

# Effect of Abnormal Cash Flow Quality on Big 4 and Non-Big 4 Audited Firms in Nigeria

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## ABSTRACT

This study compares financial reporting quality of Big 4 audited and non-Big 4 audited firms in Nigeria. Specifically, it compares the abnormal operating cash flow quality, and abnormal production expenditure quality, and unexpected core earnings of Big 4 and non-Big 4 audited firms. The study adopts the ex-post facto research design; as the goal is not to manipulate any variable but rather to establish a comparative difference. The population comprised of quoted manufacturing firms and the sample is restricted to a purposive sample of 62 firms from 6 sectors listed on the Nigerian Stock Exchange (NSE). The study utilized secondary data retrieved from annual financial statements of the sampled firms. The data were analyzed using several techniques such as multiple regression, and correlation. The results showed a statistically significant difference in abnormal operating cash flow quality of Big 4 and non-Big 4 audited firms; a statistically significant difference in abnormal production expenditure quality of Big 4 and non-Big 4 audited firms. Based on this, the study recommends that shareholders during Annual General Meeting (AGM) may also seek the adoption of joint auditors to strengthen audit quality and cushion against shocks from manipulative practices of managers or the lack of independence from continued engagement of particular audit firms.

**KEYWORDS:** *Abnormal operating cash flow quality, Abnormal production expenditure quality, and unexpected core earnings of Big 4 and non-Big 4 audited firms*

## INTRODUCTION

Available studies have shown evidence that firms which engage the Big 4 audit firms are committed to high quality financial reporting and provide stakeholders with wider proprietary information (Hasan, Kassim and Hamid, 2020). For instance, the study by Hasan, Kassim, and Hamid (2020) in China found evidence that appointment of Big 4 auditors enables a firm to detect losses earlier and thus reduce the incidence of earnings management. This may be premised on the fact that Big 4 firms earn revenues up to four times that of Non-Big 4 firms, and thus, have more resources to commit to an engagement (Vann and Presley, 2018). They also face greater exposure to reputational risk from failed audits when compared to Non-Big 4 firms (Vann and Presley, 2018). Also, their international presence enables them to move expertise and personnel to countries where certain proficiencies are deficient (Otuya, 2019).

However, there are also arguments that support the comparability of services offered by non-Big 4 over the Big 4. First, all firms are subject to the same regulatory and professional standards (Lawrence, Minutti-Meza and Zhang, 2011). Second, non-Big 4 auditors have “superior knowledge of local markets and better relation with their clients” (Louis, 2005). Zhan, Her, and Chen (2020) found no significant differences in probability of reported losses and discretionary accruals between big 5 and non-big 5 audit firms. In the light of the above, the study sought to comparatively evaluate financial reporting quality of manufacturing firms on the Nigerian Stock Exchange audited by either the Big 4 or non-Big 4 firms.

In the Nigerian context, studies have evaluated financial reporting quality of manufacturing firms and choice of a particular audit firm (Hassan, 2013; Eniola and Ajayi, 2018; Olowookere and Inneh,

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2016). These studies have mainly used the Big N proxy as a surrogate for audit firm quality. These include studies by Jerry and Saidu (2018) and Ilaboya and Ohiokha (2014). However, authors such as Rajgopal, Srinivasan, and Zheng (2019) argue that the Big N variable “is an indicator variable without much nuance because it is not an engagement specific measure”.

Firms use multiple earnings management strategies to alter their earnings and distort financial reporting quality, i.e., accrual-based, real earnings management or classification shifting (Badertscher, 2011). While prior literature mainly focuses on accrual-based or

real earnings manipulation, such as studies by Sani, Latif, and Al-dhamari (2018) that analyzed real earnings management; and, Jerry and Saidu (2018) that analyzed accruals quality as proxy for financial reporting quality. This study determines the effect of financial reporting on Big 4 and non-Big 4 audited manufacturing firms. Specifically, the study intended to:

1. Compare abnormal operating cash flow quality of Big 4 and non-Big 4 audited manufacturing firms.
2. Compare abnormal production expenditure quality of Big 4 and non-Big 4 audited manufacturing firms.

