type II error rates. They discovered that going concern reporting error rate are lower in the Big-4 audit firm compared to the smaller audit firms. Based on the attraction to investors, Sawan and Alsaqqu (2013) concluded that the Big-4 audit firms were more attractive

since they exhibit higher tendency to provide quality information that will translate to higher audit quality. Even though Al-Khaddash, Al-Nawas and Ramadan (2013) disagreed and concluded that the size of the audit firm has no significant relationship with audit quality in Jordan.

Non-Audit Services and Audit Quality

Based on the reputational capital hypothesis and the learning curve argument, there seem to be dominant finding of positive and significant relationship between audit quality and non-audit service fees. Parkash and Venable (1993) using data from both USA and UK established that firms desiring high-quality audit are less likely to purchase non-audit services. Pitt and Birenbaum (1997) posits that …non-audit services increase the firm's investment in reputational capital, contribute importantly to the quality of audit services and provides another benefit to the client and public (p.4). Gore, Pope and Singh (2001) using data from the UK presented evidence of a positive relationship between non-audit services and earnings management from the view point of audit specialisation, Lim and Tan (2007) established a positive relationship between fees from non-audit services and audit quality. In the same vein, Svanstrom (2013) studied the relationship in 420 private firms in Sweden and found a positive association between non-audit services and audit quality. They also concluded that non-audit services do not impair auditor independence.

Audit Fees and Audit Quality

The debate on audit fee and audit quality is still largely unsettled. Hoitash, Murke, Levich and Barragoto (2007) examined the relationship between audit fees and audit quality and found a statistically significant negative relationship between audit fee and proxies of audit quality. The fee for auditor is standardised along the line of hours spent on the job and a graduated percentage of turnover. Therefore, we can conjecture a non significant relationship between audit fee and audit quality. In contrary, Sinidhi and Gul (2007) established a positive and significant association with audit quality Yuniarti (2011), focusing on the economy of Bandany Indonesia studied audit firm size, audit fees and audit quality. The study result revealed that audit fee has a significant and positive relation with audit quality.

Audit Tenure and Audit Quality

The current debate on audit tenure and quality is rather complex with some countries (USA, Taiwan, Korea) adopting the mandatory audit firm rotation approach. Extended auditor-client relationship is both advantageous and beneficial to the firm and the auditor. The relationship can be negative meaning increased audit tenure may reduce the quality of audit due to loss of auditor independence (Mauz & Sharaf, 1961; Dopuch, King & Schwartz, 2001). According to them, longer audit tenure is associated with low-quality audit. The learning cost school believes that there is likely to be lower quality in earlier years as a new auditor has to incur learning cost. Longer audit tenure will enhance audit

quality (Palmrose, 1986; and Geiger & Raghunandan, 2002).

Some writers have established a threshold for an increase in audit quality beyond which, the quality of audit start to decrease even though there is still no consensus on the number of years. Chi and Haung (2005) established that audit quality increases till after five years of audit-client relationship before it starts to decline. Carcello and Nagy (2004) found that fraudulent financial reporting is likely from the third year of auditor-client relationship.

Independence and Audit Quality

Baotham (2009) focused on the economy of Thailand and studied the relationship between auditor independence, quality and credibility on the reputation of CPAs in Thailand and found a positive relationship between audit quality, credibility and auditor independence. Focusing on the economy of Indonesia, Yenni (2013) examined the independence – audit quality nexus and established that a significant positive relationship existed between audit quality and auditor independence. This means that auditor independence guarantees audit quality.

Methodology
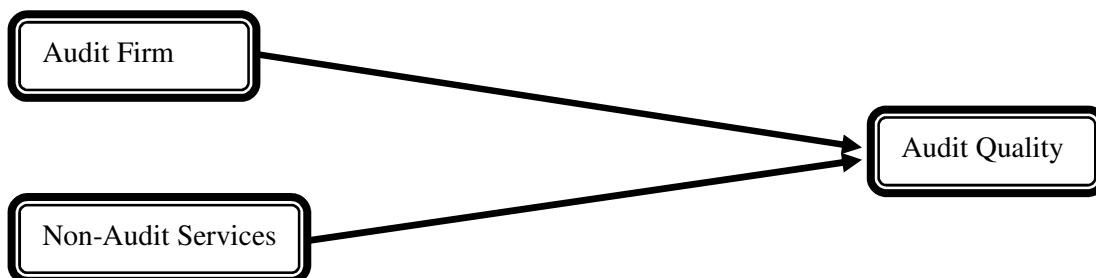
Theoretical Framework

A framework for the analysis of audit firm size, non-audit services and audit quality dynamics is the agency theory. The demand for audit and audit quality is driven by agency cost. The audit function serves a fundamental purpose of promoting confidence and enhancing trust in financial statement. The principal–agent contract which is the basis of the agency theory helps in understanding the audit function. Agency theory according to ICAEW (2005) is a vital economic theory of accountability which helps to trace the evolution of the audit function. Audit provides an independent check on the duties of an agent and helps to reinforce trust and promote confidence. In the simple agency model of audit, the auditor is considered an expert appointed to resolve the likely conflict between the principal and the agent even though there are other stakeholders who are interested in the report of the audit. The interest of these other stakeholders will however complicate the simple audit model an issue which is beyond our cope.

