IFRS Adoption and Audit Quality in Nigeria: The Conditional Effect of Auditor Industry Specialization

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Abstract

Incessant audit mistakes as unveiled by the *Financial Reporting Council of Nigeria (FRCN's) sanction on audit firms as well as the consequential ligation of the 'prestigious' audit firms suggest the need to examine the quality of audits. This aim of this study is to find out how the relationship between audit quality and International Financial Reporting Standards (IFRS) Adoption is moderated by auditor industry specialization of listed companies in Nigeria. The study drew data mainly from secondary sources. That is, extracted data from financial reports of 52 listed companies in Nigeria covering periods between 2005 and 2019 were used. The period covers both pre IFRS and IFRS period to ensure a balanced spread of data across both periods across all industries. The overall observation totaled 517 and the analysis of data was carried out with the use of longitudinal econometric models. The findings of the study are: (i) adoption of IFRS significantly affects audit quality suggesting an improvement in audit quality due to IFRS adoption. In the financial services industry, the results indicate that adoption of IFRS does not significantly affect audit quality* (ii) *IFRS adoption led to significant reduction in the audit quality of both financial and non-financial services industries due to auditor industry specialization. The study recommends, among others, the need for the regulatory authorities to include oversight on auditor industry specialization so as to ensure it achieves a desired outcome of improved audit quality and ensure students are trained to acquire accounting skills in their industries of interest to further improve audit quality.*

Keywords: *Audit Quality; Auditor industry specialization; IFRS adoption; conflict theory*

1. Introduction

Audit quality depends on a number of factors as documented in the accounting literature such as audit fees and non-audit services (Zaman, Hudaib, & Haniffa, 2011), internal control system, auditor independence, reputation of audit office and auditor specialization (Al-Khaddash, Al-Nawas & Ramadan 2013), audit committee expertise and social ties with auditors (Ghafran & O'Sullivan, 2017; He, Pittman, Rui, & Wu, 2017) audit specialization and risk taking (Hoelscher and Seavey, 2014) and a host of other factors. Prominent among these factors in the recent times is the industry specialization of auditors (Willenborg, 2002; De Fuentes & Sierra, 2015; Garcia-Blandon & Argles-Bosch, 2018; Cassell, Huntn Narayanamoorthy & Rowe, 2019). The prominence is perhaps, due to commonplace 'audit mistakes' among prestigious

auditors such as EY's complicity in the defunct Thomas Cook in 2017, UK; overstatement of Ted Baker's £25m stock not discovered by KMPG in 2018 (Accounting Age, 2019), FRC's review of KPMG's audit of Stanbic IBTC holding in Nigeria in 2015 as detailed in the regulatory decision in the matter of financial statements of Stanbic IBTC holding for the years ended 31st December 2013 and 2014 (FRCN, 2015) among several others. Auditors' mistakes may reduce if they audit only industries within which they possess requisite expertise and experience. "A firm with industry expertise may exploit its specialization by developing and marketing audit related services which are specific to clients in the industry and provide a higher level assurance" (U.S. Government Accountability Office 2008, p. 111). Such a firm is therefore, expected to produce quality audits through its longstanding experience in the particular industry. However, such industry expertise may merely be a claim and have negative outcomes if not benchmarked by financial reporting regulators.

Considering the importance of industry expertise and specialization, the International Federation of Accountants (IAASB, 2014 specifies firms' possession of personnel with knowledge of the relevant industry and experienced with the regulatory and reporting requirements of the specific industry as a driver of audit quality as contained in the International Standards on Quality Control (ISQC). Meanwhile, larger audit firms are often perceived to likely possess more competent audit personnel based on this criteria as they may possess adequate resources to build the needed competencies by bringing in experts in the needed industry (Association of Chartered Certified Accountants, 2020). The discourse of auditor industry specialization seems peculiar to large audit firms though, the situation may take another twist in Nigeria where "international, networked firms perform the audit of most of the listed companies" (World Bank 2011, p.14). The regulatory perception in Nigeria explains the situation as one that may erode audit quality in the country as the small and medium-size practices are handicapped by lack of access to current literature on applicable accounting and auditing standards thereby adversely affecting the quality of audit in the country (World Bank, 2011).

Meanwhile, the adoption of IFRS in Nigeria in 2012 has increased the market presence of the larger firms in Nigeria, particularly the Big 4 audit firms, as evidenced by review of audited financial reports and a N6.8 billion cumulative increase in audit fee the accounting period subsequent to IFRS adoption (John, 2019). While the audit literature (Scott & Gist, 2013; Garcia-Blandon & Argles-Bosch, 2018) has documented the more likelihood of industry specialization among the big audit firms, this study identifies if such specialization may have been altered by IFRS adoption with incidental impact on audit quality. Previous research works on audit quality have either isolated specific industries for research evaluation (Farouk & Hassan, 2014; Alao & Gbolagade, 2019; Etuka,, Anichebe, & Etuka, 2019) or ignored the conditioning effect of auditor industry specialization on audit quality (Ahmed & Madobi, 2019) thereby providing the niche to addressing the problem of IFRS adoption and audit quality with a conditional effect of auditor industry specialization in Nigeria.