## Review of Related Literature

### Abnormal operating cash flow

The CFO is expressed as a linear function of sales and change in sales (Mussalo, 2015; Roychowdhury, 2006). To estimate this model, the cross-sectional regression for each industry and year specified below (Cohen and Zarowin, 2010):

$$\frac{\text{CFO}_{it}}{\text{Assets}_{it-1}} = \alpha + \beta_0 \left( \frac{1}{\text{Assets}_{it-1}} \right) + \beta_1 \left( \frac{\text{Sales}_{it}}{\text{Assets}_{it-1}} \right) + \beta_2 \left( \frac{\Delta \text{Sales}_{it}}{\text{Assets}_{it-1}} \right) + \varepsilon_{i,t}$$

Where:

$\text{CFO}_{it}$  is the operating cashflow of firm  $i$  in year  $t$ ;  $\text{Assets}_{it-1}$  is total assets of firm  $i$  in year  $t-1$ ;  $\text{Sales}_{it}$  is the revenue of firm  $i$  in year  $t$ ;  $\Delta \text{Sales}_{it}$  is the change in revenues of firm  $i$  in year  $t$ . The abnormal CFO is actual CFO minus the normal level of CFO calculated using the estimated coefficients (Cohen and Zarowin, 2010). The residual of the above model is the measure of financial reporting quality in the study (Le, Tran, and Ngo, 2021). They further stated that accelerating the timing of sales through increased price discounts or more lenient credit terms. Such discounts and lenient credit terms will temporarily increase sales volumes, but these are likely to disappear once the firm reverts to old prices. The additional sales will boost current period earnings, assuming the margins are positive. However, both price discounts and more lenient credit terms will result in lower cash flows in the current period

### Abnormal production expenditure

Production costs are defined as the sum of cost of goods sold (COGS) and change in inventory during the year (Cohen and Zarowin, 2010). The production costs is expressed as a linear function of sales, change in sales, and lagged change in sales (Mussalo, 2015; Roychowdhury, 2006).

$$\frac{\text{PROD}_{it}}{\text{Assets}_{it-1}} = \alpha + \beta_0 \left( \frac{1}{\text{Assets}_{it-1}} \right) + \beta_1 \left( \frac{\text{Sales}_{it}}{\text{Assets}_{it-1}} \right) + \beta_2 \frac{\Delta \text{Sales}_{it}}{\text{Assets}_{it-1}} + \beta_3 \left( \frac{\Delta \text{Sales}_{it-1}}{\text{Assets}_{it-1}} \right) + \varepsilon_{i,t}$$

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Where:

$\text{PROD}_{it}$  is the production costs of firm  $i$  in year  $t$  which is equal to sum of Cost of Goods Sold (COGS) and  $\Delta \text{INV}_{it}$ ;  $\text{Assets}_{it-1}$  is total assets of firm  $i$  in year  $t-1$ ;  $\text{Sales}_{it}$  is the revenue of firm  $i$  in year  $t$ ;  $\Delta \text{Sales}_{it}$  is the change in revenues of firm  $i$  in year  $t$ ;  $\Delta \text{Sales}_{it-1}$  is the change in the revenues of firm  $i$  in year  $t-1$ . The abnormal production expenditure is actual production expenditure minus normal level of production expenditure calculated using the estimated coefficients (Cohen and Zarowin, 2010). The residual from the above model is the measure of financial reporting quality in the study (Le, Tran, and Ngo, 2021). Cohen and Zarowin (2010) observed that managers may lower cost of goods sold by increasing production. When managers produce more units, they can spread the fixed overhead costs over a larger number of units, thus lowering fixed costs per unit. As long as the reduction in fixed costs per unit is not offset by any increase in marginal cost per unit, total cost per unit declines. This decreases reported COGS and the firm can report higher operating margins. However, the firm will still incur other production and holding costs that will lead to higher annual production costs relative to sales, and lower cash flows from operations given sales levels.