Following the above framework, and existing extant literature on the factors that impacts on audit quality, we have:

Therefore, assume that audit quality is a function of (a) audit firm size and (b) non-audit service, we have:

AUDQUAL = f(AUDFSZ)

(i)

AUDQUAL = f(NAS)

(ii)

Combining both equations,

AUDQUAL = f(AUDFSZ, NAS)

(iii)

Integrating other known audit quality variables

AUDQUAL = f(AUDFSZ, NAS, AUDTEN, AUDFE, AUDIND)   (iv)

In econometric form, equation iv is thus:

$$AUDQUAL = \beta_1 AUDFSZ + \beta_2 NAS + \beta_3 AUDTEN + \beta_4 AUDFE + \beta_5 AUDIND + \mu_t$$

(v)

Where: AUDQUAL = audit quality (dependent variable); AUDFSZ = audit firm size; NAS = non-audit fees; AUDTEN = audit tenure; AUDFE = audit fees; AUDIND = auditor independence; and = μ error term.

$\beta_1,...,\beta_5$ = unknown coefficients of the variable. Presumptively, it is expected that $\beta_1 < 0$, $\beta_2, \beta_{3,} \beta_4, \beta_5 > 0$.

Population and Sample Size

The study focused on the Nigerian banking sector with emphasis on the 22 deposit banks operational in the year 2013. Using the Yamane (1967) approach, we choose 18 banks. From the 18 selected banks, we drew a sample size of 200 respondents made up of internal auditors (90); Accountants; managers (36) and shareholders (40). They were mainly employees from the Lagos headquarters of each selected bank.

Research Instrument

Content validity was achieved through a pilot scheme in which copies of the questionnaire were administered on some few selected respondents. Their responses were used to adjust the questions. Two research assistants were commissioned to administer the questionnaire. There was a response rate of 75% having received and analysed 150 copies of the questionnaire.

Table 1: Measurement of Variables

Variable	Questions	Sign
Audit Quality (AUDQUAL)	1-5	
Non-Audit Services (NAS)	6-9	-ve
Audit Tenure (ATN)	14-17	+ve
Audit Firm Size (AFS)	10-13	+ve
Auditor Independence (INDP)	18-21	+ve
Audit Fees (AFE)	22-25	+ve

ESTIMATION RESULTS AND DISCUSSION

Regression Diagnostics

Table 2: Correlation Analysis

		AUDQTY	NAS	ATN	AFS	INDP	AFE
Spearman AUDQTY	Correlation Coefficient	1.000	.130	.117	.077	.139	-.041
	Sig. (2-tailed)	-	.108	.150	.342	.086	.618
	N	154	154	154	154	154	154
NAS	Correlation Coefficient	.130	1.000	.232**	.154	-.019	.072
	Sig. (2-tailed)	.108	-	.004	.056	.817	.377
	N	154	154	154	154	154	154
ATN	Correlation Coefficient	.117	.232**	1.000	.306**	.082	.001
	Sig. (2-tailed)	.150	.004	-	.000	.312	.987
	N	154	154	154	154	154	154
AFS	Correlation Coefficient	.077	.154	.306**	1.000	-.107	.023
	Sig. (2-tailed)	.342	.056	.000	-	.185	.782
	N	154	154	154	154	154	154
INDP	Correlation Coefficient	.139	-.019	.082	-.107	1.000	.253**
	Sig. (2-tailed)	.086	.817	.312	.185	-	.002
	N	154	154	154	154	154	154
AFE	Correlation Coefficient	-.041	.072	.001	.023	.253**	1.000
	Sig. (2-tailed)	.618	.377	.987	.782	.002	-
	N	154	154	154	154	154	154

*Note: **. Correlation is significant at the 0.01 level (2-tailed).*

Source: Authors Computation 2014

The correlation result revealed that the coefficient of the variable with respect to itself is (1.00) signaling perfect correlation. The values of the mixed coefficients are not indicative of any problem of multicollinearity. The highest correlation coefficient of (0.306) between audit tenure and audit firm size is a strong indication of absence of multicollinearity.

Table 3: Variance Inflation Factor

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.141171	89.01269	NA
NAS	0.004249	25.62181	1.078694
ATN	0.003506	20.24824	1.181338
AFS	0.002792	14.49755	1.101078
INDP	0.005675	54.04256	1.085219
AFE	0.002755	23.51713	1.070555

Source: Authors Computation 2014

The result of the correlation coefficient was strengthened by the Variance Inflation Factor (VIF) test, and the result shows absence of multicollinearity with VIF values less than 10 in all the variables.

