Auditing Quality and Earnings Persistence in Nigerian Quoted Manufacturing Companies

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Abstract:- Accounting process is set to achieve objectivity in order to ensure high financial reporting quality which is reflected through the quality of earnings. Earnings persistence is an essential feature of the accounting information which provide useful information to investors for assessing future cashflows and earnings. External audit play a strong role in supporting transparent financial reporting but the quality of an audit has been a disputed matter in recent times and indications show that absence of audit quality is one of the major reasons for corporate scandals. The study investigated the effect of audit quality on earnings persistence of Nigerian listed manufacturing firms between 2008 and 2017. The study employed secondary data. The population of the study was 53 manufacturing firms listed on the Nigerian Stock Exchange as at 31st December 2017. A sample of 30 firms was purposively selected. Data were sourced from the audited annual reports of the sampled firms and publications of the Nigerian Stock Exchange. Data were analyzed using mean, percentages, pooled OLS, random effect, fixed effect and generalized least square method. The results showed that audit firm size, audit tenure and audit committee expertise had an insignificant positive influence on earnings persistence, sector based specialization had a significant negative effect on earnings persistence, audit firm independence had insignificant negative effect on earnings persistence while age and size exerted a significant negative and positive influence on earnings persistence respectively. This study concluded that audit firm size, audit tenure, sector based specialization, audit firm engaged, audit firm independence, audit committee expertise after being controlled by size and age of the firms bring about earnings persistence. The study recommended that in order to achieve financial report of better quality, consideration should be given to the proxies of audit quality jointly since all the factors are important and need to be critically considered in taking decision by the shareholders and management towards the achievement of a qualitative financial report.

Keywords: Audit quality, Earnings persistence, Financial report, Information asymmetry, Decision making

I. INTRODUCTION

Financial reports play a vital role in providing information for decision making, the more credible and reliable they are, the better the accounting information they provide and as such reduce information asymmetry between managers and stakeholders, thereby bringing about more efficient investment (Biddle & Hilary, 2006). The financial reportought to reveal a company’s income so as to show the value of a company’s shares that represent the value of its future earnings (Okolie, 2014). This may not be so in most cases, because managers of companies use certain strategies to deliberately manipulate company income so as to achieve a predetermined target. This they do by introducing mapped out plans to effect some activities to smooth income, attain high earnings level and influence the company’s stock price (Healy & Wahlen, 1999).

Bugshan(2005), posited that the major objective of the accounting process is to achieve objectivity in order to ensure high financial reporting quality which is reflected through the quality of earnings. Earnings quality is one of the most important features of financial reporting systems which is believed to improve capital market efficiency (Panyam, 2013). Mohammad (2015), opined that earnings quality is used in the assessment of the performance of firms, and in determining the fair value of these firms. The significance of earnings quality is brought about from the quality of reported earnings by firms, which users of the financial report depend on in taking decisions. Earnings quality is intensely related with quality of financial reports, which can be achieved when the legal, professional, and control standards are adhered to by firms (Dechow & Schrand, 2004).

Prior literature, attributed the quality of earnings in the financial report to be associated with earnings persistence (Li, 2008; Kang, Krishnan, Wolfe and Han 2012), which will be focused on in this paper. Earnings persistence is an essential feature of the accounting information which provide useful information to investors for assessing future cashflows and earnings (Kang et al, 2012). According to Mahmoud and Zohre (2014), earnings persistence determines the extent to which present profits may be maintained in the future.

External audit play a strong role in supporting transparent financial reporting. (Ashbaugh & Warfield, 2003). This external independent process is particularly essential to corporate governance and the oversight of companies (Francis, 2004). Auditors play a fundamental role in bridging the gap between the management of an organization and the users of the financial report. As such is advocated by some auditing scholars that the main aim of audit assignment is to generate a report with good and acceptable quality (Onadapo, Ajulo & Onifade, 2017). According to Rostami (2009), it is the auditor based on his professional code of ethics and regulation that authenticates the correctness of financial information that is passed to the end users. Eguasa and Urhoghide (2017), posited that both financial reporting and auditing have been designed to provide protection to investors. Though, having distinct properties, the quality of
one is being influenced by the other so as to provide reliable financial information to various users (Li, Stokes, Taylor and Wong, 2009).

The relationship between audit quality and the level of earnings persistence in the financial statements have been analyzed in several studies but in segregated form such as (Devos & Skar, 2015). In the current literature, however, there are few studies (An, 2009in Korea; Kheirrollahi, Nazari, Rezaei, Nooraei&Gbolami, 2014 inTehran) that analyze the influence of the other audit features on the quality of accounting information, such as length of relationship between the auditor and client, the expertise of the audit committee, reputation of audit firm, client type, industry specialist etc. Even when studies have observed these traits, they generally focused on different stock exchanges and aspects of earnings management. Therefore, we posit the objective of this study as to verify whether earnings persistence as reflected in the financial statements is influenced by the characteristics of independent auditing in the Nigerian capital market. Therefore, this study sought to analyze the set of audit quality characteristics, investigating factors such as audit firm size, audit tenure, number of audit firm engaged in an audit, audit committee expertise, sector based specialization and independence of audit firm. These characteristics have been studied in other environments, but very little interest has been paid to the relationship between the characteristics of auditing and earnings persistence. The second section presents a literature review on the importance of auditing and its characteristics and earnings persistence. Methodological procedures were presented in next section followed by presentation and analysis of the empirical results. Finally, conclusions and recommendations, were made.

II. LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Audit Quality

Audit quality is difficult to observe and as such challenging to measure, as a result a number of proxies have been employed to measure it (Fujiao, 2016). According to the Financial Reporting Council, (FRC, 2006), there is no single agreed definition of audit quality that can be used as a ‘standard’ against which actual performance can be evaluated. Different definitions of audit quality have been put forward such as the assurance that the relevant information about the firm’s underlying economic conditions, the firm’s distinct features and financial reporting practices are faithfully represented in the financial statement (DeFond & Zhang (2014). It is also regarded as a continuous concept that maps closely into financial reporting quality (Eguasa & Urhoghide, 2017). Masood and Afzal, (2016) pointed it out that it is necessary to maintain the quality of audit because it helps to minimize the agency problem.

De-Angelo (1981) defines audit quality by two dimensional definition: the first focused on, detecting misstatements and errors in financial statement while the second looked at, reporting these material misstatements and errors. Owing to the fact that these characteristics are largely unobservable, various drivers have been used by researchers to measure audit quality like: audit size, audit hours, audit fees, reputation, litigation rate and discretionary accruals. Also Bing, Huang, Li and Zhu (2014), classified various defining terms of audit quality into two broad categories, direct definition and indirect definition. ‘Direct’ category if the authors define audit quality looking at financial reporting compliance with General Acceptable Accounting Principle (GAAP), quality control review, bankruptcy, desk review and Stock Exchange performance (Chadegani 2011) without relying on any proxies such as auditor’s reputation, audit firm size, auditor independence; all the rest of the definitions are treated as ‘indirect’, especially when indicators are used and the theory is built on some research results and findings, or the definition implicitly implied from the contents.

Francis (2004), after reviewing empirical audit quality research for 25years, came to the conclusion that the major development in audit quality research is that there exist differences in audit quality, which can be inferred by comparing different groups of auditors. The Financial Reporting Council (FRC, 2008), stated that the indicators and drivers of audit quality is subject to change over time (Eguasa and Urhoghide, 2017). In order to maintain and increase the audit quality, a range of internal and external environmental factors need to be considered (Masood et al, 2016).

For the purpose of this study, the indirect category will be used for this study as have been used by some past researchers who used different proxies to measure audit quality like audit firm size, audit tenure, audit specialization, audit committee expertise, audit independence and audit firms engaged (Ianaet al, 2013 ;Smi2016; Matoke & Omwenga, 2016).

2.1.2 Earnings persistence

Earnings persistence has been defined as the durability and recurrence of the earnings (Rajizadeh & Rajizadeh, 2013). According to Kang, Krishnan, Wolfe, and Han(2012),earnings persistence is an essential feature of earnings quality because being a useful attribute for financial decision making, it enables financial report to provide useful information to investors for assessing future cash flows and earnings. Mahmoud and Zohre, (2014) posit that earnings persistence reveals the efficiency with which managerial efficiency is reflected in the use of the existing sources. They further stated that earnings persistence determines the extent to which present profits may be maintained in the future. Higher persistence earnings are associated with the ability to maintain the current earnings and higher earnings quality (Lipe, 1990).

Earnings persistence being a measure of the informativeness of earnings is classified as an important feature of financial reporting integrity and firm value because it does not suffer from the potential measurement errors inherent in accrual models (Kang et al. 2012).
Theoretically from literature, Dechow, Ge and Schrand (2010) posited that firms with more persistent earnings have a more “sustainable” earnings/cash flow stream that will make it a more useful input into DCF-based equity valuations. They explained that the strength of earnings persistence includes the fact that it fits well as a summary metric of expected cash flows useful for equity valuation.

2.1.3 Control Variables

Audit studies often use several variables to minimize the effects of endogeneity on the results (Lennox, Francis, & Wang, 2012; Ianaet al, 2013). This study included as control variables size (SIZE) and age (AGE) of the listed companies. This study used the logarithm of the total assets of client (LnTAit) to measure the size of the companies in accordance with previous study such as (Fortin & Pittman, 2007; Ianaet al, 2013). The logarithm of total assets aims to control for the size of the audited company. On the other hand, firm age is measured as the number of years the company has been publicly traded as used by (Ojekalyoha, Obigbemi, 2014; Ojekalyoha et al, 2015).

2.2 Theoretical Review

Dang (2004), argument from an agency theory perspective, explains that audited financial statements are a monitoring mechanism to provide assurance for users of financial information. Monitoring is used by the principal to reduce agency costs, although this also may involve costs. According to Beaver (1989), the monitoring attempts to resolve problems that arise due to moral hazard and information asymmetry between the agent and the principal. Moral hazard involves the agent retaining superior information and thereby having the opportunity to use it selfishly at the expense of the principal. To prevent this, an independent actor can be contracted to inspect the information environment. In this case, auditing is one form of control for the monitoring hypothesis, whereby audit decreases the risk of the agent withholding substantial information from the shareholders (Beaver 1989). In addition to the monitoring hypothesis is the information hypothesis, which involves providing information that is useful to investors’ for their decision-making. An audit is viewed by investors as a means of improving the quality of financial information (Wallace, 2004) as persistence depends on both the firm’s fundamental performance as well as the accounting measurement system which can be achieved in the short run by engaging in earnings management (Dechowet al, 2010).