2. Conceptual Review

2.1 Audit Quality

"Audit quality is a complex subject and there is no definition or analysis of it that has achieved universal recognition" (IAASB 2018, p.36). A periodic and serial auditor considers it a statement of truth and fair view on accounts devoid of caveats for modification, qualifications or exemptions enough to garner reliance on financial statement. It is therefore an audit on which an 'appropriate' report on the clients' compliance with required accounting GAAP is issued (Francis, 2011). Audit profession considers the competence and experience in the application of objectivity, integrity and skepticism necessary ingredients for public reliance on the output of the audit in such a manner that reporting the detection of material misstatement in financial statement is achievable (DeAnglo, 1981; Alhababsah, 2019). By extension, DeAnglo (1981) argues audit quality to be the joint probability of discovering and reporting breaches in the accounting system of a firm thereby enhancing the assurance of quality financial reporting. Defond and Zhang (2014), Christensen, glover, Omer and Shelley (2016) and Rajgopal, Srinivasan and Zheng (2018) believe that audit quality is improved with the assurance of high-quality financial reporting by the auditor so as to enable individual investor value the competence of the auditor.

In the measurement of audit quality, audited financial statements are usually relied upon for data extraction. Audited financial statements are produced out of the joint efforts of both the management and its auditors. Given the metrics drawn from the financial statement, audit quality can be measured across the continuum as it provides opportunity for the linkage of audit characteristic with statistical properties of client financial statements. Becker, DeFond, Jiambbalvo and Subramanyam, 1998; Francis, Maydew and Sparks, 1999; Lawrence, Minutti-Meza and Zhang, 2011; Lennox, Wu and Zhang, 2014; Lennox, 2016; Wang, Yuan and Wu, 2017; Singh, Kotha, Sultana and Evans 2019 all noted the responsiveness of certain audit characteristics to the widely adopted expected accrual model developed by Jones (1991). Basically, they all

consider audit quality a function of audit characteristics amidst other control variables. Lawrence, Minutti-Meza and Zhang (2011) used the modified Jones (1991) model as recommended by Kothari, Leone and Wasley (2005) to examine the audit quality difference between the big 4 and the non-big 4 audit firms.

2.2 IFRS Adoption in Nigeria

Amid financial crisis in the banking sector few years prior to the reforms, the Federal Government issued a directive to the defunct NASB to begin the process of IFRS implementation in Nigeria following which it published the implementation roadmap in 2010 (IASB, 2017). The roadmap stratified Nigerian companies in the trio of listed and significant public entities, other public listed entities as well as Small and Medium Enterprises (SMEs) for reporting their financial activities in the years 2012, 2013 and 2014 respectively (NASB, 2010). The adoption of IFRS was considered to have several implications to the quality of accounting numbers produced in Nigeria as well as the services rendered by the external auditors and providers of other financial professional services. Recommending a proactive effort towards mitigation the audit issues that may succeed the adoption, NASB (2010) suggested an establishment of a technical partners' forum of accounting firms.

A survey conducted by Pricewaterhousecoopers (2011) indicated that financial executives of Nigeria's listed companies decried the cost of IFRS implementation amid skepticism of its perceived benefits. Although, Anao (2012) considers the IFRS adoption as timely since it expanded the scope of financial regulation beyond traditional spheres as it spans auditing and corporate governance, NASB (2010) highlights its implications for quality indices of accounting figures such as loan loss provisioning, securities investments, regulation of public accounting services among other issues. The Financial Reporting Council of Nigeria Act enacted in 2011 to establish the Financial Reporting Council of Nigeria led the financial reporting practitioners towards the implementation of IFRS in Nigeria. The council was also empowered with more expanded roles in the oversight of financial reporting practices in Nigeria (FRCN, 2011).

2.3 Auditor Industry Specialization

Psychologists (Muis, Bendixen, & Haerle 2006) would rather argue that specialization in a field is usually driven by domain-specificity. That is, the ability to do creative things by applying some set skills, aptitude in a specific domain. In the words of Carey and Spelke (1994), "genuine domains are characterized by distinct set of core principles" (p.170), leading to conceptual change that "involves the change in core principles that define the entities in a domain and govern the reasoning about those entities" (p. 179). Gracia-Blandon and Argiles-Bosch (2017) applied this reasoning to audit industry specialization by pointing out the argument of Craswell Francis and Taylor (1995) that audit quality can only be ensured, auditors need some specific knowledge to complement generic accounting and audit knowledge. This buttresses the requirement of the Audit Quality Framework of the International Auditing and Assurance Standard Board (IAASB,2018). As such, an audit firm with industry expertise possesses specialization in that industry and exploit it to develop and market its audit and allied services which are specific to clients in the industry. (U.S. Government Accountability Office 2008).

