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A Cross-sectional Investigation of the Nexus between Audit Rotation and Audit Quality: Evidence from Nigerian Listed Manufacturing Firms.

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Abstract: *In this study the researchers examine whether audit rotation influences the audit quality for a sample of Nigerian manufacturing firms over a period 2003 to 2016. The Blundel and Bond system GMM technique was adopted. The results show that audit quality is positively related to audit rotation, while age and audit quality are negatively related. However, our findings yield strong evidence in support of positive association between audit quality and audit independence confirming the conclusion made by Nasser el at (2006). In view of this, we recommend that companies should rotate their audit firm frequently, and audit fee should be reduced significantly to promote a high level of audit independence. The implication of this is that if audit fee is reduced, the auditing companies will be independent and hedged from the control of the audited company.*

Keywords: Audit rotation, Audit quality, Manufacturing, heterogeneity, GMM

1. INTRODUCTION

Financial reports represent the primary form of communication to outside stakeholders and the reliability in financial reporting is dependent on the auditor's ability to objectively and independently assess the firm's financial accounts and risks related to their operations (Löfving & Widenius, 2016). Audit quality has been a controversial issues in recent decades and most previous evidence suggests that lack of audit quality is among the most important factors responsible for financial and corporate scandals (Soltani, 2014). The scandals that erupted in European top organizations such as Enron, WorldCom, Qwest, Tyco, Adelphia and other companies attracted attention to be shifted to auditing among the professional and researchers.

Audit quality plays a critical role in maintaining systematic confidence in the integrity of financial reporting. According to Adeniyi and Mieseigha (2013), the higher the perceived audit quality, the more credible the financial statements. This will consequently improve users' confidence in those financial statements. Agunda (2014) posited that if an auditor is able to detect and report on the existing material misstatements, the audit process is considered of a higher quality and vice versa. However, what might hinder the auditor's ability to perform and provide a high quality audit services is the extended auditor-client relationship (Vanstraelen, 2000). A sound solution that has been proposed and applied in different countries to overcome the problem of the lack of auditor independence is audit rotation (Agunda, 2014).

Auditing is a process of expressing a high valued independent opinion on the financial statements of the organization. Auditor rotation is one of the requirements that regulators in many countries impose on auditors to enhance audit quality. Jensen (1993) pointed that the internal control systems could be inadequate and in some instances non-existence. Nashwa (2004) claimed that the number of audit failure is highest in the first three years of tenure, and is halved in the subsequent three years which decreases the audit quality. Thus, auditing was introduced to be conducted by third party. Due to the events caused by the failure of long-term client-auditor tenure, which affect the quality of the financial reporting, audit rotation came to limelight. Thus, in this study we re-examine the relationship between audit rotation and audit quality using different and current sample size couple with GMM technique to deal with nuisance terms, which were hitherto ignored by existing studies. The rest of the paper is structured as literature review, data and method, results and conclusive remarks.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Audit Quality

Audit quality is defined as auditors' use of some techniques to recognize misstatements in clients accounting system and report the misstatements. De Angelo (1991) defined audit quality as the probability that an auditor will both discover and truthfully report material errors, misrepresentation and omissions detected in a clients accounting system. This probability depends upon the broad concept of an auditor's professional conduct, which includes factors as objectivity, due professionalism and conflict of interest. Knechel and Vanstraelen (2007) noted that audit quality is measured by the propensity of the auditor to issue a going concern opinion. Adeyemi, Okpala and Dabor (2012) stated that there are factors that affect audit quality which include financial literacy of audit committee members; frequency of audit committee meetings; multiple directorships of audit committee members, independence of audit committee; and audit firm tenure.

2.2 Audit Rotation

Audit rotation can be seen as the frequency in changing the audit firm tenure of an organization. Omoye and Aronmwan (2016); Agunda (2014) classified audit rotation into two which are mandatory and voluntary rotation. The mandatory rotation makes it compulsory for companies to change their auditors after a fixed duration (Lu, 2005). Likewise, mandatory rotation could be either be the audit firm rotation, which requires listed companies to change or rotate after a specific period. (Arel, Brody & Pany, 2005; Orin, 2008). Mandatory audit firm rotation is defined in the Sarbanes-Oxley (SOX) Act as the imposition of a limit on the period of years during which an accounting firm may be the auditor of the financial statements of a particular company. Mandatory audit firm rotation is often discussed as a potential way to improve audit quality –typically gaining attention when public confidence in the audit function has been eroded by events such as corporate scandals or audit failures (Agunda 2014)

On the other hand, the voluntary rotation arises when key audit partners are required to rotate on the audit engagement after a given period of time with mandatory partner rotation (EY, 2013). The rotation of the key audit partners removes risk of over-familiarity and self-interest and promotes objectivity without imposing significant costs. Since introduction of audit rotation in auditing world, there have been debate on the extent to which audit rotation influence audit quality.