2.3 Empirical Review

In the study carried out by An (2009) which set to investigate the association between corporate governance mechanisms and earnings quality between 2000 and 2005 of listed firms on the Korean Stock Exchanges. Three proxies were used for corporate governance mechanisms based on the Korea’s corporate governance reforms such as ownership structure (family ownership and foreign ownership), internal governance (outside directors on the board and audit committee), and external governance (external auditor). In line with Jonas and Blanchet (2000), the study used earnings quality, as a proxy of financial reporting quality, looking at two types of approaches for assessing financial reporting quality: user needs and shareholder/investor protection. For the user needs, earnings quality is associated with the relevance of the financial information and measured as earnings persistence and value-relevance, while earnings quality in the view of shareholder/investor protection is related to reliability of financial information and conservatism and accruals quality were used as the measure. Pooled-OLS was the primary estimation method for the regression equations.

The findings of the study revealed as for the internal governance function that audit committee does not increase both earnings quality on user needs (earnings persistence and value-relevance) and on shareholder/investor protection (conservatism and accruals quality). In terms of the external governance function, higher audit quality (Big N firms) positively affects earnings quality on shareholder/investor protection (conservatism and accrual quality).

Kheirrollahi, Nazari, Rezaei, Nooraei and Gholami, (2014) carried out a study on the relationship between audit quality and earnings quality on companies listed in the Tehran stock exchange between 2008-2010. Audit quality was proxied by size, age and experience of the audit firm, audit firm reputation and earnings quality was proxied by earnings persistence, levels of accruals and earnings reflect economic transactions. Standard questionnaire was used to collect data. The results indicate that audit quality can be influenced by the quality of profits. The relationship between audit quality and earnings quality was a significant positive correlation.

Devos and Sarkar (2015) carried out a study on auditor quality, earning persistence, and the number of footnotes in 10ks. The study used the number of footnotes to financial statements in the 10K annual filings to proxy for reporting quality. The study investigated whether auditor reputation is related to the number of footnotes. And also examined whether the number of footnotes affects earnings persistence. It was found out that firms audited by Big 4 auditors have less footnotes than firms audited by non-Big 4 auditors. Also the study found that more footnotes reduces earnings persistence in one year ahead and two year ahead. Using big 4 auditors, a larger number of footnotes does not reduce earning persistence and firms who use non-Big 4 auditors can complicate the annual report by using more footnotes and in turn it reduces the earnings persistence.

Krishnan and Hossain (2017), carried out a study on whether audit partners succumb to pressure from important clients in Australia. Their study revealed that audit partners are more likely to issue a going concern opinion to important clients. Also, there is no difference in earnings persistence between more important clients and other clients.
III. METHODOLOGY

3.1 Research Design

The study employed secondary data. The population of the study was 53 manufacturing firms listed on the Nigerian Stock Exchange as at 31st December 2017. Purposive sampling which is a non-probabilistic sampling technique was adopted on the basis of the event criterion in selecting thirty companies (30). Data were sourced from the audited annual reports of the sampled firms and publications of the Nigerian Stock Exchange. Data were analyzed using mean, percentages, pooled OLS, random effect, fixed effect and generalized least square method.

3.2 Measurement of Variables and Model Specification

3.2.1 Earnings Persistence

Earnings\(t = \alpha + \beta \cdot \text{Earnings}_{t-1} + \epsilon_t\)

EPT denotes earnings persistence measured by estimating the time series model for the period 2008 to 2017 following (Ali, Chen & Radharrishnan, 2007) as stated below:

\[ \text{EPT}_t = \alpha_t + \beta_1 \text{Earnings}_t + \delta_2 \text{AT}_t + \delta_3 \text{SBS}_t + \delta_4 \text{AFS}_t + \delta_5 \text{AFE}_t + \delta_6 \text{ACE}_t + \delta_7 \text{AGE}_t + \delta_8 \text{SIZE}_t + \mu_1 \]

Where,

AFS is the audit firm size, size of the audit firm takes the value 1 if the firm is audited by the "Big4" and 0 otherwise (DeAngelo, 1981; Chalmers & Godfrey, 2004).

Audit Tenure measured as number of consecutive years the client has retained a particular audit firm (Zgarni, Hlioui & Zehri, 2012; Chinga, Tehb, Sanc & Hoed, 2015).

Sector Based Specialization1 if MS > 10 percent, and 0 otherwise. Where: MS= m-firm sales ratio = \(\sum_s = S_{ij}/S_1\) (Sij = firm i’s sales, while firm i is audited by auditor j and S1 = the sum of sales for all firms in the industry (Ferguson & Stokes, 2002; Zgarniet al, 2012).

Audit Firms Engaged measured by dichotomous variable (“1” if a company is audited by more than one audit firm and “0” otherwise)(Maosyi, Abubakar, Peter, 2015).

Audit Firm Independence measured by natural log of the audit fees paid by the company (Okoli et al, 2013)

Audit Committee Expertise measured by the number of individuals on the audit committee who are experienced and financially literate (Ojeka, Iyoha & Asaolu, 2015)

Firm Age is the number of years from the date of incorporation to the end of year covered by the study (i.e. 2017).

Size of the firm is the natural log of total assets over the period of study (Okoli et al, 2013).