In the accounting literature, audit specialization is perceived to be a product of training and practical experience gained from auditing in a particular industry as knowledge gained through experiences increases the likelihood of being able to perform between quality audits (Gramling & Stone, 2001; Hammersley, 2006; Ashton, 1991). From this backdrop, Neal and Riley (2004) operationalized audit industry specialization by what the termed 'market share' and 'portfolio share'. They argued, on the market share approach, that largest knowledge of a particular industry would have been developed by firm with the largest share within the particular industry. They believe that such auditor will have made significant investments in developing industry-specific technologies while setting a target of expected benefits from such investment through audit quality and improved economies of scale. Counteractively, the approach of the portfolio share considers the most revenue-generating firms amongst their entire audit clients as the drivers of specialization.

Notably, Minutti-Meza (2013) found evidence to conclude that within audit industry market share has inherent problems as proxies for audit specialization. He faulted the model of audit market share as he found out that differences exists in client characteristics between auditor types thereby leading to the argument that large market share does not drive expertise. Rather, specialist drives expertise. To overcome this, a product of the two measures was suggested by Fleming, Hee and Romanu, (2014) as proxy for audit specialization in order to capture both the firm specific and auditor-specific factors of audit specialization.

3. Theoretical Framework

The proposition of conflict theory signals the punctuation of an institutional order due to the reality of change process inherent in every society. It derives its basis first, from the thoughts of Karl Marx in the early to mid-1800s (Allan, 2007) and with further development with the works of Ralf Dahrendorf in the 1950 with the tenet that "every society at every point is subject to process of change" (Ritzer, 2012, p.265). Dahrendorf (1958) discovered that change processes are usually triggered by dissention, conflict and resistance to the directions of power that is maintaining societal order. He believes that the societies' two faces are conflict and consensus. While consensus examines value integration, conflict examines conflict of interest. The theory stems from the belief that conflicts can only occur if there was a prior consensus but regards such consensus as a product of coercion or enforced constrain intended to hold the society together (Dahrendorf, 1958).

Conflicts are by no means necessarily dysfunctional but "a certain degree of conflict is an essential element in a group formation and the persistence of group life" (Coser, 1956, p.31) which closely relate to the logic of Dahrendorf (1958) in explaining the production of elements of supersession and change. Such elements derive from social, economic or political interest stemming from the polarization of the society and segregating them to distinct positions with dissimilar interest. An instance is cited of Marx's notion of political interest wherein he considered that capitalism contains owners and workers as the two classes that really matter and a process of 'dialectical change' will naturally occur because the two classes are inherently antagonistic due to dissimilar and conflicting political interests (Allan, 2007).

Singling out the colonization of audit market, this theory offers explanation for the silent dispute that resulted from the dominance of audit market. The dispute is explained by the ability of the Big 4 firms to accumulate resources and 'specialize' in industries through their long standing relationship and links with internationally-networked firms. Given the spontaneous outplay of conflict in the social order, Stanga and Williams **(**1979) suggest that credibility, professional control, leadership, trust and moral tone are consistent with the interpretation of conflict. In reaction to the claims of Stanga and Williams (1979), Hines (1989) suggests that conceptual frameworks of accounting as designed by the dominant audit firms serve as a protection for the capitalists in the corporate world. Hence, the claim of industry specialization or perceived lack of it leads to conflict in the audit market with both classes contending over the retention of and winning more audit clients. The conflict will have consequential effect on audit quality which they all set out to protect.

Locating the explanation of this study within the dogma of conflict theory, the research hypothesis examine the relationship between audit quality and IFRS adoption as moderated by auditors' industry specialization. This explanation if offered by the prediction of the conflict theory that, IFRS adoption came as a solution to observed problem such as implosion of banks' going concern in the country and the attendant loss of depositors' funds. However, the lingering concern of dominance, precipitated by claim of specialization among the big firms, among other factors still exists and gives room to unhealthy completion and increased drive for profits among audit firms. This study deems it necessary to test the prediction of the theory as Nigeria's adoption of IFRS was ignited by monumental financial loss to the banking industry thereby necessitating a check on industry specialization of auditor. Hence, the proposition of conflict to the degree of dominance achieved through power accumulation by the Big 4, the adoption of IFRS is specified to examine the rationale for industry specific expertise accumulated and how it may have renewed impact on audit quality.

4. Empirical Literature and Hypothesis Development

The World Bank (2011) report laid emphasis on the accounting malpractice revelations in the banking sector. Incidentally, most of the affected companies were audited by the Big 4 audit firms more so; they are majorly in the banking sector of the economy. This drew specific attention to the industry thus making it seem though the banking sector has the monopoly of accounting and financial reporting problems to the exclusion of other sectors. Currently, the country has 11 industries under which there are about 200 companies listed on the Nigerian Stock Exchange. Previous studies have noted the financial reporting problems in some other industries such as Cadbury and the involvement of one of the Big 4 firms (Otusanya & Lauwo, 2012). The accounting problem issue raised by the World Bank (2011), as intertwined with other developments (Stanbic IBTC holdings VS KPMG, 2015; Oando Financial Crisis, 2019) after IFRS adoption suggests that more is still desired with respect to audit quality in across all industries in Nigeria. Auditor industry specialization desires more attention because of the skewed nature of audit practice in Nigeria in favour of the Big 4 as noted by World Bank (2011).