## Empirical studies

Using empirical data from China, Li, Ding, Liu, Qiao, and Chen (2021) conducted a study titled 'Can financial analysts constrain real earnings management in emerging markets? Evidence from China'. The authors examined the effect of financial analysts on earnings management. The study relied on secondary data which was analysed using multiple regression technique. The results showed a negative relationship between analyst coverage and real earnings management, within the full and sub-sample of firms meeting or beating earnings benchmarks. Le, Tran, and Ngo (2021) undertook a study titled 'Innovation and earnings quality: A Bayesian analysis of listed firms in Vietnam'. The final sample comprised of 591 firms from Hochiminh Stock Exchange and Hanoi Stock Exchange. The study relied on secondary data obtained from Thompson Reuters. The data were analysed using multiple regression technique. The results showed a positive correlation between innovation and earnings quality. The results were also consistent when using the alternative proxies of earnings quality, i.e., abnormal discretionary expenses, abnormal production cost, and abnormal operating cash flows. However, the control variable of size was negative in the three models. Eilifsen and Knivsflå (2021) conducted a study titled 'Core earnings management: How do audit firms interact with classification shifting and accruals management?' The sample comprised of 285 Norwegian public companies, i.e., 1,969 firm-year observations for the period 2000 to 2015. The results showed that a positive association between classification shifting (CS) and large equity issues, and the association strengthens when core accruals management (CACM) is low but disappears when CACM is high. The results showed that for clients of Big 4 and industry-specialized audit firms, when CACM is low (high), CS is high (low), suggesting that these auditees associate with CS substituting CACM. Hasan, Kassim, and Hamid (2020) conducted a study titled 'The impact of audit quality, audit committee and financial reporting quality: Evidence from Malaysia'. The sample comprised of 814 companies listed on the Bursa Malaysia Exchange for the period 2013 to 2018. The study relied on secondary data from annual reports. The data were analysed using multiple regression technique. The results showed that interaction of audit quality (proxied as big 4) and audit committee independence, audit quality (proxied as big 4) and audit committee financial expertise, audit quality (proxied as big 4) and audit committee size had a significant positive effect on financial reporting quality (proxied as real earnings management). However, the interaction of audit quality (proxied as big 4) and audit committee size had a significant negative effect on financial reporting quality. Zandi, Sadiq, and Mohamad (2019) undertook a study titled 'Big-Four auditors and financial reporting quality: Evidence from Pakistan'. The sample comprised of 220 non-financial firms listed in Pakistan Stock Exchange (PSE). The study utilised secondary data; obtained from annual reports and accounts from the year 2009 to 2016. The data were analysed using multiple regression technique. The results showed that Big 4 proxy is negatively related to accruals earnings management; but, positively related to real earnings management among the sampled firms. Otuya (2019) undertook a study titled 'Auditors' independence and quality of financial reporting in listed Nigerian manufacturing companies'. The study adopted content analysis research design. The study relied on secondary data; obtained from annual reports for the period 2013 to 2017. The data were analysed using descriptive, correlation and regression analysis. The results showed that auditor's status, i.e., Big 4 or Non Big 4 has a significant negative relationship with quality of financial reporting. Using an experimental research design, the study by Jiang, Wang, and Wang (2019) conducted a study on 'Big N auditors and audit quality: New evidence from quasi-experiments'. They utilized a sample of 331 treatment firms that switched to Big N auditors due to the exogenous shocks imposed by Big N acquisitions. The study analyzed the secondary data using a difference-in-difference approach. The results showed that for the treatment firms' audit quality improved after switching to Big N auditors. The cross-sectional analyses suggest that the improvement is likely due to competence of Big N auditors' rather than industry-specific expertise. Sani, Latif, and Al-dhamari (2018) conducted a study titled 'Can Big 4 auditors mitigate the real earnings management? Evidence from Nigerian listed firms'. The sample comprised of 80 non-financial companies listed on the floor of Nigerian Stock Exchange. The study relied on secondary data; obtained from annual reports for the years 2012 to 2016. The data were analysed using panel data regression with standard error. The regression results showed that Big 4 proxy had a significant positive influence on real activities manipulation at 1% level, i.e., Non Big 4 auditors were more likely to mitigate real earnings manipulation because they possess better knowledge of the local operating environment compared to Big4 auditors. Jerry and Saidu (2018) undertook a study titled 'The impact of audit firm size on financial reporting quality of listed insurance companies in Nigeria'. The sample comprised of 13 insurance companies quoted on the Nigerian Stock Exchange. The study relied on secondary data obtained from annual reports and accounts for a period of eight years (2008 to 2015). The data were analysed using Ordinary Least Square technique. The results showed that audit firm size had a positive significant impact on financial reporting quality. Lopes (2018) undertook a study titled 'Audit quality and earnings management: Evidence from



