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Audit Quality and Income Smoothing Among Listed Deposit Money Banks in Nigeria

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Abstract

The study examined how audit quality impacted income smoothing practices among listed Nigerian deposit money banks (DMBs). While audit quality (AQ) was represented by audit fees (AF), audit firm size (AFS), and audit tenure (AT), income smoothing (IS) was represented by binary variables obtained from the Eckel index of income smoothing. Data were obtained from eleven (11) listed banks from 2013 to 2021. Binary logistic regression was employed. The results indicated that AF is positively associated with IS. In addition, the impact of AFS represented by Big 4 on income smoothing was negative, while that of audit tenure was positive but not significant. The results were similar when the accrual measure of income smoothing was used. The study concluded that the quality of audits determines the tendency for income smoothing among Nigerian listed banks. Therefore, regulators and the management of listed DMBs in Nigeria should emphasize and employ the services of large, reputable audit firms (BIG 4), as it appears to be negatively related to income smoothing. In addition, auditors should be well remunerated to ensure that they exert significant effort to mitigate the incidence of income smoothing.

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1. Introduction

Income smoothing (IS) practices are prominent in developing countries, understandably due to the nature and structure of their economies. Developing countries largely rely on the primary products as revenue sources, making their economies susceptible to external economic shocks. The instability in the country's macroeconomic environment in terms of revenue generation in turn leads to fluctuations in the corporate firms' earnings. In a bid to build the confidence of the investors and creditors and in some cases, satisfy their own bonus plan, management of corporate firms in developing countries engage in earnings smoothing. Paramita (2017), cited in Thoharo et al. (2021), stated that managers focus more on stable earnings because investors prefer it. Studies show that IS does not only help an enterprise beautify the appearance of its financial report but also reduces investors' concern about the enterprise's financial distress (Baik et al., 2020; Park, 2016).

Though the prevalence of IS in developing countries is not illegal and can bring short-term gain to the firms, there is consensus that such practices may threaten the long-term growth and survival of the firms as the consequences of the earnings manipulation in the short term rear it is head (Chang et al., 2021). In line with this, many studies have attributed the failures of several corporate firms to earnings management practices, which is one of the techniques of income smoothing (Dickson, 2021; Susanto and Pradipta, 2019). Hence, it is necessary to mitigate income smoothing practices since they are mainly opportunistic in developing countries. Research efforts have thus been committed to understanding the factors that determine IS among corporate firms.

The different corporate governance failures reported among prominent Nigerian corporate firms like Lever Brothers, Cadbury, Intercontinental and Oceanic Bank (Okaro and Okafor, 2013) have resulted in poor financial performance and the firm's internal ability to maximize the wealth of the stockholder's wealth. These corporate failures have been attributed to using accounting discretion in the form of income smoothing (Dickson, 2021; El Deeb and Ramadan, 2020). It was argued that manipulating corporate earnings to hide the market's reality contributed to most Nigerian entities' collapse (Okaro and Okafor, 2013). Hence, stemming the tide of corporate failures in Nigeria requires adequate control of income smoothing practices as demonstrated in Dickson (2021).

One of the factors that has emerged in corporate finance and accounting literature is AQ. Since income smoothing practices are one of the ways through which the management deceives the shareholders and creditors to achieve a predetermined objective, agency theory suggests that income smoothing creates agency problems and one of the ways of reducing the ability of the management to engage in the practice is efficient monitoring (Alhadab and Clacher, 2018; Demerjian et al., 2020). A quality audit provided by a quality auditing firm is expected to facilitate efficient monitoring of the management against income smoothing practices. It has been reported that using Big 4 audit firms leads to efficient corporate activity monitoring, resulting in lower managerial opportunistic behavior (Alzoubi, 2018; Thu and Khuong, 2020; Yasser and Soliman, 2018). Also, it was reported that aside from the use of the Big 4, AQ is also reflected by the audit firm's independence, which is usually measured using AT (Piot and Janin, 2005). Accordingly, the literature posited that using independent audit firms to rotate the audit firm results in lower managerial ability to engage in opportunistic behaviour such as IS (Susanto and Pradipta, 2019).

