

specialization). contrary to this Lobo, Paugam, Zhang & Casta (2016) document that firms audited by Big 4-non-Big 4 auditor pair (BS) are more likely to book an impairment and book a larger impairment than firms audited by a Big 4-Big 4 auditor pair (BB) when low-performance indicators suggest a greater likelihood of impairment. Moreover, firms audited by a BB pair reduce impairment disclosures when they book impairments, while firms audited by a BS pair do not, suggesting lower transparency for firms audited by a BB pair.

Ahmad, Suhara and Ilyas (2016) assess the impact of audit quality on earnings management of manufacturing companies listed on Indonesia Stock Exchange and the results showed that audit quality and earning management are negatively related. Similarly, Saleem and Alzoubi (2016) examine the association between audit quality and earnings management, the findings revealed a negative and significant association between audit quality and earnings management.

Jayeola, Taofeek and Toluwalase (2017) examine relation between audit quality and earnings management on Nigerian listed deposit money banks and found a significant positive relationship between joint audit and earning management which implies that a change to joint audit from single audit increases earnings management which implies that every unit increase in audit specialization decreases earnings management, a significant positive relationship between audit independence and earnings management, and insignificant negative relationship between audit tenure and earnings management and concluded that lengthy audit tenure be discouraged.

Ozkan (2018) analyze the association between audit quality and earnings management for non-financial firms quoted on Borsa Istanbul. Ordinary least square regression analysis was employed, and three different proxies for audit quality (auditor independence, audit industry specialization and auditor tenure) were used based on a sample of 97 non-financial firms quoted on Borsa Istanbul from 2013 to 2018. The findings indicates that auditor independence and audit industry specialization are negatively and significantly related with likelihood of earnings management, long-term auditor and client relationship enables the management of firms to more actively engage in earnings management. The findings support notion that the high-quality audit is one of the prominent factors that can mitigate earnings management practices.

Ishaku *et al.* (2019) examines the impact of audit quality on the level of earnings manipulation and found that total audit fees, non-audit fees and joint audit have a positive but not significant relationship with the level of earnings manipulations, however, audit partner rotation and board independence exhibit a negative but not significant relationship with the level of earning manipulations. The study recommended that regulatory bodies should encourage joint audit as this will reduce the domination of big 4 audit firms in the audit market allowing fair competition and enabling small indigenous audit firms to excel.

2.3 Theoretical framework

Two theories relevant to this study were considered to give the theoretical basis for understanding the dynamics of audit quality and its roles in minimizing earnings management of listed non-financial companies in Nigeria. These include Agency theory and Stakeholders theory. However, the theory that best guide this study is the stakeholder theory because audit failure might have a detrimental effect not only on the shareholders but on all stakeholders, as such stakeholder theory was adopted to guide this study.

3.0 Methodology

This study adopted *ex-post facto* research design because the study entails the use of data extracted from annual report and accounts of the non-financial companies in Nigeria, it was adopted in view of its relative importance to the actualization of the research objective which is to examine the relationship between audit quality and earnings management of non-financial companies Nigeria.

The population of the study comprises the entire non-financial companies listed on the Nigerian stock exchange as at December, 2018. There are one hundred and twelve (112) non-financial companies listed on the NSE out of the one hundred and sixty two (162). In order to ensure availability of data required by the study 36 companies were selected (Appendix 1).

Table 3.1 Variables and their Measurement

Variable Name	Type of Variable	Measurement	Sources
Discretionary Accruals (DA)	Dependent	Total accruals minus Non-discretionary accruals	Li & Lin (2005) and Lisar, Lisar & Zadeh (2016)
Audit Independence (AI)	Independent	Non-audit fees divided by total audit fees	Lin & Hwang (2010)
Audit Firm Size (AFS)	Independent	Big 4 audit company 1, Non-Big 4 audit company	Basiruddin (2011)Lisar, Lisar & Zadeh (2016)
Audit Firm Tenure (AFT)	Independent	Number of years the audit firm served in the firm	Ishaku, Dandago, Muhammad & Barde; 2019
Audit leading Partner Rotation (APR)	Independent	Change in leading partner 1, otherwise 0	Nwoye & Anichebe, 2018; and Ishaku, Dandago, Muhammad & Barde 2019
Auditor Specialization (AS)	Independent	Auditor with industry experience 1, otherwise 0	Lisar, Lisar & Zadeh (2016)
Return on Asset (ROA)	Control	PBIT divided by total assets	Ishaku, Dandago, Muhammad & Barde; 2019
Firm Size (Fsize)	Control	Log of total assets	Lisar, Lisar & Zadeh (2016)
Net Cash Flow to Total Asset (NCFTA)	Control	Net operating cash flow divided by total assets	Andreas 2017 & Ishaku, Dandago, Muhammad & Barde; 2019