Portugal'. The sample is composed of 4723 companies. The study relied on secondary data; obtained from SABI (Iberian Balance Sheet Analysis System) database from 2013 to 2015. The data were analysed using multiple linear regression technique. The results showed that firms audited by Big 4 were more likely to have lower levels of manipulation than non-Big 4 audited firms. Berglund, Eshleman, and Guo (2018) conducted a study titled 'Auditor size and going concern reporting'. The authors showed how controlling for a firm's financial health reveal a positive relationship between auditor size and propensity to issue a going concern opinion. Additional analysis reveals that Big 4 auditors are more likely than mid-tier auditors (Grant Thornton and BDO Seidman) to issue going concern opinions to distressed clients. We also find that, compared to other auditors, the Big 4 are less likely to issue false-positive (Type I error) going concern opinions. We find no evidence that the Big 4 are more or less likely to fail to issue a going concern opinion to a client that eventually files for bankruptcy (Type II error).

This form of earnings manipulation is prevalent with IFRS adoption (Noh, Moon and Parte, 2017) mainly because it gives room for managerial discretion and mostly used by firms that cannot use accruals to manage earnings (Barua, Lin and Sbaraglia, 2010; Fan, Barua, Cready and Thomas, 2010; McVay, 2006). In the light of the above, the present study seeks to compare the financial reporting quality of firms audited by Big 4 and non-Big 4 firms.

### Methodology

The study adopts the *ex-post facto* research design. The design is suitable because the researcher is interested in establishing the causal relationship among the dependent and independent variables.

### Population of the Study

The population of the study comprised of selected quoted firms on the Nigerian Stock Exchange (NSE) as at end of 2020 financial year-end. The number of firms under the various sectors that constitute the population of this study is shown in the table below:

**Table.1: Firms by sector included in the population**

S/No	Sector	No. of firms
1	Agriculture	5
2	Conglomerates	5
3	Consumer Goods	20
4	Health Care	10
5	ICT	9
6	Industrial Goods	13
7	Oil & Gas	12
8	Others (e.g., Printing Press, Leasing, Hotel & Fast food, Mining & Exploration)	16
	<b>Total</b>	<b>90</b>

Source: The Nigerian Stock Exchange Website (2021)

**Table 2: Firms excluded from the population**

S/No	Sector	No. of firms
1	Financial Services	52
2	Services	25
3	Construction/Real Estate	9
4	Natural Resources	4

Source: The Nigerian Stock Exchange Website (2021)

This approach is consistent with prior studies which eliminate firms from the financial sector because of a different regulatory environment, and also difficulty in estimating discretionary accruals for these firms (Abid, Shaique and Anwar-ul-Haq, 2018; Tsipouridou and Spathis, 2012). However, the following sectors inclusive of Financial Services, Services, Construction/Real Estate, and Natural Resources were excluded from the final sample due to a large dissimilarity in reporting and business practices.