Empirically, studies have examined how AQ influences income smoothing practices (Chang et al., 2021; Holinata and Yanti, 2020). These studies have produced mixed results and largely focused on developed markets. However, such a study in Nigeria is very scanty, suggesting that studying the income smoothing practices related to Nigeria's AQ is imperative.

Specifically, the study addressed the following research questions: how does the size of the auditor impact income smoothing among Nigerian listed DMBs? How do AF influence the income smoothing practice among Nigerian listed DMBs? In what way does the tenure of the auditor affect income smoothing among Nigerian listed DMBs?

Given the foregoing, the study's objectives are to examine the impact of auditor size on income smoothing among Nigerian listed DMBs, investigate the influence of AF on income smoothing among Nigerian listed DMBs, and ascertain how AT affects income smoothing among Nigerian listed DMBs.

The choice of the banking sector is hinged on the prevalence of corporate failures among Nigerian banks in the last two decades and the consequences of the systemic crises that the collapse of the banking sector can have on the nation's economy.

2. Prior studies

2.1 Concept of income smoothing

Several definitions of income smoothing (IS) have emerged in the literature. One such definition is Walker (2013), which describes IS as using administrative discretion to modify how reported underlying economic events are reflected in one or more earnings measures while abiding with the extant accounting principles. Because both are based on the agency theory approach, income smoothing and earnings management are closely related. Bora and Saha (2016) defined IS as an intentional move by managers to reduce profit volatility by employing special accounting procedures. One of the most common ways of creative accounting is income smoothing (Saeidi, 2012). The term IS is another form of managerial discretion that allows managers to normalize their earnings movement and, as a result, affect the risk perceptions of their stakeholders (Walker, 2013). According to several studies (Chang et al., 2021; Kustono et al., 2021; Megarani et al., 2019; Park, 2016), the primary reason managers smooth income is to make earnings less volatile since market participants including creditors and investors, see more smooth earnings path to be less risky.

There have been several attempts to conceive AQ. None of them, however, has resulted in a universally accepted definition. Most academics cite DeAngelo's (1981) definition of AQ, which described AQ as a joint market-assessed tendency that a client's financial record violation will be identified and disclosed by the audit firm. According to Palmrose (1988), a financial report devoid of substantial misstatement demonstrates AQ. According to Chinedu and Chidoziem (2017), an audit with higher quality raises the likelihood that the account report actually reflects the organization being audited in terms of financial and operational status. Rusmin (2010) posits that higher and higher quality audits are expected to raise the accuracy of financial statement information and improve the precision of investors' estimates of a company's value. AQ is measured in studies using factors such as fees (Khalil, 2022), tenure (Gul et al., 2009), and firm size (Alzoubi, 2018).

2.2 Theoretical framework

The study recognizes several theories exist to explain AQ and income smoothing. However, agency theory would be the guiding theory here. Agency theory explains the conflict of interest between management and stockholders, who are known to be self-interested. This approach stops executives from enriching themselves at the stockholder's expense. Jensen and Meckling (2019) identified the audit function as a crucial mechanism in corporations that is indispensable in monitoring the managers' actions to ensure managers' and shareholders' interests are aligned. As a result, AQ is expected to act as a monitoring tool, assisting in deterring managers from manipulating earnings, including income smoothing.

2.3 Audit firm size and income smoothing

The size of the audit firm was defined by DeAngelo (1981) as the natural log of the audit firm's total revenue, the auditors' level of education, job experience, and professionalism. Previous research has shown a link between AQ as measured by a Big 4 auditor's measurement of proxy accounting manipulation (Alzoubi, 2018; Lawrence et al., 2011). Lawrence et al. (2011) have submitted that bigger auditors produce superior and higher quality financial reports compared to those audited by smaller firms. As a result, DeAngelo (1981) theorizes that bigger auditor will produce better audit reports to preserve their reputational asset. The other justification for the higher tendency of Big 4 auditors to produce quality reports is that they have the resources needed to attract highly trained and skillful personnel (Lawrence et al., 2011). Hence, BIG4 is a quality-of-auditor indicator set to 1 if the company has a Big-4 auditor and 0 if not.