2Audit Rotation and Audit Quality

There are extant literatures on audit rotation such as Chi, Huang, Liao and Xie (2009) and Cameran, et al., (2015). These studies argued that audit rotation makes audit to be more costly to the firm. Literature suggested that a long and close relationship between the auditor and the client deteriorates auditor independence and this may impair the audit quality. It is expected that the new incoming auditor will enhance auditor independence as well as offer fresh insights to a client, which may lead to a greater audit quality evidenced by greater financial reporting quality. Stakebrand (2017) pointed out that audit rotation improves audit quality, because of a new and fresh look from a new auditor which should lead to higher independence. The proponents also claim that earnings management, which is associated with audit quality, would be decreased due to the new auditor and thereby increasing audit quality. Of recent, auditors had been blamed for their role in notable corporate scandals in Nigeria such as Cadbury Nigeria Plc (2006), Intercontinental Bank Plc (2009), African Petroleum Plc (2009), Afribank Plc (2009) etc. The criticism had raised lots of questions regarding audit rotation and audit quality.

According to Khasharmeh and Said (2014), the relationship that exists between audit rotation which w**a**s measured by audit tenure and audit quality remains controversial. Some authors stated that the longer the audit tenure, the lower the quality of the audit (Davis, Soo, & Trompeter, 2002; Vanstraelen, 2000) while others such as Gwizu, Waeni, Chimanga, Saidi, Karasa, Mwero, Muzvividzi (2017); Geiger and Raghunandan (2002) conclude otherwise. Arising from the above review is the empirical question: does audit rotation significantly influence audit quality? Based on this question, this study hypothesises as follows:

Ho: Audit Rotation does not significantly influence Audit Quality

3. DATA AND MODEL SPECIFICATION

3.1 Data

Data on firm account receivables, switch, age, audit fee, cash, property, plant and equipment and sales were sourced from the annual financial statements of the selected companies over the period 2003 to 2016. Switch is a proxy for audit rotation; and it is a binary or dichotomous variable that takes the value 1 when a company changes an audit firm, and otherwise 0. Audit quality is obtained from the residuals of the time series regression defined below.

$$rec_t = a_0 + \sum_{i=1}^{3} a_i cash_{t-i} + a_4 ppe_t + a_5 sales_t + u_t \quad (1)$$

$$u_t = auq \quad (2)$$

Where rec- account receivable, ppe- property, plant and equipment and auq is defined as audit quality.

3.2 Model Specification

We augmented the pooled specification of Maria (2016), and adjusted to account for individual effects. Thus.

$$auq_{it} = \alpha_0 + b_1 switch_{it} + b_2 age_{it} + b_3 cash_{it} + b_4 aid_{it} + a_5 sales_{it} + u_i + w_{it} \quad (3)$$

Where u_i is the individual effects, and it can be removed by introducing instrumental variables into the equation, and then differentiate. That is

$$\Delta auq_{it} = c_1 \Delta auq_{it-1} + c_1 \Delta switch_{it} + c_2 \Delta age_{it} + c_3 \Delta cash_{it} + c_4 \Delta aid_{it} + c_5 \Delta sales_{it} + \Delta w_{it} \quad (4)$$

We employ system Generalized Method of Moment (GMM) estimator on equation 4 and the results are presented and discussed as follows.

4. ANALYSES AND RESULTS

The investigation on the link between audit quality and audit rotation spelt the need to estimate the pooled regression and dynamic panel model specified in section 3; which are based on the assumptions that variance does not exist and it does exist respectively. The results of the two equations are presented in table 2 and 3. However, we present the results of the descriptive statistics first in table 1 and figures 1 and 2. Thus:

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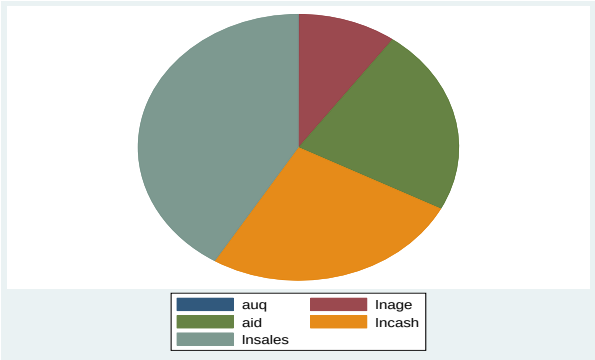
Table 1-Descriptive Results

Variable	Obs	Mean	Std. Dev.	Min	Max
auq	70	.0056257	.1040199	-.2901832	.2470997
lnage	70	1.801125	.045544	1.740363	1.857332s
aid	70	4.111208	.3384321	3.322219	4.591065
lncash	70	4.736548	2.93761	0	7.709241
lnsales	70	7.485786	.5663577	6.250529	8.259859