IV. ANALYSES, RESULTS AND DISCUSSION

In this section, the descriptive and empirical analyses are presented thus;

4.1 Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std.Dev</th>
<th>Skewness ( Prob)</th>
<th>Kurtosis ( Prob)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPT</td>
<td>-5.25</td>
<td>-0.19</td>
<td>0.21</td>
<td>0.04</td>
<td>0.42(0.0033)</td>
<td>14.31(0.0000)</td>
</tr>
<tr>
<td>AFS</td>
<td>0.68</td>
<td>0</td>
<td>1</td>
<td>0.47</td>
<td>-0.76(0.000)</td>
<td>1.57(0.000)</td>
</tr>
<tr>
<td>AT</td>
<td>6.71</td>
<td>1</td>
<td>18</td>
<td>4.39</td>
<td>0.58(0.001)</td>
<td>2.33(0.006)</td>
</tr>
<tr>
<td>SBS</td>
<td>0.63</td>
<td>0</td>
<td>1</td>
<td>0.48</td>
<td>-0.52(0.003)</td>
<td>1.27(-)</td>
</tr>
<tr>
<td>LAFE</td>
<td>1.03</td>
<td>1</td>
<td>2</td>
<td>0.18</td>
<td>5.20(0.000)</td>
<td>28.03(0.000)</td>
</tr>
<tr>
<td>AFI</td>
<td>7.11</td>
<td>5.88</td>
<td>8.47</td>
<td>0.50</td>
<td>-0.18(0.1853)</td>
<td>3.17(0.4249)</td>
</tr>
<tr>
<td>ACE</td>
<td>0.86</td>
<td>0</td>
<td>4</td>
<td>0.97</td>
<td>1.08(0.000)</td>
<td>3.77(0.0222)</td>
</tr>
<tr>
<td>AGE</td>
<td>46.2</td>
<td>3</td>
<td>93</td>
<td>17.27</td>
<td>-0.26(0.0622)</td>
<td>3.55(0.0698)</td>
</tr>
<tr>
<td>SIZE</td>
<td>10.10</td>
<td>7.88</td>
<td>13.40</td>
<td>0.78</td>
<td>0.32(0.0242)</td>
<td>2.98(0.9023)</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation, 2018
Interpretation

The mean of the earnings persistence of all the 30 listed manufacturing companies considered within the time frame of 10 years is -5.25. The least EPT reported is -0.19 with maximum value of 0.21. The result of standard deviation shows that the dispersion of EPT around the mean value is 0.04, this is an indication that the series sparingly spread around the mean, that is, the EPT of the sampled firms over the examined years clustered around the mean. The skewness 0.42, which is slightly higher than the threshold of 0 indicate that EPT is positively skewed, it implies that the series has more of its value above the mean value than below the mean value.

This is also reflected in the kurtosis result of excess kurtosis of 11.31 (14.31-3) being above the threshold of 0, means that the series EPT is leptokurtic, it is an indication that the series are highly peaked, sharply above the normal distribution peak of 3, this means that most of the EPT are above the mean value. The normality of the series was tested by skewness/kurtosis normality test; with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that EPT is not normally distributed.

According to the descriptive statistics result in Table 1, 68% of Nigerian listed manufacturing firms were audited by big 4 audit firms with a maximum percentage of 100% on yearly basis while the minimum AFS reported within the period covered by the study and among the sampled firms concerned is 0 which implies that there are periods in which non-big4 firms only audited. The result of standard deviation shows that the dispersion of AFS around the mean value is 0.47, this is an indication that the series widely dispersed around the mean value. The skewness -0.76 which is less than the threshold of 0 means that AFS is negatively but moderately skewed, it implies that majority of the AFS across the series are less than the mean value.

This is also reflected in the kurtosis result with excess kurtosis of -1.43 (1.57-3) being below the threshold of 0, means that the series AFS is platykurtic, it is an indication that the series are lowly peaked, that is slightly below the normal distribution peak, this means that most of the AFS are less than the mean value. The normality of the series was tested by skewness/kurtosis normality test with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that AFS is not normally distributed.

The mean value of AT of 6.71 as shown on Table 1 means that on the average, the audit tenure of audit firms that audit listed manufacturing firms in Nigeria is about 7 years with a maximum of 18 years while the least reported AT within the period covered by the study and among the sampled firms concerned is 1 year. The study also reveals the dispersion of the AT around the mean value to be 4.39, which shows that the series are sparingly dispersed from the mean value. The skewness 0.58, which is slightly higher than the threshold of 0 indicate that AT is positively skewed, it implies that the series has more of its value above the mean value than below the mean value. This is also reflected in the kurtosis result with excess kurtosis of -0.67 (2.33-3) being below the threshold of 0, means that the series AT is platykurtic, it is an indication that the series are lowly peaked, that is slightly below the normal distribution peak, this means that most of the AT are less than the mean value. The normality of the series was tested by skewness/kurtosis normality test with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that AT is not normally distributed.

Based on the descriptive statistics result in Table 1, 63% of Nigerian listed manufacturing firms were audited by specialist audit firms with a maximum percentage of 100% on yearly basis while the minimum SBS reported within the period covered by the study and among the sampled firms concerned is 0 which implies that there are periods in which non-specialist audit firms audited. The result of standard deviation shows that the dispersion of SBS around the mean value is 0.48, this is an indication that the series sparingly dispersed around the mean value. The skewness -0.52 which is less than the threshold of 0 means that SBS is negatively but moderately skewed, it implies that majority of the SBS across the series are less than the mean value. This is also reflected in the kurtosis result with excess kurtosis of -1.73 (1.27-3) being below the threshold of 0, means that the series SBS is platykurtic, it is an indication that the series are lowly peaked, that is slightly below the normal distribution peak, this means that most of the SBS are less than the mean value. The normality of the series was tested by skewness/kurtosis normality test with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that SBS is not normally distributed.