In terms of empirical evidence, Ozili (2022) revealed in a study based on data collected from selected Banks in 21 African countries between 2002 and 2014 to investigate how big4 audit firms affect African banks' earnings management from loan loss provision during a crisis. The fixed effect panel regression results for the study's objectives indicate that banks audited by big-4 firms are income smoother in the pre-and during-the-financial crisis but not after the financial crisis. They concluded that AQ improved the firm's earnings quality.

Using data generated from a total of 42 Egyptian firms covering 2015 to 2017, EL Deeb and Ramadan (2020) reported from panel regression analysis with earnings management measured with accrual model discretionary component that AQ significantly impacts earnings management practices. Ajekwe and Ibiamke (2017) reported in a study of the Nigerian real sector that AFS lowers earnings management but is not significant. Tyokoso and Tsegba (2015) reported in a study based on oil marketing firms in Nigeria that auditor size does not significantly impact discretionary accrual. Aliyu et al. (2015) reported in a study using data from Nigerian Banks that AFS significantly lowers the incidence of earnings management.

2.4 Audit fees and income smoothing

AF encompass the total remuneration the auditor receives from the client firms for the audit activities carried out by the audit firm. This is usually stated as the auditor's remuneration in the annual report. Prior research suggests that paying a company's external auditor a large audit fee strengthens its economic links, thereby jeopardizing the auditor's independence (Chang et al., 2021). Independence entails being free of inspiration, stimulus, or guidance, and the audit function's usefulness will be severely harmed if independence is not achieved. Auditor risk has been perceived as non-objective when its independence is doubtful, suggesting that the auditor may not report the bridge of reporting procedure by the firmitor. This means that if a breach is identified, the auditor is unlikely to report it. The decreased independence leads to lower AQ and more EPS manipulation. Empirical evidence exists on the link between AF and income smoothing, among which is Khalil (2021), who reported in a study of selected banks in the Banking Industry of Pakistan using the Modified Jones accrual model that higher AQ is associated with lower AF in Pakistan banking sector. Chang et al. (2021) equally found in a study of 12 823 US firms that AF had a lower income smoothing tendency. Aliyu et al. (2015) reported in a study using data from Nigerian Banks that financial dependence on audit firms increases the tendency of earnings management, suggesting that higher fees may encourage auditor discretionary reporting.

2.5 Auditor tenure and income smoothing

The correlation of auditor tenure and AQ may be anchored on two points of view. The first, backed by the proposition that auditors acquire more and better knowledge about the firm operation when they spend longer terms with the firm, is that tenure increases the quality of accounting reports and lowers income smoothing by extension. Previous evidence affirms management's reduction in discretionary accrual when the auditor spends longer term with the client firm (Gul et al., 2009; Myers et al., 2004). A continuously appointed auditor is expected to better know the firm's operations and internal control framework. The auditor uses this to create audit methods, which results in a higher-quality audit. In combination with the earnings response coefficient, a longer audit duration implies a greater earnings quality (Ghosh and Moon, 2005). The second viewpoint, baked by the proposition that an auditor will become less independent when engaged for a longer term, is that longer tenure encourages discretionary practices such as income smoothing. A longer tenure can jeopardize an auditor's independence due to a closer client-auditor relationship, leading to a rise in income smoothing (Abedalqader Al-Thuneibat et al., 2011). According to Davis et al. (1993), AQ declines as tenure increases since the client has more financial reporting freedom as the AT increases. Jayeola et al. (2017) reported that earnings management is not sensitive to audit firm tenure in a study of Nigerian Banks. Tyokoso and Tsegba (2015) reported in a study based on oil marketing firms in Nigeria that auditor tenure is negatively associated with discretionary accrual.

3. Research methodology

3.1 Data and method of analysis

This study employs a longitudinal or panel research design. This becomes imperative due to the scope of the study and the nature of the data to be collected, which is characterized by the unit (firms) and time (year covered) dimensions. The study used data collected from 11 DMBs out of the 14 listed on the Nigerian Exchange group between 2013 and 2020. These banks are selected using purposive sampling as the banks whose information on all variables is available to make up the study sample.