### Sample Size of the Study

The sample size for the current study was de-limited to the ninety (90) companies using purposive sampling technique; based on the availability of financial data and premised on the relative classification of the firms (based on the nature and description of activities) as shown on the Nigerian Stock Exchange (NSE) website. The details of the companies that form the sample are shown in Appendix I. The sampling frame with respect to the

population is approximately 50% of the entire quoted firms on the Nigerian Stock Exchange. However, in the analysis companies without a minimum of two years of required financial data are eliminated in order to avoid a bias of results.

The study relied on secondary data, obtained from secondary sources such as Annual Financial Reports. The data were extracted specifically from the Statement of Financial Position, Statement of Profit or Loss and Comprehensive Income, and Statement of Cash flows in order to compute the selected ratios and measures.

### Methods of Data Analysis

The study employed several techniques to analyze the data. First, descriptive statistics were computed such as the mean, median, standard deviation, minimum, maximum values, and Skewness-Kurtosis statistics, etc. Second, the correlation matrix was computed to measure the correlation between the dependent and independent variables. The strength of 'multiple regression models' is its ability to analyze several variables simultaneously (Mussalo, 2015). Furthermore, the goodness of fit of the model was tested using the Coefficient of Determination (R-squared). The analysis was performed using the E-Views version 9 software.

The variables are discussed in the Table below:

### Data analysis and interpretation of Results

#### Hypothesis one

H<sub>03</sub>: There is no statistically significant difference in abnormal operating cash flow quality of Big 4 and non-Big 4 audited firms.

**Table 4: Cross-section regression output for hypothesis three**

Dependent Variable: Abnormal Operating Cashflow				
Method: Panel EGLS (Cross-section weights)				
Date: 04/25/21 Time: 09:40				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 75				
Total panel (unbalanced) observations: 728				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.158206	0.022448	7.047833	0.0000
ROCE	5.69E-05	3.71E-05	1.536000	0.1250
EAPS	0.000103	0.000406	0.252265	0.8009
RETA	4.10E-05	0.000119	0.345331	0.7299
BODS	0.001041	0.001003	1.037036	0.3001
BMET	0.004251	0.002244	1.894556	0.0586
DRSA	-0.003340	0.001207	-2.766912	0.0058
REVG	-5.54E-05	7.13E-05	-0.777794	0.4369
FSIZ	-0.037599	0.002922	-12.86931	0.0000
FIRA	0.003549	0.000189	18.75700	0.0000
DETE	-2.18E-07	2.94E-06	-0.074340	0.9408
DETA	-0.000399	6.20E-05	-6.429590	0.0000
Big 4 vs. Non-Big 4	0.020858	0.003253	6.411842	0.0000
Weighted Statistics				
R-squared	0.411770	Mean dependent var	-0.022692	
Adjusted R-squared	0.401897	S.D. dependent var	0.180760	
S.E. of regression	0.133795	Sum squared resid	12.79938	
F-statistic	41.70921	Durbin-Watson stat	0.642277	
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.156388	Mean dependent var	0.018989	
Sum squared resid	14.53675	Durbin-Watson stat	0.543570	

Source: E-Views 9

**Interpretation:**

The regression model shown above with the one IV and eleven CVs, as follows: return on capital employed, earnings per share, return on asset, board size, board meeting, board remuneration, revenue growth, log of total asset, firm listing age, debt to equity, and debt to asset. In model validation, the following are considered: ANOVA represented as F-statistics, the coefficient of determination  $R^2$  and the adjusted  $R^2$  are used. As shown above, the R-squared is 0.4118 (unweighted: 0.1564) and the adjusted R-squared which takes care of error is 0.4019. Therefore, on approximate basis the independent and control variables account for 40% variation in the dependent variable. And, the F-statistic has a value of 41.709 with  $p$ -value less than .05 (i.e., margin of error), confirms the statistical significance of the model.