From Table 1, the average number of audit firm engaged (AFE) at a time to audit a listed manufacturing firms in Nigeria is 1, with the maximum value of 2 and minimum value of 1. The result of standard deviation shows that the dispersion of SBS around the mean value is 0.18, this is an indication that the series sparingly dispersed around the mean value. The skewness of 5.20 which is greater than the threshold of 0 means that AFE is positively and highly skewed. It implies that majority of the AFE across the panel are above the mean value. This is also reflected in the kurtosis result of excess kurtosis of 25.03 (28.03-3) being above the threshold of 0, means that the series AFE is leptokurtic, it is an indication that the series are highly peaked, sharply above the normal distribution peak, this means that most of the AFE are above the mean value. The normality of the series was tested by skewness/kurtosis normality test; with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower
than the 5% significance level revealed that AFE is not normally distributed. The overall average of the log of audit firm fee (LA$F$) of all the 30 listed manufacturing firms considered within the time frame of 10 years is 7.11 while the least LA$F$ reported is 5.88 with maximum value of 8.47; the result of the measure of variation of 0.5 is a reflection of the series not widely deviated from the mean. The skewness -0.18 which is less than the threshold of 0 means that LA$F$ is negatively but moderately skewed, it implies that majority of the LA$F$ across the series are less than the mean value. This is also reflected in the kurtosis result of excess kurtosis of 0.18 (3.18-3) being above the threshold of 0, means that the series LA$F$ is leptokurtic, it is an indication that the series are highly peaked, slightly above the normal distribution peak, this means that most of the LA$F$ are above the mean value. The skewness 1.08, which is slightly higher than the threshold of 0 indicates that LA$F$ is positively skewed, it implies that the series has more of its value above the mean value than below the mean value. This is also reflected in the kurtosis result of excess kurtosis of 0.77 (3.77-3) being above the threshold of 0, means that the series ACE is leptokurtic, it is an indication that the series are highly peaked, slightly above the normal distribution peak, this means that most of the ACE are above the mean value. The normality of the series was tested by skewness/kurtosis normality test; with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that LA$F$ is not normally distributed. The mean value of audit committee expertise ACE of 0.86 as shown on Table 1 means that on the average, the number of accounting expert on the committee of the listed manufacturing firms in Nigeria is approximately 1 with a maximum of 4 while the least reported ACE within the period covered by the study and among the sampled firms concerned is 0. The study also reveals the dispersion of the ACE around the mean value to be 0.97, which shows that the series are sparingly dispersed from the mean value. The skewness 0.32, which is slightly higher than the threshold of 0, means that the series LAFI is platykurtic, it is an indication that the series are lowly peaked, this means that the series LAFI is not widely dispersed from the mean value. The skewness -0.26 which is less than the threshold of 0 means that AGE is negatively but moderately skewed, it implies that majority of the AGE across the series are less than the mean value. This is also reflected in the kurtosis result of excess kurtosis of 0.55 (3.55-3) being above the threshold of 0, means that the series AGE is leptokurtic, it is an indication that the series are highly peaked, slightly above the normal distribution peak, this means that most of the AGE are above the mean value. The normality of the series was tested by skewness/kurtosis normality test; with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that AGE is not normally distributed. From the Table 1, the average SIZE of the listed manufacturing firms in Nigeria measured by the logarithm of total assets is 10.1 with the minimum value of 7.86 and maximum value of 13.4. The standard deviation result of 0.78 means that the series are not widely dispersed from the mean value. The skewness 0.32, which is slightly higher than the threshold of 0 indicates that SIZE is positively skewed, it implies that the series has more of its value above the mean value than below the mean value. This is also reflected in the kurtosis result with excess kurtosis of -0.02 (2.98-3) being below the threshold of 0, means that the series SIZE is platykurtic, it is an indication that the series are lowly peaked, that is slightly below the normal distribution peak, this means that most of the SIZE are less than the mean value. The normality of the series was tested by skewness/kurtosis normality test with the null hypothesis which states that the series are normally distributed but the result (p-value) of the test is 0 percent which is lower than the 5% significance level revealed that SIZE is not normally distributed. Although, the results of the normality tests of all the series (ACV, TL$F$, AFS, AT, SBS, AFE, LA$F$, ACE, AGE and SIZE) revealed that they are not normally distributed but further test to correct the abnormality in the distribution is not carried out because abnormal distribution is expected in a panel data, especially in a panel with large sample size; this is due to heterogeneity of the different firms that constituted the sample in respect to the uniqueness of each firm (Gujarati & Porter, 2009) 

4.1.2. Multicolinearity Test

In order to determine whether the series in the distribution are correlated; correlation matrix test and Variance Inflation Factor test are carried out and the results presented in Table 2 and 3 below respectively.