Source: Literature Review, 2020.

In order to address the problem of endogeneity ignored by previous (Khalil & Ozkan (2016); Abubakar, (2017); Jayeola, Taofeek & Toluwalase (2017) and Ishaku *et al.* (2019) the proposed Arelleno and Bover generalized method of moments (GMM) was used to determine the relationship between audit quality and earning management on listed non-financial companies in Nigeria because the number of cross sections (thirty six companies) is more than the period of the study 7 years (2012-2018).

4.0 Results and Discussion

This section presents the results of the analysis conducted on the data collected from the annual report and report and account of the companies under study. The descriptive statistics, correlation and Arelleno and Bover generalized method of moments regression results are presented below.

Table 4.1 Descriptive statistics of the variables

Variable	Obs	Mean	Std. Dev.	Min	Max
dac	252	0.00730	0.0360	0	0.4022
audfs	252	0.4087	0.4926	0	1
auind	252	0.00660	0.0317	0	0.2575
audtten	252	5.083	3.4057	1	14
alpr	252	0.36900	0.4835	0	1
audtsp	252	0.8849	0.3198	0	1
fsize	252	10.1471	0.86598	4.186	12.0315
ncfltt	252	0.1275	0.1858	-0.3290	1.4033
roa	252	0.0809	0.1582	-0.2873	0.8689

Source: Regression results computed by the authors using STATA

The descriptive statistics on Table 4.1 revealed that discretionary accruals has a mean of 0.0073, standard deviation of 0.0300, with a minimum and maximum of 0 and 0.4022 respectively, the standard deviation of 0.0360 signifies high variation in discretionary accruals of the companies within the period under study. Audit firm size has a mean of 0.4926, standard deviation of 0.4087, with a minimum and maximum of 0 and 1 respectively. This shows that audit firm size of the companies under study deviated significantly. Audit independence has a mean of 0.0066, a standard deviation of 0.0317 with a minimum and maximum of 0 and 0.2575 respectively. Audit tenure has a mean of 5.083 meaning on average auditors serve for 5 years with a minimum and maximum of 1 and 14 respectively and a standard deviation of 3.4257 which shows that the audit firm tenure of the companies under study did not deviated significantly. Audit leading partner rotation has a mean of 0.3690, a standard deviation of 0.835 with a minimum and maximum of 0 and 1 respectively.

Auditor firm specialization has a mean of 0.8849, meaning on average 88% of audit firms that audit the companies under study have industry expertise, a standard deviation of 0.3989 with a minimum and maximum of 0 and 1 respectively.

On average the companies under study have an average size of 10.1471, a standard deviation of 0.8659 with the minimum and maximum of 8.4186 and 12.0315 respectively.

Net cash flow to total assets of the companies under study has a mean of 0.1275, a standard deviation of 0.1858 with a minimum and maximum of -0.3200 and 1.4033 respectively signifying high rate of fluctuation in net cash flow to total assets within the period under study.

ROA has a mean of 0.0809, meaning on average the sales growth rate is 8% with the minimum and maximum of -0.2873 and 0.8689 respectively, however, a standard deviation of 0.3829 signifies much variation within the period under study.