**Decision rule:**

The *coefficient* of the variable of interest: Big 4 vs. Non-Big 4 was (-0.021) and *t-statistic* (6.411) is positive and statistically significant ( $p$ -value <.05). Therefore, the alternate hypothesis is accepted and null rejected; there 'is a statistically significant difference in abnormal operating cash flow quality of Big 4 and non-Big 4 audited firms'.

**Hypothesis Two**

H<sub>04</sub>: There is no statistically significant difference in abnormal production expenditure quality of Big 4 and non-Big 4 audited firms.

**Table 5: Cross-section regression output for hypothesis four**

Dependent Variable: Abnormal Production Expenditure				
Method: Panel Least Squares				
Date: 04/25/21 Time: 09:12				
Sample: 2010 2019				
Periods included: 10				
Cross-sections included: 75				
Total panel (unbalanced) observations: 728				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.400024	0.092900	-4.305967	0.0000
ROCE	-0.000228	0.000129	-1.762673	0.0784
EAPS	-0.004958	0.001792	-2.766620	0.0058
RETA	-0.001873	0.000701	-2.673217	0.0077
BODS	-0.017905	0.003909	-4.580433	0.0000
BMET	-0.006038	0.007676	-0.786621	0.4318
DRSA	-0.002987	0.002924	-1.021592	0.3073
REVG	-0.001387	0.000127	-10.94022	0.0000
FSIZ	0.083098	0.014469	5.743220	0.0000
FIRA	-0.000257	0.000688	-0.373209	0.7091
DETE	2.91E-06	7.60E-05	0.038322	0.9694
DETA	0.000983	0.000328	2.997993	0.0028
Big 4 vs. Non-Big 4	-0.051430	0.020049	-2.565265	0.0105
R-squared	0.242038	Mean dependent var		-0.011281
Adjusted R-squared	0.229317	S.D. dependent var		0.271253
S.E. of regression	0.238129	Akaike info criterion		-0.014312
Sum squared resid	40.54440	Schwarz criterion		0.067658
Log likelihood	18.20955	Hannan-Quinn criter.		0.017317
F-statistic	19.02657	Durbin-Watson stat		1.110049
Prob(F-statistic)	0.000000			

Source: E-Views 9

**Interpretation:**

The regression model shown above with the one IV and eleven CVs, as follows: return on capital employed, earnings per share, return on asset, board size, board meeting, board remuneration, revenue growth, log of total asset, firm listing age, debt to equity, and debt to asset. In model validation, the following are considered: ANOVA represented as F-statistics, the coefficient of determination  $R^2$  and the adjusted  $R^2$  are used. As shown

above, the R-squared is 0.2420 and the adjusted R-squared which takes care of error is 0.2293. Therefore, on approximate basis the independent and control variables account for 23% variation in the dependent variable. And, the F-statistic has a value of 19.027 with  $p$ -value less than .05 (i.e., margin of error), confirms the statistical significance of the model.

### Decision rule:

The *coefficient* of the variable of interest: Big 4 vs. Non-Big 4 was (-0.051) and *t-statistic* (-2.565) is negative and statistically significant ( $p$ -value <.05). Therefore, the alternate hypothesis is accepted and null rejected; there 'is a statistically significant difference in abnormal production expenditure quality of Big 4 and non-Big 4 audited firms'.