Since the measure of income smoothing used in the study is based on the Eckel (1981) model, a binary variable for the firm practicing income smoothing and those who do not, the analysis method employed is binary logistic regression. This method is the most suitable for achieving the study's objective if this measure of income smoothing is employed. A similar approach was used by Thu and Khuong (2017).

In addition, the study conducted diagnostic tests to validate the results obtained. Among the post-estimation diagnostic tests conducted are the multicollinearity test using Variance Inflation Factor (VIF), serial correlation test using the Wooldridge test for serial correlation in panel data and heteroscedasticity test using modified Wald test for group-wise heteroscedasticity.

3.2 Model Specification

The study examines the influence of AQ, represented by AFS, audit fees, and AT, on income smoothing practice. Both theoretical and empirical literature suggests that income smoothing practices are closely linked with AQ and client firm attributes, including financial leverage and firm age. Due to the nature of the study's dependent variable, which is divided into income smoother and non-income smoother, panel binary logistic regression is the most appropriate for the study. Hence, the binary logit model for achieving the study's objectives is expressed as:

$$ICS = f(AFSZ, AUDF, TEN, AGE, \mathrm{LEV}) \tag{1}$$

The logistic panel specification of equation 1 is given as

$$\log\left(\frac{pr(ICS_2)}{1-pr(ICS_2)}\right) = \vartheta_0 + \vartheta_1 AFSZ_{it} + \vartheta_2 AUDF_{it} + \vartheta_3 TEN + \vartheta_4 AGE_{it} + \vartheta_5 LEV_{it} + \mu_{it} \quad (2)$$

The equation in 2 above implies that the probability of being income smoother $pr(ICS_2)$ is expressed as:

$$\Pr\left(ICS_2 = {}^{1}/_{AFSZ, AUDF, TEN_{it}, X_{it}}\right) = \frac{e^{\vartheta_0+\vartheta_1 AFSZ_{it}+\vartheta_2 AUDF_{it}+\vartheta_3 TEN+\vartheta_4 AGE_{it}+\vartheta_5 LEV_{it}+\mu_{it}}}{1+e^{\vartheta_0+\vartheta_1 AFSZ_{it}+\vartheta_2 AUDF_{it}+\vartheta_3 TEN+\vartheta_4 AGE_{it}+\vartheta_5 LEV_{it}+\mu_{it}}} \quad (3)$$

Where X_{it} denotes the vector of control variables.

The apriori expectations are summarized as thus

$\vartheta_1, \vartheta_2 < 0$; $\vartheta_3, \vartheta_4, \vartheta_5 > 0$

3.3 Measurement of variables

The study measures income smoothing using the binary variable obtained from the Eckel Index where 1 is assigned if a firm is found to be income smoother and 0 is assigned otherwise. The Eckel Index is obtained using the procedures below in line with Eckel (1981):

$$\text{Eckel Index} = \frac{CV\Delta I}{CV\Delta S} \quad (4)$$

$$CV\Delta I = \frac{\sum(\Delta I - \Delta\bar{I})}{n-1} \quad (5)$$

$$CV\Delta S = \frac{\sum(\Delta S - \Delta\bar{S})}{n-1} \quad (6)$$

Where:

ΔS = Change in sales

ΔI = change in profit; $\Delta\bar{I}$ = average change in profit; $\Delta\bar{S}$ = average change in sale

CV = coefficient of variation; n= number of years covered

From the Eckel Index obtained, a firm is classified as income smoother if it has an Eckel Index of less than 1 such that $CV\Delta S > CV\Delta I$. On the other hand, a firm is classified as a non-income smother if it has an Eckel Index greater than 1 such that $CV\Delta S < CV\Delta I$.