Prior studies such as Scott and Gist, (2013), Hoelscher and Seavey, (2014), Dao and Pham, (2014), Nagy, (2014), and De Fuentes and Sierra (2015) have examined specialization of auditors in specific industries based on the possibility that,

industry expertise attained by auditors through experience could cultivate inordinate beliefs of 'perfection' in the auditors and cultivate complacency in the audit firms. In other words, auditors may become complacent as they subconsciously believe that transfer of audit service may be practically difficult for their clients as they possess expertise in the specific firm. Meanwhile, this possibility has hardly been addressed in previous works since most of past studies (De Fuentes & Sierra, 2015; Garcia-Blandon & Argles-Bosch, 2018; Cassell, Huntn Narayanamoorthy & Rowe, 2019) on auditor industry specialization have usually concentrated on variables such as audit fees, audit quality, disclosure quality, and market reaction of micro economic factors as the determining factors of the dynamics of auditor industry specialization. Fung, Gul, and Krishnan (2012), Scott and Gist (2013), Fleming, Hee and Romanus (2014), Nagy (2014) examined the relationship between audit industry specialization and audit fees adopting various methodologies. Fung, Gul, and Krishnan (2012) examined 17,207 firm-year observation from US listed firms using panel regression. The study noted audit fee increase for industry-specialized auditors throughout the sample period but noted lower fees for post-SOX period.

Consistent with the study of Fung et al (2012), Flemming et al (2014) found that audit industry specialization mitigated increase in audit fee on the first year of post-SOX era and led to the ability of auditors to implement industry-specific expertise in improving audit practice and procedures while also enhancing audit cost efficiency. Despite examining conditional effects, both studies do not consider how audit quality reacts to industry specialization while at the same time ignoring the effect of IFRS adoption. The study of Scott and Gist (2013) also observed the response of audit fee to industry specialization but with conditioning effect of forced auditor change due to Arthur Anderson (AA) failure. It was discovered that audit fee paid by the defunct clients of AA were higher due to industry specialization. This result conforms to the findings of Nagy (2014) who studied audit fee and auditor industry specialization without the conditioning effect of any other variable. More so, the study of Bills, Jeter and Stein (2015) who also found that lower audit fees for firms audited by industry specialist auditors in homogenous industries as they exhibit higher level of bargaining power presents different output as compared to Wang, Sewon and Iqbal (2009) whose study noted increase in audit fee for industry specialists, particularly the Big 4 firms. Nevertheless, these studies also excluded the IFRS adoption and audit quality.

Yuan, Cheng, and Ye (2016) studied how discretionary accruals are affected by auditor industry specialization in Shangai and Shenzhen stock exchanges using panel analysis on 12,253 firm-year sample. Interestingly, audit quality featured prominently in the study as it concluded that association between industry specialist auditors and discretionary accruals was became pronounced for firms whose strategy deviated from the industry strategy norms. Despite such effects, the study indicate that the observed effect was not homogenous across clients. Similarly, Balsam, Krishnan and Yang (2003) also found that industry specialist auditors may contribute positively to the quality of audit but also disaggregated the impact among audit firms on the basis of size, both studies ignored the conditioning effect of auditor industry specialization on audit quality.

In a study of the effect of auditor specialization and audit fee and quality, Lowenshohn, Johnson, Elder and Davies (2007) discovered audit quality improvements for public sector clients auditor by the Big 5 (now Big 4) thereby faulting the proxy of audit quality with Big 4 firms as they do not have the exclusivity of quality across their client types. With reference to the strength of political environment, Jaggi, Gul, Lau (2012) documented that audit specialists enhance audit quality for countries with weak legal environment but improved audit quality for countries with strong legal environment. The conditioning effect in this study does not capture IFRS adoption and thus leaves a research gap in the aspect of condition effect of IFRS adoption on the nexus between audit quality and auditor industry specialization. The study of Gracia-Blandon and Argles-Bosch (2017) also excluded the conditioning effect of IFRS adoption as they found that industry specialization does not improve audit quality when proxies with both discretionary accruals and modified audit opinion. Given the foregoing, the following hypotheses were formulated to address the conditioning effect of audit industry specialization on the relationship between IFRS adoption and audit quality of the listed companies in Nigeria.

Statement of Hypotheses

H_0: Auditors' industry specialization does not significantly moderate the relationship between IFRS Adoption and the audit quality of listed companies in Nigeria.

5. Research Methods

5.1 Research Design

Longitudinal design was adopted in this study. This design was considered appropriate because it the study examined data from listed companies on the Nigerian Stock Exchange (NSE) over a period of 14 years divided in 7 years pre-regulatory reform (2005-2011) and 7 years post-regulatory reform (2012-2018). The choice of 7 years is determined by the availability of complete data up-to 2018 for the companies currently listed on the Nigerian Stock Exchange. To achieve a balanced panel, it becomes imperative to select 7 years prior to the reform regime for data collection. More so, the ability of this design to cater for panel attrition is particularly important to this study as the panel is expected to experience loss of sample units over a period during the study periods that may arise as a result of mergers, acquisition, delisting of companies or some other regulatory reasons.