<table>
<thead>
<tr>
<th>Source: Authors’ Computation, 2018</th>
<th>Mean VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>VIF</td>
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<td>AFS</td>
<td>2.87</td>
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<tr>
<td>AT</td>
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<tr>
<td>SIZE</td>
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</tr>
</tbody>
</table>

Table 2 Result of the Variance Inflation Factor (VIF) Test
The result of the Variance Inflation Factor (VIF) as presented in Table 2 with AFS, AT, SBS, AFE, Log of audit fee (LAFI), ACE, AGE and SIZE having VIF values of 2.87, 1.22, 1.72, 1.2, 5.45, 1.21, 1.08 and 4.01 which are lower than the threshold of 10 (Baltagi, 2015) revealed that there is no multicollinearity problem among the series in the distribution, it is an indication that the series are not unhealthily related.

### Table 3 Result of Pearson Correlation Matrix Tests

<table>
<thead>
<tr>
<th>Variables</th>
<th>AFS</th>
<th>AT</th>
<th>SBS</th>
<th>AFE</th>
<th>LAFI</th>
<th>ACE</th>
<th>SIZE</th>
<th>AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFS</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT</td>
<td>0.33</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SBS</td>
<td>0.62</td>
<td>0.25</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFE</td>
<td>0.12</td>
<td>0.29</td>
<td>0.14</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAFI</td>
<td>0.67</td>
<td>0.24</td>
<td>0.39</td>
<td>-0.02</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACE</td>
<td>0.09</td>
<td>0.06</td>
<td>0.16</td>
<td>-0.16</td>
<td>0.31</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>0.18</td>
<td>0.04</td>
<td>0.04</td>
<td>-0.06</td>
<td>0.10</td>
<td>0.12</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>0.51</td>
<td>0.13</td>
<td>0.34</td>
<td>-0.13</td>
<td>0.85</td>
<td>0.29</td>
<td>0.14</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation, 2018

### Interpretation

Based on the result of the correlation matrix shown in Table 3, the series have no multicollinearity problem. This implies that there is no unhealthy association among the explanatory variables of the model and that the series are appropriate in running the regression analyses for testing the hypotheses without generating a bias or spurious results. This result aligned with the result of the Variance Inflation Factor as presented in Table 2.

Conclusively, the overall coefficients of the Pearson Correlation Matrix showed that all the series in the model are healthily correlated; this implies that the series are appropriate in running the regression analyses for testing the hypotheses without generating a bias or spurious results.

### 4.2. Test of Hypothesis

The regression analysis in determining the effect of the audit quality proxies on earnings persistence was carried out using (Pooled OLS, Fixed Effects and Random Effect). The result of the regression analysis, the Hausman Test, Breusch Pagan Langrangian Multiplier Test for Random Effect as well as Diagnostic tests (Serial Correlation, Cross sectional dependence and heteroskedasticity) are presented in Table 4

<table>
<thead>
<tr>
<th>Method</th>
<th>Pooled OLS</th>
<th>Fixed Effects</th>
<th>Random Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.008</td>
<td>-0.307</td>
<td>-0.008</td>
</tr>
<tr>
<td>AFS</td>
<td>0.009</td>
<td>0.005</td>
<td>0.009</td>
</tr>
<tr>
<td>AT</td>
<td>0.001</td>
<td>0.0004</td>
<td>0.004</td>
</tr>
<tr>
<td>SBS</td>
<td>-0.007</td>
<td>-0.019</td>
<td>-0.007</td>
</tr>
<tr>
<td>AFE</td>
<td>0.004</td>
<td>0.004</td>
<td>0.004</td>
</tr>
<tr>
<td>LAFI</td>
<td>-0.027</td>
<td>-0.021</td>
<td>-0.027</td>
</tr>
<tr>
<td>ACE</td>
<td>0.001</td>
<td>0.004</td>
<td>0.001</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.020</td>
<td>0.064</td>
<td>0.020</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.0002</td>
<td>-0.004</td>
<td>-0.0002</td>
</tr>
</tbody>
</table>

Adj. R² = 0.0252
Adj R²(Overall) = 0.0138
Adj R²(Overall) = 0.0513

Haussman Test: Chi² (7) = 19.88, Prob> Chi² = 0.0058
Test Parameters: F(6,290) = 2.44, Prob> F = 0.0024
Rho Test: F(29,290) = 0.95, Prob> F = 0.5372
Wooldridge Test (Autocorrelation): F(6, 290) = 0.177, Prob> F = 0.6769
Pesaran CD Test: Chi² = 0.236, Prob = 0.8132
Modified Wald Test: Chi²(30) = 11133.54, Prob> Chi² = 0.0000

No of observations = 300

Source: Authors’ Computation, 2018
Interpretation

In order to determine the most appropriate method of estimating the regression model among pooled OLS, fixed effects and random effects, the Hausman test was carried out; and based on the result of the test which states that random effects is the most appropriate, Breusch-Pagan Lagrangian multiplier test for random effects was also conducted to confirm the result of the Hausman test as presented in Table 4.

The result of the Hausman test with the *p-value* of 0.0058, that is, 0.58 percent is less than the 5 percent level of significance chosen for the study which reveals that fixed effect is the most appropriate estimator according to its null hypothesis of presence of unsystematic difference in the model coefficients; thus, the study do not reject the null hypothesis.