Table 4: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.829341 Prob. F(5,144)	0.1107
Obs*R-squared	8.958766 Prob. Chi-Square (5)	0.1107
Scaled explained SS	11.92357 Prob. Chi-Square (5)	0.0359

Source: Authors Computation 2014

The result of the Breusch-Pagan-Godfrey test shows the absence of heteroskedasticity with a probability value of (0.1107) which is greater than the 5% critical value.

The result of the Breusch-Godfrey serial correlation test shows f-statistic and obs*R-squared values of (0.75) and (1.58) with probability values of (0.47) and (0.45) which indicates the absence of serial correlation. The DW statistics of (2.083683) is substantially close to (2.00) and indicates the absence of serial correlation.

Table 5: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.757260 Prob. F(2,142)	0.4708
Obs*R-Squared	1.582962 Prob. Chi-Squared (2)	0.4532

Source: Authors Computation 2014

The OLS result revealed that 61% of the variation in audit quality is explained by the explanatory variables while the balance of 40% variation is attributable to the error term. On the basis of the overall model significance, the f-statistic of (45.3) exceeds the f-critical value at 5% level which explains the fitness of the specified model.

Table 6: Ordinary Least Square (OLS) Regression Analysis

Variables	Coefficient	Std. Error	t-statistic	Prob.
INDP	0.090228	0.315259	0.286203	0.7751
NAS	1.189146	1.107954	11.01526	0.0000
ATN	0.081083	0.362216	0.223854	0.8232
AFS	0.395401	0.192531	2.053706	0.0418
AFE	-0.005470	0.084393	-0.064817	0.9484
R-squared		0.611403 Mean dependent var		5.081333
Adjusted R-squared		0.597910 S. D. dependent var		5.797528
S. E. of regression		3.676243 Akaike info criterion		5.480838
Sum squared resid		1946.125 Schwarz criterion		5.601263
Log likelihood		-405.0628 Hannan-Quinn Criter		5.529763
F-statistic		45.31285 Durbin-Watson stat.		2.083683
Prob (f-statistic)		0.000000		

Source: Authors Computation 2014

As reported in Table 6, non-audit service was found to be positive and significant with a robust t-value of (11.01526) and the coefficient of (1.189146). The support for knowledge spill over from non-audit services may have accounted for the result. The finding is supported by the studies of (Parkash & Venable, 1993; Pitt & Birenbaum, 1997; Lennox, 1999; Gore *et al*, 2001; Svanstrom, 2013) who established a positive relationship between non-audit services and audit quality.

The relationship between audit firm size and audit quality was found to be positive and significant with a t-value of (2.053706) and the coefficient of (0.395401). This finding corroborates those of (De Angelo, 1981;

Krishna & Schauer 2000; Geiger & Rama, 2006; Sawan & Alsaqqu, 2013), who found positive relationship between audit firm size and audit quality. It however deviates from views of Al-Khaddash *et al* (2013) who found no significant relationship between audit firm size and audit quality.

Audit fee was found to have a negative impact on audit quality that means audit fee may not necessarily influence the quality of audit. The implication of this finding is that beyond certain level, audit fee may reduce the quality of audit as auditors may be induced to do a bid of management. Fees are based on predetermined standard. Therefore, anything above the standard fee may be considered an inducement. The finding

deviates from those of (Sinidhi & Gul, 2007; Yunairti, 2011) who found a positive relationship but corroborates that of (Hoitash *et al*, 2007).

Audit tenure was found to have positive and insignificant relationship with audit quality. This shows that higher audit-client relationship improves the quality of audit even though the impact was statistically insignificant in our case. The result corroborated the positive relationship reported by (Palmrose, 1986; and Geiger & Raghunandan, 2007). It however deviated sharply from those of (Mauz & Sharaf, 1961; Dopunch *et al*, 2012).

The relationship between auditor independence and audit quality was positive but insignificant, meaning that even though the more independent the auditor, the better the audit quality, the level of independence did not exert significant impact on audit quality in our sample. With a positive coefficient of (0.090228) and a t-value of (0.286203), it shows that the independence of the auditor did not affect the audit quality in Nigeria.

Conclusion

The study investigated the relationship between audit firm size, non-audit services and audit quality in Nigeria against the backdrop of the global financial crisis which has cast serious doubt on the relevance of the audit function in corporate financial reporting. Given the peculiarities of our study, we hypothesised that non-audit services (NAS) decrease the quality of audit and consequently, there is improvement in audit quality with lesser non-audit services.

In addition, we hypothesised that the larger the audit firm size, the lesser the quality of audit, and consequently, smaller audit firms deliver better quality audit.

Our results in table six shows that audit quality increases with an increase in audit firm size that further strengthens the deep pocket and reputation hypotheses. The relationship between non-audit services and audit quality was found to be statistically significant which means knowledge spillover helps the auditor to have a better understanding of the client's activities(see table six).. This study represents one of the very few that focus on the post recapitalisation era of the Nigeria banking sector. Overall, the research findings support claim of knowledge spillover effect (non-audit services) and the reputation hypothesis (audit firm size). The potency of the finding is premised on the research settings. Studied post recapitalisation era; respondents chosen from corporate headquarters of the selected banks and the estimation technique adopted.

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