The study's independent variable is AQ, proxy by size, tenure and fees paid for auditing in line with previous related literature (Chang et al., 2021). The size is measured using binary indicators 0 and 1, in which a firm is assigned 1 if audited by a Big 4 firm while 0 is assigned otherwise. The fees are measured as the log of the auditor remuneration for each year, while the audit firm tenure is measured as the total years an audit firm is consistently engaged. Following related literature (Akhoondnejad et al., 2013; Indrawan et al., 2018), the study includes two control variables in the income smoothing model. They include financial leverage and the bank's age. While the bank's age is measured in terms of the number of years since the firm was listed on the stock exchange, financial leverage is measured as the ratio of total debt to equity expressed in percentage.

4. Results and discussion

The results of the description in Table (1) revealed that the average income was somewhat 0.805, implying that income smoothing is recorded in about 80.5 percent of the observation. The second measure of income smoothing used in the study based on the accrual model is found to be 0.014 on average, with a standard deviation of 0.013. The results further show the average log of AF for the banking sector in Nigeria to be 19.475 with a standard deviation (SD) of 0.753, suggesting moderate variation in the AF of the sampled banks. Also, the AFS is 0.844, implying that 84.4 percent of the study's observations are audited by the Big 4. At the same time, the estimated results suggest that the average tenure of the audit firms in the banking sector of Nigeria is 5.455, with a minimum AT of 1 and a maximum of 10 years. In addition, the average financial leverage for the sampled period is 6.175, indicating that the total debt to equity ratio of Nigerian DMBs is 6.175 percent. The estimated average firm age is found to be 24.364.

Table 1. Descriptive statistics of variables

Variable	Obsn	Mean	Stnd.Devt.	Minm	Maxm
ICS1*	120	0.805	0.399	0.000	1.000
ICS2*	120	0.014	0.013	0.000	0.072
AUDFL	120	19.475	0.753	18.133	20.732
AFSZ	120	0.844	0.365	0.000	1.000
AUDT	120	5.455	2.404	1.000	10.000
AGE	120	24.364	13.649	8.000	49.000
LEV	120	6.175	2.641	-2.051	13.307

Source: Author's Computation, 2022

Note: ICS1 is a binary measure of income smoothing obtained from the Eckel Index; ICS2 is the accrual-based measure obtained using the Modified Jones Accrual model.

Results of the correlation in Table (2) suggest that AF with an estimated correlation coefficient of 0.342 are positively associated with income smoothing. The AFS was also found to exert a positive relationship with IS among the sampled banks, with a correlation coefficient (CI) of 0.060. In contrast, the relationship between AT and income smoothing was positive. The estimated CI of 0.176 similarly implies that AFT is positively associated with the IS. Also, the estimated CI of 0.231 indicates that firm age is positively associated with IS while financial leverage with a correlation coefficient of 0.0001 is equally positively related with income smoothing.

Table 2. Estimated matrix of correlations

Variable	INCSMT	AUDFL	AFSZ	AUDT	AGE	LEV
INCSMT	1.000					
AUDFL	0.342***	1.000				
AFSZ	0.060	0.534***	1.000			
AUDT	0.176	0.142	0.172	1.000		
AGE	0.231**	0.287**	0.423***	0.119	1.000	
LEV	0.0001	0.293***	0.184*	0.093	0.204*	1.000

**** p<0.01, ** p<0.05, * p<0.1*

Source: Author's Computation, 2023

4.1 Diagnostic tests

The study conducted diagnostic tests for multicollinearity, heteroscedasticity and serial correlation, as shown in Table (3). The results of the variance inflation factors revealed a highest VIF of 1.589 with a mean VIF of 1.296. The implication is that the results obtained from the study are free of multicollinearity problems since none of the VIF estimated is up to the threshold of 10. The results of the Breusch-Pagan test for heteroscedasticity show a heteroscedasticity problem in the data used for the study, given the Breusch-Pagan p-value of 0.0002. Also, the Wooldridge test results suggest that the data used in the study are characterized by first-order serial correlation with a Wooldridge p-value of 0.0427. Hence, the study adjusts for this violation by obtaining the regression with robust standard error.