Although, the Hausman test result revealed the appropriateness of the fixed effects but the confirmation of the most appropriate estimator for the model; thus to correct the presence of unsystematic difference in the model coefficients, the Hausman test was carried out using Breusch-Pagan/Cook-Weisberg test and the result of the heteroskedasticity with *p-value* of 0.000, that is 0 percent which is less than 5 percent level of significance for the study is an indication of the presence of heteroskedasticity; that is, the residuals of the model are not constant over time, thus the study reject the null hypothesis.

Also, serial correlation test was carried out to determine the existence of autocorrelation among the residuals and the coefficients of the model. According to Baltagi, 2015, autocorrelation problem causes the standard errors of the coefficients to be smaller than their actual value and the coefficient of determination (R-squared) to be higher than normal. The null hypothesis of the test states that there is no serial correlation (no first order of autocorrelation). the test carried out using Wooldridge test revealed the result with *p-value* 0.6769 (that is, 67.69 percent) which is greater than the significance level of 5 percent is an indication of the presence of heteroskedasticity. Therefore, the study does not reject the null hypothesis.

Conclusively, the diagnostic tests revealed that there is presence of heteroskedasticity. As a result of this, the OLS, Fixed effects and random effects would not be an appropriate estimators for the model; thus to correct the presence of heteroskedasticity among the model residuals and coefficients, the Fixed effect Generalized Least Square (GLS) was used to estimate the effect of AFS, AT, SBS, AFE, LAFI, ACE on EPT.

### Table 5: Regression Result (Fixed effects Generalized Least Square (GLS))

<table>
<thead>
<tr>
<th></th>
<th>Coef</th>
<th>Robust Std.Err</th>
<th>T</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.307</td>
<td>0.185</td>
<td>-1.66</td>
<td>0.108</td>
</tr>
<tr>
<td>AFS</td>
<td>0.005</td>
<td>0.009</td>
<td>0.56</td>
<td>0.578</td>
</tr>
<tr>
<td>AT</td>
<td>0.0004</td>
<td>0.001</td>
<td>0.80</td>
<td>0.431</td>
</tr>
<tr>
<td>SBS</td>
<td>-0.019</td>
<td>0.006</td>
<td>-3.15</td>
<td>0.004**</td>
</tr>
<tr>
<td>AFE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAFI</td>
<td>-0.021</td>
<td>0.017</td>
<td>-1.20</td>
<td>0.239</td>
</tr>
<tr>
<td>ACE</td>
<td>0.004</td>
<td>0.005</td>
<td>0.78</td>
<td>0.443</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.064</td>
<td>0.020</td>
<td>3.18</td>
<td>0.003**</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.004</td>
<td>0.002</td>
<td>-2.44</td>
<td>0.021**</td>
</tr>
<tr>
<td></td>
<td>Adj R² (Overall) = 0.0138</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F (7, 29) =2.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prob &gt; F = 0.0186</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No of observations =300

Source: Authors’ Computation, 2018
Interpretation

\[
EPT = \delta_0 + \delta_1AFS_e + \delta_2AT_e + \delta_3SBS_e + \delta_4AFE_e + \delta_5LAFI_e + \delta_6ACE_e + \delta_7AGE_e + \delta_8SIZE_e + \epsilon_t \quad 3
\]

\[
EPT = -0.307 + 0.005AFS_e + 0.0004AT_e - 0.019SBS_e + 0AFE_e - 0.021LAFI_e +0.004ACE_e - 0.004AGE_e + 0.064SIZE_e + \epsilon_t \quad 3
\]

Regression Results (Fixed Effects (GLS) with robust Standard Error): According to the regression analysis result of the Generalized Least Square (GLS) presented in Table 5, the probabilities of the t-statistics of the regression analysis revealed that SIZE(with p-value = 0.003<0.05) positively and significantly influence EPT at 5 percent significant level, while sector based specialization (SBS) (with p-value = 0.004>0.05) negatively and significantly influence EPT at 5 percent significant level, AGE (with p-value = 0.021<0.05) influence EPT negatively and significantly at 5 percent significant level. Audit firm size (AFS) (with p-value = 0.578>0.05); audit tenure (AT) (with p-value = 0.431>0.05) and audit committee expertise (ACE) (with p-value = 0.443>0.05) exert a positive but insignificant effect on EPT. Contrariwise, the log of audit fee (LAFI) (with p-value = 0.239>0.05) influence EPT negatively but insignificantly.

This is also confirmed by the t-statistics results, according to the statistical table, the t-tabulated of 5 percent significance level is 1.96 in absolute value and the decision rule is to reject the null hypothesis when \(t_{cal}>t_{tab}(1.96)\) that is no significant effect between the explained and the explanatory variables; based on this, the result revealed that SIZE, with \(t_{cal}(3.18)>t_{tab}(1.96)\); AGE, with \(t_{cal}(2.44)>t_{tab}(1.96)\) and SBS with \(t_{cal}(3.15)>t_{tab}(1.96)\) significantly influence EPT at 5 percent significant level therefore, the study do reject the null hypothesis that SBS has no significant effect on EPT, it implies that SBS significantly influence on EPT. On the contrary, AFS with \(t_{cal}(0.56)<t_{tab}(1.96)\); AT, with \(t_{cal}(0.8)<t_{tab}(1.96)\); LAFI, with \(t_{cal}(1.2)<t_{tab}(1.96)\), ACE, with \(t_{cal}(0.78)<t_{tab}(1.96)\), have insignificant influence on EPT; therefore, the study do not reject the null hypotheses that AFS, AT, LAIFI and ACE have no significant effect on EPT.