5.2 Population and Sampling

The population of the study comprises of all listed companies in Nigeria. Numerically, population of the listed companies on the Nigerian Stock Exchange is 166 at the end of 2018. These are distributed into 11 sub sectors (Nigerian Stock Exchange, 2019). Data were collected from the financial statement of listed companies to the exclusion of firms with missing data due to various issues such as delisted firms, nationalized or absorbed firms as well as firms that may have stopped operation during the period covered under this study. We obtained data on these companies strictly from audited financial statements of the listed companies. The financial statements were obtained from African Financials (a database of financial statements of African listed companies) and companies' websites. Data were collected in two cohorts of financial services and non-financial services sectors.

Table 1 Sample Selection

Panel A: Sample Selection		
Number of firms listed on the Nigerian Stock Exchange as of 31st December 2018		166
Exclusions:		
Non-bank financial firms	41	
Firms with no up-to 5-year data during pre-reform period	73	(114)
Final Sample		52
Final Usable sample (firm-year observation over 14 years)		**696**
Financial services		179
Non-Financial Services		517
Total		**696**

Panel B: Sample Selection Breakdown by Industry					
Sectors	**Population of firms**	**Sample**	**% of Pop**	**Freq. of obs**	**Percent Firm**
Agriculture	5	2	0.40	26	4
Conglomerate	6	3	0.50	41	6
Construction/Real Estate	9	3	0.33	39	6
Consumer Goods	20	12	0.60	154	22
Healthcare	10	4	0.40	52	7
ICT	9	1	0.11	12	2
Industrial Goods	13	1	0.08	14	2
Natural Resources	4	2	0.50	25	4
Oil and Gas	12	6	0.50	75	11
Services	25	6	0.24	79	11
Financial Services	53	12	0.23	179	26
Total	166	52	0.31	696	100

Source: Authors' Computation (2021)

Listed companies on the Nigerian Stock Exchange was 166 as of December 31, 2018 (Nigerian Stock Exchange, 2019) when the sample selection ends for this study. We chose listed companies because they are only companies required by law to publish their annual financial data, hence, guaranteeing the public availability of their financial statements. We downloaded financial reports from both companies' websites and African financials database. All the data used for the purpose of analysis

were hand-extracted from financial reports because there is no official database for extracted financial report data in Nigeria. More so, the metrics used to proxy the variables in this work are quite diverse and not completely available on the few existing unofficial databases with bespoke extracted data. The total sample selection jointly represents 31% of the total population. The final sample consists of 52 listed companies over a 14-year period, resulting in 696 observations.

5.3 Model Specification

Audit quality = f (IFRS adoption, Auditor industry specialization).
The study adapt a model specified **by** Jung, Kim and Chung (2016). The model is specified as:
/DA/=β_0+β_1ABAFEE+β_2IFRS+β_3IFRS*ABAFEE+β_4ABAFEE+β_5LNTA+β_6BIG4+β_7CHGSALE+β_8LOSS+
β_9LEV+β_{10}ISSUE+β_{11}FIRST+ β_{12}CFO + β_{13}ADJ_TACC + industries / year dummies + ε -------- (1)
Where /DA/ = Audit Quality; ABAFEE = Audit Fee Premium; IFRS = IFRS Adoption; BIG4 = Audit size; CHGSALE = Changes in sale; LOSS = Loss reporting; LEV = debts deflated by assets; ISSUE = Share issue; FIRST = auditor change; CFO = cash flow deflated by lagged total asset; ADJ = total accruals deflated by lagged total assets.

5.4 Econometric Models for Testing Hypotheses

The model stipulated in equation 1 was used to study the association between Audit Fee Premiums and audit quality after IFRS adoption. It is considered relevant to this study since audit quality is also its outcome variable hence, have similar predictors as with the current study. To align the model with the objectives of this study, the model was adapted to suit our hypothesis.

5.5 Model for Testing Hypothesis

Auditor industry specialization does not significantly moderate the relationship between IFRS adoption and audit quality of listed companies in Nigeria.
AQ = α_0 + α_1IFRS$_{it}$ + α_2Aispec$_{it}$ + α_3IFRS* Aispec$_{it}$ +α_4Mcpt$_{it}$ +α_5Lev$_{it}$ +α_6Roa$_{it}$ +α_7Loss$_{it}$ +α_8Fsz$_{it}$ +α_9Pe$_{it}$ +α_{10}Ato$_{it}$
+α_{11}Sgr$_{it}$+α_{12}Tact1$_{it}$ +α_{13}Lloss$_{it}$ + ε ------- (2)
Auditor Industry Spec = Industry specialization of auditor proxied by a product of auditor market share and auditor portfolio share. Auditor's market share is the clients' sales within the industry scaled by total industry sales. Auditor's portfolio share is the auditors' client sales scaled by auditors' firm-wide client sales. A product of the two measures is adopted to capture both the firm specific and auditor-specific factors of audit specialization (Neal & Riley, 2004; Fleming, Hee & Romanu, 2014).