Table 3. Summary of diagnostic test results

Test	Results
Variance Inflation Factors for Multicollinearity	Highest VIF = 1.589 Mean VIF = 1.296
Breusch-Pagan test for heteroskedasticity	Chi2 = 13.910 Prob > Chi2 = 0.000
Wooldridge test for serial correlation	F stat = 5.385 Prob > Chi2 = 0.042

Source: Author's Computation, 2022

4.2 Binary logistic panel regression results

The results obtained from the binary logistic panel regression for AQ on income smoothing are presented in Table (4). From the results, an audit fee with an estimated coefficient of -2.111 and p-value of 0.003 exerts a negative and significant influence on IS. This suggests that the probability of being income smoother is lower when a higher fee is paid to the audit firm by the listed Nigerian DMBs. The logistic panel regression results in Table (4) revealed that auditor size's impact on IS is negative and significant at a 5 per cent level with an estimated coefficient and p-value of -2.617 and 0.026, respectively, implying engaging Big 4 audit firm lowers the tendency for income smoothing practice. In addition, the estimated coefficient of 0.127 and corresponding p-value of 0.420 in the results of the binary logistic regression in Table (4) indicate that AT exerts a positive influence on income smoothing practice among Nigerian listed DMBs, though the impact is not significant at all conventional levels.

Table 4. Estimated Binary Logit Regression results of the study (Dependent = Income Smoothing)

INCSMT	Coeft.	Stnd.Err.	t-value	p-value	[95% Confd	Interv]	Sign
AUDFL	-2.23	0.568	-3.930	0.000	-3.342	-1.117	***
AFSZ	-3.014	0.602	-5.000	0.000	-4.195	-1.833	***
AUDT	0.047	0.198	0.240	0.812	-0.340	0.435	
lAge	2.158	0.518	4.170	0.000	1.143	3.172	***
lev	0.894	0.192	4.650	0.000	0.518	1.271	***
Constant	-46.331	10.858	-4.270	0.000	-67.613	-25.049	***

Mean dep variable	0.805	Stnd dep variable	0.399
No of Ob	120	Chi-square	11.319
Probl > chi2	0.045	Akaike critr. (AIC)	70.501

*** *p<.01*, ** *p<.05*, * *p<.1*

Source: Author's Computation,

It is equally revealed that firm age positively and significantly impacts the IS of listed Nigerian DMBs at a 10 per cent level (coeff = 0.086; p val = 0.064). The implication here is that older firms tend to engage in IS. However, the impact of financial leverage on IS was found to be negative and insignificant, suggesting that financial leverage does not matter for income smoothing among Nigerian listed DMBs.

4.3 Robustness check

In Table (5) Robustness is carried out using an accrual measure of income smoothing as in the previous related study (Abogun et al., 2021) and the results were obtained with a random effect (RE) panel given that the p-value of the Chow test is rejected while the Hausman p-value could not be rejected. From the results, audit fees maintain a significant negative influence on income smoothing (coeft =-0.006: p-value =0.004), which is in agreement with the results obtained using the Eckel Index measure of IS. Similarly, the results obtained with respect to the influence of AFS indicate that engaging the Big 4 lowers the tendency of smoothing income (coeft =-0.004: p-value =0.207). Still, such impact is not significant at 5%. In addition, the results obtained indicate that engaging the same audit firm for a longer period encourages income smoothing (coeft =0.004: p-value =0.038).

Table 5. Estimated random effect panel regression results of the study

ICS2	Coeft.	Stnd.Err.	t-value	p-value	[95% Confd	Interv]	Sign
AUDFL	-0.006	0.002	-2.850	0.004	0.010	0.002	***
AFSZ	-0.004	0.003	-1.260	0.207	-0.010	0.002	
AUDT	0.004	0.002	2.070	0.038	0.000	0.009	**
LAge	0.007	0.002	2.860	0.004	0.002	0.012	***
Lev	-0.002	0.005	-0.440	0.657	-0.013	0.008	
Constant	0.105	0.038	2.800	0.005	0.032	0.179	***

Mean dep varbl	0.014	Stnd Devt dep var	0.013
Overall r-sqrd	0.326	Number of obs	120
Chi-square	25.231	Prob > chi2	0.000
R-sqrd within	0.461	R-sqrd between	0.721
Chow F-test	1.930	Prob of Chow F	0.043
Hausman F	1.150	Prob of Hausman F	0.949