Authors, 2019

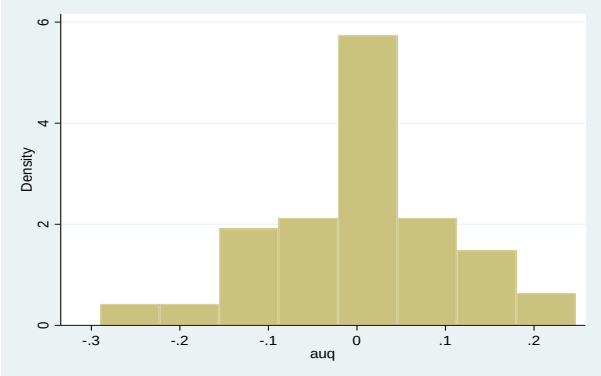
All the variables were brought to their logarithm form, before computing their statistical values. As observed in the table, the mean values of audit quality (auq), age, audit independent (aid), cash and sales are positive. Meaning that all the variables exhibit increasing characteristics throughout the sampling period. Sales have the highest average value but cash has the highest value of standard deviation, implying cash is the most volatile variable confirming the convention that cash is the most volatile asset. Sales is more volatile than audit independent; but it has the highest maximum value, while cash has the lowest minimum value suggesting that the selected companies could be prone to illiquidity at time.

Figure 1 – Pie Chart



As shown in the pie chart above, sales have the largest proportion followed by cash. The average value of age and audit quality is low compared to audit independent. Therefore, it is important to estimate the relationship between audit quality and the rest of these variables taking into account that switch is the independent variable, while the other variables are control variables. For the main time, let's look at the density or distribution pattern of the dependent variable.

Figure 2-Histogram



The density structure of the histogram above looks like a bird shape. Therefore, it means that the data on audit quality follows a Gaussian process or are normally distributed. We can say that the concerned companies have normal audit quality.

Table 2-Pooled Regression Results

Regressor	Coef.	Std. Err.	z	P-value
switch	-.0149075	.0347719	-0.43	0.668
lnage	.1386195	.3277883	0.42	0.672
aid	-.0057813	.0741662	-0.08	0.938
lncash	.0079164	.0048034	1.65	0.099
lnsales	-.003222	.048337	-0.07	0.947
cons	-.231312	.713126	-0.32	0.746

Authors, 2019

The results in table 2 are based on the assumption that the individual variance is averaged away, so no pool effects. In view of this assumption, the coefficients of audit rotation (switch), audit independent and sales are negative. This reveals that audit rotation has inverse and insignificant relationship with audit quality. Therefore, any increase in audit rotation results in decline in the quality of audit. Cash and age have positive impact on audit quality. This suggests that age is a factor that drives the quality of audit positively in a company. Likewise, increase in cash asset leads to a rise in the audit quality. The position of these results changed; if it is assumed that the effects exist but removed through FOD transformation. We see this in the next table.

Table 3-Dynamic Panel Data Model

Regressor	Coef.	Std. Err.	z	P-value
auq (-1)	-.0456278	.1087585	-0.42	0.675
switch	.0036891	.0361453	0.10	0.919
lnage	-.649484	.8896899	-0.73	0.465
aid	.0264019	.0884322	0.30	0.765
lncash	.0105723	.0048293	2.19	0.029
lnsales	-.0391545	.0811536	-0.48	0.629
cons	1.30623	1.827981	0.71	0.475

Authors, 2019.

The estimated DPD model results, in table 3, show that audit rotation is positively related to audit quality. This is against the position of the pooled regression, and it means that an increase in audit rotation could lead to a rise in the audit quality. Audit independent and cash are also seen as positive determinants of audit quality. We therefore confirm that increasing cash asset and audit independent could help to increase audit quality. However, sales and age are non-monotonic factors implying that audit quality reduces with increase in sales and age of the manufacturing companies in Nigeria.

5. Discussion of findings and Conclusion

The study attempts to examine the relationship between audit quality and audit rotation in Nigerian manufacturing companies. After accounting for some control variables, and with particular reference to system GMM method, we found out that audit quality is positively related to audit rotation. This suggests that an increase in the frequency with which a company change her audit firm lead to a rise in quality of audit. This is line with existing convention. We answer the question whether age can positively drive audit quality in Nigerian manufacturing companies, and conclude that age and audit quality are negatively related. This finding contradicts that of DeAngelo (1981). However, our findings yield strong evidence in support of positive association between audit quality and audit independent, confirming the conclusion made by Nasser el at., (2006). Even Saputra (2015) affirmed that there is positive relationship between audit quality and audit independent. In view of this, we recommend that companies should change her audit firm frequently, and audit fee should be reduced significantly to promote a high level of audit independence. The implication of this is that if audit fee is reduced, the auditing companies will be independent and hedged from the control of the audited company,

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