Table 4.2: Results of Two-Step System GMM (Audit Quality and Discretionary Accruals)

Variables	Expected sign	Coefficient	Sig.
DA _{t-1}	-0.0135	0.000***	
AUDFS	(-)	-0.0131	0.061*
AUIND	(-)	0.0585	0.507
AUDTTEN	(+)	0.0026	0.435
ALPR	(-)	0.0076	0.611
AUDTSP	(-)	0.1754	0.017 ***
FSIZE	(+)	-0.1019	0.000***
NCFLTT	(+)	-0.0253	0.025 **
ROA (+)	-0.0908	0.001***	
CONS	0.0339	0.000***	
Number of Observation		180	
Number of Companies		36	
Chi2			
P-value		0.0013	
Mean VIF		1.19	
Sargan Test		13.626	0.4779
Arrelano-Bond AR(2) Test		-1.1353	0.2563

Source: Regression results computed by the authors using STATA

Table 4.2 presents the results of two-step system GMM. The instruments of validity and reliability are indicated by the Sargan test and Arrelano-Bond serial correlation test AR(2), the results indicate the validity of the instruments used and the absence of serial correlation at second order. The coefficient of the lagged Discretionary Accruals (DA_{t-1}) reveals a negative and

statistically significant effect on current discretionary accruals. This suggests that the previous discretionary accrual has significant impact in determining the current discretionary accruals (DA_t).

The results shows that audit firm size (AUDFS) have negative and significant impact on discretionary accruals. This implies that firms audited by BIG 4 audit firm report lower discretionary accruals. This is consistent with findings of Saleem and Alzoubi (2016) who empirically found that earnings management level is significantly lower among companies using the services of big 4 auditors in Jordan and Nwoye & Anichebe (2018) found that audit firm size has a significant negative effect on earnings management. However, this findings contradict Memis and Cetenak (2012) whose findings revealed that big four auditors do not constrain earnings management incentives, and Yasar (2013) who document no difference in audit quality between Big four and non-Big four audit firms for restriction of earnings management in Turkey.

Audit firm independence measured as the ratio of non-audit fees to total audit fees revealed a positive and insignificant effect on current discretionary accruals. This finding is consistent with the findings of Li and Lin (2005) who provides evidences that total audit fees and non-audit fees are positively associated earnings restatements. Equally consistent with Adeyemi, Okpala & Dabor (2012) who reported that provision of non-audit services would likely have a significant effect on the audit quality in Nigeria.

Audit tenure measured as the number of years the audit firm serves showed a positive relationship with discretionary accruals implying that longer audit tenure increase earnings management and this relationship is not significant, meaning an increase in audit tenure by 1% increase discretionary accruals by 0.0026%. This means that long-term auditor and client relationship enables the management of the companies to engage in earnings management because the longer the audit firm tenure the higher the level of familiarity threats and this will have a detrimental effect on earning management. This findings is consistent with the findings of Chi, Lisic & Pevzner (2011) who found that longer auditor tenure is associated with greater real earnings management, Dantas & Medeiros (2014) also found that audit quality will be lower when auditor-client relationship is of long term, equally in line with the findings of Nawaiseh, (2016) and Jayela, Taofeek & Tolwoelse (2017) found a negative relationship between audit tenure and earning management. However Mukhlisin (2018) found that longer tenure audit has

no significant effects on auditors' independence so that it can become fatigue for companies to commit financial reporting fraud.

Audit firm leading partner rotation exhibits a positive and insignificant relationship with discretionary accrual this implies that a change in audit firm leads engagement partner will significantly reduce discretionary accrual. This finding is equally consistent with the findings of Ayorinde & Babajide (2015) who recommends mandatory rotation of audit firm lead partner and the review partner on an engagement for publically listed companies.

Audit firm industry specialization exhibits a positive and significant relationship with discretionary accruals implying that an audit firm with industry expertise report higher discretionary accrual; this is contrary to a prior expectation because audit firm with industry expertise are expected reduced earnings management.

5.0 Conclusion and Recommendations

This study empirically examined the impact of audit quality on earnings management of listed non-financial companies in Nigeria. Based on the findings; the study concludes that Audit tenure influence earnings management of listed non-financial companies in Nigeria. The study recommends that lengthy audit firm tenure should be discouraged to avoid familiarity threats. In addition regulatory authority's (SEC) should ensure strict compliance of mandatory audit firm rotations and reduce the number of years same audit firm will serve the company since longer audit tenure increase familiarity threats to auditors independence and this would significantly influence earnings management.