**** p<.01, ** p<.05, * p<.1*

Source: Researcher's Computation, 2023

5. Discussion of findings

The study found a negative and significant influence of AF on IS among Nigerian listed DMBs. The implication of these results is that payment of higher AF is associated with a lower tendency for income smoothing practices in agreement with the expectation that higher fees should promote AQ through higher audit effort and thus lower income smoothing contained in the theory of audit effort. This result contradicts the theory of economic bonding, where higher AF increase the bond between the audit firm and the client firm, which harms their independence. The audit firm tends to look away when management engages in income smoothing in the face of higher bonding brought by higher AF. The findings agree with the submission of many other related empirical literature, including Khalil (2021) in Pakistan, where lower AF increase the quality of financial reports and lower IS. The findings equally agree with the report by some related literature, including that of Chang et al. (2021), who reported that AF is negatively associated with IS in a study of US companies.

Furthermore, the analysis revealed that AFS significantly negatively impacts income smoothing practices among Nigerian listed DMBs. The results imply that engagement of Big 4 audit firms lowers the tendency of the Nigerian listed DMBs. The results here align with the expectation of the study and corroborate the submission of the agency theory where hiring a quality audit firm increases the audit firm's monitoring capacity, especially to detect opportunistic behavior on the part of the management, including income smoothing practice. Therefore, the finding here, as related to AFS, reinforces the proposition of the agency theory that AFS tends to lower agency conflict. Similar empirical literature has reported that AFS is associated with lower opportunistic behavior tendencies, including income smoothing practices, which are the findings of Sumiadji et al. (2019) in a study of Indonesian firms and Aliyu et al. (2015) in a study of Nigerian DMBs. The study is, however not in agreement with the report of Ozili (2022) that Big 4 audited firms engage in income smoothing and Ajekwe and Ibiamke (2017) and Tyokoso and Tsegba (2015) who found in a study of the Nigerian real sector and oil and gas firms respectively that earnings AFS does not affect smoothing practice.

In addition, the study found through the binary logit panel regression analysis that AT had a positive but insignificant influence on income smoothing among Nigerian listed DMBs. By implication, the non-rotation of audit firms does not matter for income smoothing practices among Nigerian listed DMBs. The results found here are variant from the submission in other related empirical literature, which found that longer tenure impairs an audit firm's independence and increases the tendency for income smoothing. Among these studies are Ajekwe and Ibiamke (2017), who reported that audit firm independence indicated by AT lowers earnings manipulation. However, in agreement with the findings of this study, very few other studies have documented no impact of audit firm tenure on management opportunistic behavior, including income smoothing. These studies include that of Jayeola et al. (2017) in a study on Nigerian DMBs between 2005 and 2014.

6. Conclusion and recommendations

The study was set up to investigate the implication of AQ on income smoothing practices among Nigerian listed DMBs. The binary logistic regression results employed in the study revealed that AF increases the tendency for income smoothing practices, implying that firms that pay higher AF to the audit firms have a higher probability of being income smoother. The same results are obtained using accrual income smoothing measure as indicated in the random effect panel regression. The results regarding the impact of AFS revealed that the impact of auditor size on IS is negative and significant, suggesting that the tendency for income smoothing lowers when a Big 4 audit firm is engaged. On the contrary, the impact of audit firm tenure on IS is found to be positive but not significant. By implication, the study found that AQ drives income smoothing practices among listed Nigerian DMBs. However, the roles played by different AQ indicators differ as AF encourage income smoothing while AFS lowers the tendency for income smoothing. The findings here affirm the proposition of agency theory in corporate finance literature where quality audit raises the monitoring of management practices, resulting in lower income smoothing practices. In line with the findings here, the study's recommendations include that the regulators and the management of Nigerian listed DMBs should emphasize and employ the services of large reputable audit firms (BIG 4) as it appears to be negatively related to income smoothing. In addition, the relevant stakeholders should come up with a framework that would regulate the AF paid to the audit firm in a way that will reduce the ability of the audit firm to compromise the detection of management opportunistic behavior due to higher AF they receive.

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