Table 2: Definition of Variables

S/N	Variable	Proxy	Type of Variable	Definition/ Measurement	Source
1	Audit Quality	AQ	Outcome Variable	Equations 3 – 7	Cited in the equations.
2	IFRS Adoption	IFRS	Predictor	A dummy variable that takes the value of 1 in the IFRS adoption periods and 0 otherwise.	Jung, 2016
5	Audit Industry Specialization	Aispec.	Moderating Variable	Product of auditor's market share and auditors' portfolio share	Neal and Riley, 2004; Fleming, Hee and Romanu, 2014
4	Audit firm Size	Assize	Control Variable	A dummy variable that takes the value of 1 if the audit firm is in the Big Four, and 0 otherwise	Zhu and Sun (2012)
6	Market Capitalization of the firm	Mcpt	Control Variable	The market capitalization of the firm in 2006, scaled by average total assets.	Ball, Tyler and Wells (2015)
7	Leverage of the firm	Lev	Control Variable	Leverage, measured as the ratio of the firm's total long-term debt to market value of equity	Ball, Tyler and Wells (2015)

8	Return on Asset	Roa	Control Variable	Return on assets, measured as the ratio of the firm's earnings divided by total assets.	Ball, Tyler and Wells (2015)
9	Loss	Loss	Control Variable	An indicator variable that takes the value of 1 if earnings after tax (EAT) scaled by lagged total assets (t – 1) for firm i in year t is negative and the absolute value of change in EAT scaled by lagged total assets during year t is greater than 10%, otherwise zero.	Jiang, Habib and Zhou (2015) Ball, Tyler and Wells (2015)
10	Firm Size	Fsz	Control Variable	Natural log of total assets	Alhababsah, (2019) Jiang, Habib and Zhou (2015)
11	Price/Earnings ratio	Pe	Control Variable	Price to earnings ratio for firm i in year t.	Jiang, Habib and Zhou (2015)
12	Asset turnover	Ato	Control Variable	Asset turnover for firm i in year t, calculated as total sales divided by total assets.	Jiang, Habib and Zhou (2015)
13	Lagged Total Accrual	Tact1	Control	Total accrual in year t-1 scaled by t-2 total assets	Singh, Singh, Sultana and Evans (2019)
14	Lagged loss	Lloss	Control	Lagged loss	Singh, Singh, Sultana and Evans (2019)
15	Sales growth	Sgr	Control	Sales growth of client firm i at the end of time period t	Singh, Singh, Sultana and Evans (2019)

5.6 Audit Quality Measures

Four variants of discretionary accrual estimation models were adopted to measure audit qulity due to its wide use and acceptance in the literature. Two models each were adopted to measure audit quality for the non-financial and financial firms respectively in order to ensure robustness of measurement. Hence, the four models estimated to derive proxies for audit quality are specified as follows:

Jones (1991) Model as modified by Kothari et al (2005)

$$TA_{it}= \alpha_0+\alpha_1(1/ASSETS_{it}-_1)+ \alpha_2\Delta SALES_{it}- \Delta AR_{it} + \alpha_3 PPE_{it}+\varepsilon_{it} \qquad (3)$$

Where:
TA = change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization, scaled by lagged total assets.
$\Delta SALES$ = Change in sales scaled by lagged total assets
ΔAR = Change in account receivable
ASSETS = Total Assets
PPE = net property, plant and equipment scaled by lagged total assets.
The residuals from the regression model in (6) will thus be used as discretionary accruals using the pooled approach (McNichols & Stubben, 2018) to prove a metric for assessing the degree of biasness embedded in the within the financial statement by the management and afforded by the auditors and hence audit quality measure.

Performance Adjusted Jones (1991) Model as modified by Kothari et al (2005)

$$TA_{it} = \alpha_0 + \alpha_1(1/ASSETS_{it-1}) + \alpha_2 \Delta SALES_{it} - \Delta AR_{it} + \alpha_3 PPE_{it} + \alpha_4 ROA_{it} + \varepsilon_{it} \qquad (4)$$

Where:
TA = change in non-cash current assets minus the change in current liabilities excluding the current portion of long-term debt, minus depreciation and amortization, scaled by lagged total assets.
$\Delta SALES$ = Change in sales scaled by lagged total assets
ΔAR = Change in account receivable
ASSETS = Total Assets
PPE = net property, plant and equipment scaled by lagged total assets.
The residuals from the regression model in (6) will thus be used as discretionary accruals

Beaver and Engel (1996) Model

This model estimates accruals with allowances for loan losses. The model is particularly adopted for studies on financial firms due to the specificity of its components to the components of the financial statements of financial firms. It estimates discretionary portion of loan losses as a set of variables including written off loans, outstanding loans and non-performing loans. The model is stated as:

$$ALL_{it} = NALL_{it} + DALL_{it} \qquad (5)$$
$$ALL_{it} = \alpha_0 + \alpha_1 CO_{it} + \alpha_2 LOAN_{it} + \alpha_3 NPA_{it} + \alpha_4 \Delta NPA_{it+1} + \varepsilon_{it} \qquad (6)$$