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Sample Size of the Study

S/N	Sectors/Firms	Year of Incorporation	Year Listed	S/N	Sectors/Firms	Year of Incorporation	Year Listed
1.	Agriculture			7.	Industrial Goods		
	1. Presco Plc.	1991	2002		20. Premier paints plc.	1982	1995
	2. livestock feeds plc.	1963	1978		21. Chemical and Allied Products Plc	1965	1978
	3. Okomu Oil Palm Plc.	1971	1991		22. First Aluminium Nigeria Plc	1960	1992
					23. Cutix plc.	1982	1987
2.	Conglomerates				24. Cement Co. of North. Nig. Plc.	1962	1993
	4. A.G. Leventis Nig. Plc.	1958	1978		25. Beta glass plc.	1974	1986
	5. John holt plc.	1974	1961				
	6. Chellarams plc.	1974	1977				
	7. U A C N Plc	1931	1993				
3.	Construction/Real Estate			8.	Natural Resources		
	8. Julius Berg. Nig. Plc.	1970	1991		26. Thomas wyatt nig. Plc	1948	1978
					27. B.O.C Gases Plc.	1959	1979
					28. Aluminium extrusion ind. Plc.	1982	1986
4.	Consumer Goods			9.	Oil and Gas		
	9. Flour Mills Nig. Plc.	1960	1979		29. Oando Plc.	1969	1992
	10. Guinness Nig. Plc.	1950	1965		30. 11 plc	1951	1991
	11. Nestle Nig. Plc.	1969	1979				
	12. Nig. Brew. Plc.	1946	1973				
	13. Unilever Nigeria Plc	1973	1923				

	14. Nascon Allied Industries Plc	1973	1992				
	15. Nigerian Enamelware Plc.	1960	1979				
				10	Services		
					31. Trans-nationwide express plc.	1984	1992
					32. Studio press (Nig) plc.	1965	1979
					33. Interlinked Technologies	1981	1993
5.	Healthcare				34. Capital Hotel Plc	1981	1990
	16. Neimeth International Pharmaceuticals Plc	1957	1979		35. Academy press plc.	1964	1995
	17. May & baker nigeria plc.	1944	1994		36. University press plc.	1978	1978
	18. Evans medical plc.	1954	1979				
6.	Inform. & Comm. Technology						
	19. Ncr Nigeria Plc	1949	1979				

Source: Generated by the Researcher from NSE Daily Official Listing, 2018

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Notes:

1. (/m# option or -set memory-) 500.00 MB allocated to data
2. (/v# option or -set maxvar-) 5000 maximum variables

```
running C:\Users\ahmed ishaku\Documents\yola 2018\Stata11-Portable\profile.do ..
>
unable to change to C:\temp\
r(170);
```

```
.*(50 variables, 252 observations pasted into data editor)
. xtset comp year
  panel variable: comp (strongly balanced)
  time variable: year, 2012 to 2018
  delta: 1 unit
```

```
. summarize dac audfs auind audtten alpr audtsp fsize ncfllt roa
```

Variable	Obs	Mean	Std. Dev.	Min	Max
dac	252	.0072772	.0360449	0	.40218
audfs	252	.4087302	.4925776	0	1
auind	252	.0065976	.0317179	0	.2574862
audtten	252	5.083333	3.405673	1	14
alpr	252	.3690476	.4835072	0	1
audtsp	252	.8849206	.3197528	0	1
fsize	252	10.1471	.8658986	8.418587	12.03145

```
ncfltt | 252 .1275278 .1858197 -.3290325 1.403256
roa | 252 .0809445 .1582433 -.2872964 .8689481
```

correlate dac audfs auind audtten alpr audtsp fsize ncfltt roa
(obs=252)

```

| dac  audfs  auind  audtten  alpr  audtsp  fsize
-----+-----
dac | 1.0000
audfs | -0.0837 1.0000
auind | 0.0252 -0.0221 1.0000
audtten | -0.0838 0.1221 -0.0693 1.0000
alpr | 0.0558 0.1169 -0.0286 -0.1059 1.0000
audtsp | -0.0287 0.2239 -0.1026 0.1003 -0.1623 1.0000
fsize | -0.1449 0.4075 0.0787 0.0277 0.0529 0.1732 1.0000
ncfltt | 0.2895 0.0830 0.2138 0.0672 -0.0295 -0.0201 0.0043
roa | 0.0179 0.1767 0.1543 0.0956 -0.0770 0.0681 0.0307

| ncfltt  roa
-----+-----
ncfltt | 1.0000
roa | 0.4649 1.0000
```