### Discussion of Result

The first hypothesis showed a positive statistically significant difference in abnormal operating cash flow quality of Big 4 and non-Big 4 audited firms. The result infers that ABOCF is significantly similar among companies hiring the Big 4 audit compared to companies using non-Big 4 audit firms. As stated in Chi, Lisic, and Pevzner (2011) high quality auditors often constrain accrual-based manipulation, therefore, their clients switch to higher levels of real earnings management. However,

Li, Ding, Liu, Qiao, and Chen (2021) in China find that analysts revise their earnings forecasts downward for firms with aggressive real earnings management. Burnett, Cripe, Martin, and McAllister (2012) found that firms with high quality audits were more likely to use accretive stock repurchases, i.e., a form of real earnings management and less likely to use accrual-based earnings management to meet or beat consensus analysts' forecasts. Francis and Wang (2004) and Maijor and Vanstraelen (2002) suggests that Big 4 auditors are not equally conservative across different audit environments with regard to constraining earnings management in public firms. The control variables showed that ROCE, EAPS and RETA had positive non-significant effects. The variables BODS and BMET were positive with the latter significant @ 10%; and, DRSA was negative and significant at 5%. REVG and FSIZ were positive with the latter significant @ 5%; while, FIRA was positive and significant at 5%. The capital structure variables, i.e., DETE and DETA were negative and the latter significant at 5%.

This is consistent with Chi, Lisic, and Pevzner (2011) that found a positive association between REM and high-quality auditors. Zandi, Sadiq, and Mohamad (2019) using a sample of non-financial firms listed in Pakistan Stock Exchange (PSE) found that Big 4 proxy is positively related to real earnings management. Le, Tran, and Ngo (2021) using a sample of Vietnamese firms from Hochiminh and Hanoi Stock Exchanges found a positive correlation between innovation and abnormal operating cash flows. Hasan, Kassim, and Hamid (2020) examined interaction of audit quality, audit committee and

financial reporting quality in Malaysia. The results showed that interaction of audit quality (proxied as big 4) and audit committee independence, audit quality and audit committee financial expertise, audit quality and audit committee size had a significant positive effect on financial reporting quality (proxied as real earnings management). In Nigeria, studies by Sani, Latif, and Al-dhamari (2018) using a sample of non-financial firms and Jerry and Saidu (2018) using a sample of insurance companies found that Big 4 proxy had a significant positive influence on real activities manipulation at 1% and 5% level.

Alhadab and Clacher (2018) using a sample of IPOs listed on the London Stock Exchange (LSE) over the period 1998 to 2008 finds that the Big-N audit firms had a positive significant effect on abnormal cashflows from operations. Huguet and Gandía (2016) using a sample of Spanish SMEs found a positive effect of big 4 on abnormal working capital accruals and abnormal accruals. Burnett, Cripe, Martin, and McAllister (2012) showed that firms with high audit quality were more likely to use accretive stock repurchases. Cohen and Zarowin (2010) using a sample of 1,511 SEO firms from Compustat annual industrial and research files found a significant positive effect of Big 8 auditors on real earnings management (i.e., sum of abnormal discretionary expenses, abnormal production cost, and abnormal operating cash flows).

However, contrary results were reported in Otuya (2019) in Nigeria showed that auditor's status, i.e., Big 4 or Non Big 4 had a significant negative relationship with financial reporting quality. Khanh and Khuong (2018) using a sample of firms in Vietnam found that a positive effect of profitability on real earnings management. However, no difference was observed between Big 4 and Non-big 4 in curtailing real earnings management. Comprix and Huang (2015) found no evidence that small audit firms are associated with real activity manipulation using propensity score matching. Okolie (2014) in Nigeria found a significant negative effect of audit firm size on cash-based earnings management. Berglund, Eshleman, and Guo (2018) found evidence that Big 4 auditors are more likely than mid-tier



auditors (Grant Thornton and BDO Seidman) to issue going concern opinions to distressed clients. Using an experimental research design, Jiang, Wang, and Wang (2019) showed that for the treatment firms' audit quality improved after switching to Big N auditors.

Using data from Chinese firms, Li, Ding, Liu, Qiao, and Chen (2021) found that real earnings management impairs companies' profitability. This contrasts with the present study that found a positive effect of ROCE, EAPS and RETA. Lopes (2018) using a sample of 4,723 firm year observations in Portugal found that Big 4 audited firms were more likely to have lower levels of manipulation than non-Big 4 audited firms. This is consistent with the study by Berglund, Eshleman, and Guo (2018) that finds that big 4 were less likely to issue false-positive (Type I error) going concern opinions than non-big 4.