Where $\varepsilon_{it} = DALL_{it} + z_{it}$
NALL is therefore, estimated by regressing the ALL on the explanatory variables in Eq. (6) with the residual eventually taken to be an estimate of DALL with error and hence audit quality of financial firms.
NALL = Allowance for loan losses
ALL = Allowance for loan losses
DALL = discretionary portion of the allowance account
CO = Charge-Offs
LOAN = Loan Outstanding
NPA = Non-Performing Assets

Kanagaretnam (2004) Model

This model is also adopted to generate proxy for discretionary loan loss provision for financial firms and hence audit quality. The author of this model, with insight from the works of Wahlen, (1994); Beatty, Chamberlain and Magliolo, (1995) and Kim and Kross, (1998), estimated discretionary components of loan loss provision with the residual derivable for regressing beginning loans deflation of loan loss provisioning against the beginning balance of non-performing loan, change in non-performing loan and change in total loan. The model goes thus:

$$LLP_{it} = \alpha_0 + \alpha_1 NPL_{it-1} + \alpha_2 CHNPL_{it} + \alpha_3 CHLOAN_{it} + \varepsilon_{it} \qquad (7)$$

where,
LLP_{it} = loan losses provision deflated by beginning loans;
NPL_{it-1} = nonperforming loans at the beginning of the period deflated by loans at the beginning of the period;
$CHNPL_{it}$ = change in the value of nonperforming loans deflated by loans at the beginning of the period;
$CHLOAN_{it}$ = change in value of loans deflated by beginning loans.
In equation (3.8), the independent variables account for the non-discretionary component of LLP, and therefore, the discretionary component (DLLP) is given by the residual term which in turn is used as proxy for audit quality.

5.7 Model Estimation Technique

Basically, the models specified were estimated with Panel Corrected Standard Errors (PCSE) and Pooled Ordinary Least Square Methods. The choice of either is dependent on the outcome of diagnostics tests which include Hausman, Serial Correlation, Heteroscedasticity as well as Breusch and Pagan Lagrangian Multiplier tests. All models specified were run using the appropriate estimation technique using stataMP 14 statistical package.

6. Results and Discussion

6.1 Descriptive Analysis

The descriptive analyses of the observations are divided into two cohorts. That is, non-financial firms and financial firms. The division is necessitated by the different regulatory requirements for the financial services firms, particularly deposit money banks. Each of the cohorts reveals the means and standard deviations for the entire observations as well as for both the pre-reform and post reform periods. Other aspect of descriptive analysis examines the distribution of auditors with respect to market share and portfolio shares.

Table 3 Descriptive Analysis
Panel A: Non- Financial Firms

Overall				Pre-IFRS adoption Period			Post-IFRS adoption Period		
Variable	Obs	Mean	Std. Dev	Obs	Mean	Std. Dev	Obs	Mean	Std. Dev
Aq	517	0.860059	8.737503	238	0.740011	4.058442	279	0.962466	11.29772
Ifrs	517	0.539652	0.498908	238	0	0	279	1	0
Ais	517	0.062128	0.068419	238	0.055042	0.064243	279	0.068172	0.071348
Az	517	0.682785	0.465843	238	0.773109	0.419704	279	0.605735	0.48957
Mcpt	517	1.820928	6.70281	238	1.313109	2.123973	279	2.254122	8.895834
Lev	517	0.670019	2.050107	238	0.378698	0.913579	279	0.918531	2.637227
Roa	517	0.071663	0.962372	238	0.04937	0.176513	279	0.090681	1.300657
Loss	517	0.183752	0.387657	238	0.138656	0.346315	279	0.222222	0.416487
Fsz	517	9.942244	1.736434	238	9.862101	1.576025	279	10.01061	1.862483
Pe	517	-90.7576	2420.796	238	-216.048	3566.017	279	16.12122	106.6665
Ato	517	3.154275	10.72303	238	2.758403	12.10547	279	3.491971	9.393815

Panel B: Financial Firms

Overall				Pre-IFRS adoption Period			Post-IFRS adoption Period		
Variable	Obs	Mean	Std. Dev	Obs	Mean	Std. Dev	Obs	Mean	Std. Dev
Aq	178	0.083941	0.12395	87	0.105619	0.138703	91	0.063215	0.104608
Ifrs	178	0.511236	0.501284	87	0	0	91	1	0
Ais	178	0.145093	0.099203	87	0.147384	0.099005	91	0.142903	0.099891
Az	178	0.938202	0.241467	87	0.954023	0.210649	91	0.923077	0.267946
Mcpt	178	0.152459	0.125142	87	0.191586	0.142466	91	0.115052	0.092247
Lev	178	0.75601	0.365614	87	0.704264	0.223474	91	0.805481	0.458375
Roa	178	0.011771	0.033476	87	0.007361	0.04258	91	0.015987	0.02085
Loss	178	0.904494	0.294741	87	0.839081	0.369587	91	0.967033	0.17954
Fsz	178	11.90587	0.473102	87	11.64687	0.440532	91	12.15348	0.357648
Pe	178	9.275269	22.29667	87	11.02579	30.66624	91	7.60169	8.561251
Ato	178	0.116852	0.04742	87	0.113561	0.034166	91	0.119997	0.057327