. regress dac audfs auind audtten alpr audtsp fsize ncfltt roa

```

Source | SS      df    MS              Number of obs = 252
-----+-----+-----+-----
Model | .044167053   8   .005520882          F( 8, 243) = 4.76
Residual | .28194011  243   .001160247          Prob > F   = 0.0000
-----+-----+-----+-----
Total | .326107163  251   .001299232          R-squared  = 0.1354
                                           Adj R-squared = 0.1070
                                           Root MSE   = .03406
```

```

| dac | Coef.  Std. Err.   t    P>|t|   [95% Conf. Interval]
-----+-----
audfs | -.0032805   .0050209   -0.65  0.514   -0.131705   .0066096
auind | -.0282052   .0707268   -0.40  0.690   -0.1675211   .1111107
audtten | -.0009082   .0006457   -1.41  0.161   -0.00218   .0003636
alpr | .004855   .0046153   1.05  0.294   -0.0042361   .0139461
audtsp | .0040964   .0071332   0.57  0.566   -0.0099543   .0181471
fsize | -.0054001   .0027545   -1.96  0.051   -0.0108258   .0000256
ncfltt | .0709998   .0132741   5.35  0.000   .0448529   .0971467
roa | -.0286518   .0156926   -1.83  0.069   -.0595627   .0022591
_cons | .0560641   .0276325   2.03  0.044   .0016344   .1104938
```

. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance
Variables: fitted values of dac

chi2(1) = 1070.61
Prob > chi2 = 0.0000

. estat vif

```

Variable | VIF    1/VIF
-----+-----
roa | 1.33  0.749611
audfs | 1.32  0.755720
ncfltt | 1.32  0.759775
fsize | 1.23  0.812576
audtsp | 1.13  0.888556
auind | 1.09  0.918543
alpr | 1.08  0.928261
audtten | 1.05  0.956028
```

Mean VIF | 1.19

```
. xtabond dac audfs auind audtten alpr audtsp fsize ncfllt roa, lags(1) twostep
> artests(2)
```

```
Arellano-Bond dynamic panel-data estimation Number of obs = 180
Group variable: comp Number of groups = 36
Time variable: year
```

```
Obs per group: min = 5
                avg = 5
                max = 5
```

```
Number of instruments = 24 Wald chi2(9) = 583.01
Prob > chi2 = 0.0000
```

Two-step results

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
dac						
L1	-.0135168	.0032612	-4.14	0.000	-.0199086	-.0071249
audfs	-.0130803	.0069717	-1.88	0.061	-.0267447	.000584
auind	.0585159	.088137	0.66	0.507	-.1142295	.2312612
audtten	.0002593	.0003319	0.78	0.435	-.0003912	.0009098
alpr	.0007571	.0014878	0.51	0.611	-.0021588	.0036731
audtsp	.0175406	.0073525	2.39	0.017	.0031301	.0319512
fsize	-.1019377	.0220957	-4.61	0.000	-.1452444	-.0586309
ncfllt	-.0252707	.011303	-2.24	0.025	-.0474241	-.0031173
roa	-.0908333	.0273534	-3.32	0.001	-.1444449	-.0372217
_cons	1.033966	.2272032	4.55	0.000	.5886558	1.479276

Warning: gmm two-step standard errors are biased; robust standard errors are recommended.

Instruments for differenced equation

GMM-type: L(2/.)dac

Standard: D.audfs D.auind D.audtten D.alpr D.audtsp D.fsize D.ncfllt D.roa

Instruments for level equation

Standard: _cons

```
. estat sargan
```

Sargan test of overidentifying restrictions

H0: overidentifying restrictions are valid

```
chi2(14) = 13.62635
```

```
Prob > chi2 = 0.4779
```

```
. estat abond
```

Arellano-Bond test for zero autocorrelation in first-differenced errors

Order	z	Prob > z
1	-1.8516	0.0641
2	-1.1353	0.2563

H0: no autocorrelation