The coefficient of the regression result measures the magnitude and the direction of the relationship between the explained and the explanatory variables; AFS with a coefficient of 0.005 implies that a positive change in AFS would yield 0.5 percent increase in EPT; AT with a coefficient of 0.0004 implies that a unit increase in audit tenure would lead to 0.01 percent increase in EPT; SBS has coefficient of -0.019, which means that as specialist auditors increase by a unit, EPT would decrease by 1.9 percent.; LAIFI with a coefficient of -0.021 is an indication that a unit increase in audit fee would lead to 2.1 percent decrease in EPT; ACE with coefficient of 0.004 implies that as the number of audit committee expertise increases by a unit, this would lead to 0.4 percent increase in EPT; SIZE with coefficient of 0.064 implies that as SIZE of listed manufacturing companies increase by a unit, this would lead to 6.4 percent increase in EPT and AGE with coefficient of -0.004 implies that as the AGE of listed manufacturing companies increase by a unit, this would lead to 0.4 percent decrease in EPT.

The explanatory power of combined AFS, AT, SBS, AFE, LAIFI and ACE with the influence of the control variables SIZE and AGE on the EPT (that is the coefficient of determination) as shown in Table 5 is 0.0186, which implies that 1.38 percent change in the EPT is caused by the combined influence of the explanatory variables (AFS, AT, SBS, AFE, LAIFI and ACE) while the remaining 98.62 percent is caused by other determining variables which are not within the scope of this study. This is an indication that the combination of the explanatory variables do not strongly influence the value as measured by EPT. Also, the result of the F-statistics with p-value of 0.0186 (1.86 percent which is less than 5 percent) significance level, implies that all the explanatory variables (AFS, AT, SBS, AFE, LAIFI and ACE) with the influence of the control variables SIZE and AGE jointly and significantly influence the explained variable (EPT). 

VI. DISCUSSION

The summary of the regression results carried out showed that audit firm size positively and insignificantly influence the earnings persistence of Nigerian listed manufacturing firms with the inclusion of the control variables; the findings corroborated the reports of previous studies carried out by Kheirollaheit al (2014) and Devos & Sakar, 2015 which found a positive but significant relationship.

From the regression analysis result of this study, it was discovered that audit tenure positively and insignificantly affect earnings persistence of Nigerian listed manufacturing firms with the inclusion of the control variables. Sector based specialization negatively and significantly affect earnings persistence. This implies that specialist auditors bring about earnings persistence. The relationship between the number of audit firms engaged and the earnings persistence is in doubt, this relationship could not be proved or disproved based on the regression result.

Furthermore, it was revealed that audit firm independence measured by the log of audit fees has a negative and insignificant relationship with earnings persistence. Audit committee expertise was found to exert insignificant positive influence on the earnings persistence. This findings confirmed the findings of (An, 2009) who found a similar result of audit committee expertise not bringing about earnings persistence. Regarding the control variables, the results obtained suggest a negative significant relationship between age of the listed manufacturing firms and earnings persistence and a positive significant relationship between size of the listed manufacturing firms and earnings persistence respectively.

Conclusively, the probability of the F-test with 0.0186 indicates that all the explanatory variables (audit firm size,
audit tenure, sector based specialization, audit firm engaged, audit firm independence and audit committee expertise) might not individually exert significant influence on the earnings persistence but compositely influence the earnings persistence of listed firms in Nigeria.

VII. IMPLICATION TO RESEARCH AND PRACTICE

Based on the evidence presented, it was implied that the earnings persistence of listed manufacturing firms in Nigeria is not greater when companies are audited by (Big 4) independent auditing firms than smaller ones (non-Big 4). Also, the evidence presented in this study, indicates that the existence of an audit committee expertise donot influence earnings persistence of listed manufacturing firms in Nigeria. This implies that financial expertise of audit committee members do not affect the level of persistence in the earnings of listed companies. Likewise the result of the audit tenure presented indicate that earnings persistence is not affected by the number of consecutive years during which the client company is audited by the same audit firm. From the findings it was also implied that audit firm independence measured by audit fees which is an incentive for auditors to increase their efficiency to improve the quality of financial statement shows a negative but statistically insignificant relationship. This means that the amount of auditing fees have no role in improving earnings persistence in financial statements. The relationship between the auditors’ specialization in the industry of the client is negative and statistically significant, it can be deduced that auditor specialization in the industry of the client helps improve the level of earnings persistence.

Regarding the control variables, the obtained results suggested that there is a significant relationship between the age, size and earnings persistence. This implies that as companies advance in age and becomes larger they are more persistent in their earnings.

VIII. CONCLUSION AND RECOMMENDATIONS

The study concludes that audit quality have significant relationship with the earnings persistence of listed manufacturing firms in Nigeria. And that improving this quality could enhance the financial reporting in general. The study therefore recommends that in order to achieve financial report of better quality, consideration should be given to the proxies of audit quality jointly since all the factors are important and need to be critically considered in taking decision by the shareholders and management towards the achievement of a qualitative financial report.

IX. SUGGESTION FOR FURTHER STUDIES

Researchers should carry out studies considering other proxies for audit quality and earnings quality. Also similar studies should be carried out considering other sectors of the Nigerian economy as well as other economies of the world. It is further suggested that wider scope can be covered in future studies in terms of time frame and sample size.

REFERENCES