The second hypothesis showed a negative statistically significant difference in abnormal production expenditure quality of Big 4 and non-Big 4 audited firms. The result infers that ABPE is significantly lower among companies hiring Big 4 audit firms compared to non-Big 4 clients. Evidence of REM is consistent with the study of Chi, Lisic, and Pevzner (2011), that high quality auditors constrain accrual-based manipulation, as such; their clients switch to higher levels of real earnings management. Burnett, Cripe, Martin, and McAllister (2012) found that firms with high quality audits were more likely to use accretive stock repurchases, i.e., a form of real earnings management and less likely to use accrual-based earnings management to meet or beat consensus analysts' forecasts. The control variables showed that ROCE, EAPS and RETA had negative significant effect; while, ROCE was significant @ 10%. BODS and BMET were negative with the former significant @ 5%; and, DRSA was negative and non-significant. REVG was negative and significant at 5%. FSIZ was positive and significant @ 5%; while, FIRA was negative and non-significant. The capital structure variables, i.e., DETE and DETA were positive and the latter significant at 5%.

Using a moderating regression approach, the study by Hasan, Kassim, and Hamid (2020) in Malaysia found that interaction of audit quality (proxied as big 4) and audit committee size had a significant negative effect on financial reporting quality. Otuya (2019) using a sample of listed Nigerian manufacturing companies found that auditor's status, i.e., Big 4 or Non Big 4 has a significant negative relationship with financial reporting quality. The cross-sectional analyses by Jiang, Wang, and Wang (2019) suggest that

improvement is likely due to competence of Big N auditors' rather than industry-specific expertise.

However, this is contrary to, Tran, and Ngo (2021) in Vietnam that showed a positive correlation between innovation and earnings quality, abnormal production cost. Zandi, Sadiq, and Mohamad (2019) using a sample of non-financial firms in Pakistan found that Big 4 is positively related to real earnings management. Alhadab and Clacher (2018) using a sample of IPO firms on the London Stock Exchange (LSE) showed that Big-N audit firms had a positive significant effect on abnormal cashflows from operations. Sani, Latif, and Al-dhamari (2018) in Nigeria found that Big 4 had a significant positive effect on real activities manipulation, i.e., non-Big 4 auditors were more likely to mitigate real earnings manipulation because they possess better knowledge of the local operating environment. Huguet and Gandía (2016) using a sample of Spanish SMEs showed a positive effect of big 4 on abnormal working capital accruals.

Jerry and Saidu (2018) using a sample of quoted insurance companies in Nigeria and Ordinary Least Square technique showed a positive significant impact of audit firm size on financial reporting quality. Similarly, Burnett, Cripe, Martin, and McAllister (2012) using accretive stock repurchases to proxy real earnings management found that firms with high audit quality are more likely to use accretive stock repurchases. This is consistent with the study by Cohen and Zarowin (2010) using a sample of SEO firms in the U.S. from 1987 to 2006 revealed a significant positive effect of Big 8 auditors on real earnings management (i.e., sum of abnormal discretionary expenses, abnormal production cost, and abnormal operating cash flows).

### Recommendations

Based on the above results, the study recommended accordingly that;

1. Shareholders during Annual General Meeting (AGM) may also seek the adoption of joint auditors to strengthen audit quality and cushion against shocks from manipulative practices of managers or the lack of independence from continued engagement of particular audit firms.
2. Auditors need to be watchful: The transition to IFRS despite having improved the transparency in financial reporting, however, still presents loopholes for managers to engagement in other forms of earnings management. And yet, in other countries evidence also abounds of lack of improvement in audit quality after a transition (*cf.* Carp & Istrate, 2019). Therefore, audit firms



should employ data mining techniques and technology in this era of digitalisation to further dig out information during audit exercise.

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