Source: Authors' Computation (2021)

As shown in panel A of table 4.2.1, the audit quality proxy of absolute discretionary accrual derived as residuals of the Jones model for the non-financial firms, depicts a mean of 0.86 for the entire observation. This indicates an absolute value of discretionary accrual of an average magnitude of 86% of the total assets of the sampled firms, and a standard deviation of 8.73. Disaggregating this into pre and post reform periods, the mean value for absolute value of

discretionary accrual shows 74% of total asset for pre-reform period compared with 96% shown for the post-reform period which suggests a possible increase in discretionary accrual practice and a decrease in audit quality.

Panel B of table 4.2 reveals an overall mean of 0.083 and a standard deviation of 0.12, suggesting that only 8.3% value of the total assets in the financial firms is accounted for by discretionary accruals. It portrays the likelihood of conduct of high-quality audit given the low magnitude of discretionary accrual. The comparison of the pre- and post-reform periods is indicative of an improved audit quality as the means values for the duo respectively are 0.11 and 0.06, suggesting a possible improvement form 11% magnitude of discretionary accrual in total asset to only 6% after accounting reform. The mean values of the explanatory variables, that is, audit reform, abnormal audit fees, audit size and auditors' industrial specialization indicate that audit reform and audit size have higher means values for both financial and non-financial firms. Audit size account for relatively reduced mean values in the post-reform period. Nevertheless, the mean value of 46.5% for audit size is indicative of its inclusion as an important variable in both models.

Table 4   Panel A: Correlation Matrix of Non-Financial Firms

Pwcorr	Ifrs	Assize	Aispec	mcpt	Lev	roa	Loss	fsz	Pe	ato	sgr	tact1	cir	lloss
Ifrs	1													
Assize	-0.179*	1.000												
Aispec	0.096*	-0.031	1.000											
Mcpt	0.070	-0.119*	0.035	1.000										
Lev	0.131*	0.134*	0.042	0.011	1.000									
Roa	0.021	-0.027	0.138*	0.540*	0.086	1.000								
Loss	0.108*	-0.170*	-0.160*	0.064	0.191*	-0.148*	1.000							
Fsz	0.043	0.4440*	0.290*	0.439*	0.001	0.121*	-0.356*	1.000						
Pe	0.048	-0.028	0.001	-0.006	0.013	0.006	0.098*	-0.002	1.000					
Ato	0.034	-0.196*	-0.156*	0.252*	0.080	-0.081	0.261*	-0.391*	0.010	1.000				
Sgr	-0.055	0.035	0.072	0.000	-0.016	0.005	-0.024	0.003	0.002	-0.011	1.000			
tact1	0.026	0.073	0.031	-0.005	0.010	0.004	0.015	0.046	-0.008	-0.034	-0.001	1.000		
Cir	0.046	-0.068	0.109*	0.600*	0.134*	0.965*	-0.017	0.027	0.004	-0.011	-0.004	0.006	1.000	
Lloss	0.068	-0.160*	-0.154*	0.063	0.188*	-0.080	0.420*	-0.320*	0.019	0.144*	0.090*	0.019	0.016	1.000
	Ifrs	**Assize**	**aispec**	**mcpt**	**Lev**	**roa**	**Loss**	**fsz**	**Pe**	**ato**	**sgr**	**tact1**	**cir**	**Lloss**
VIF	1.13	1.53	1.26	3.4	1.15	21.04	1.78	2.83	1.02	6.92	1.03	1.02	21.41	1.34
Tolerance	0.887	0.653	0.794	0.294	0.866	0.048	0.563	0.354	0.978	0.144	0.973	0.983	0.047	0.749

Source: Authors' Computation (2021)

Table 4   Panel B: Correlation Matrix of Financial Firms

Pwcorr	Ifrs	Assize	Aispec	mcpt	lev	roa	loss	Fsz	Pe	ato	sgr	tact1	Lloss
Ifrs	1.000												
Assize	-0.064	1.000											
Aispec	-0.023	0.3287*	1.000										
Mcpt	-0.307*	0.193*	0.103	1.000									
Lev	0.139	-0.363*	-0.203*	-0.257*	1.000								
Roa	0.129	0.188*	0.244*	0.311*	-0.323*	1.000							
Loss	0.218*	0.234*	0.142	0.172*	-0.316*	0.716*	1.000						
Fsz	0.537*	0.208*	0.242*	-0.224*	-0.049	0.169*	0.22*	1.000					
Pe	-0.077	0.109	0.008	0.163*	-0.100	0.046	0.21*	0.035	1.000				
Ato	0.068	0.408*	0.207*	0.044	0.567*	-0.119	-0.23*	-0.203*	-0.062	1.000			
Sgr	-0.078	-0.059	-0.066	-0.003	-0.070	0.057	0.036	0.078	-0.041	-0.008	1.000		
tact1	-0.305*	-0.389*	-0.240*	-0.134	-0.1725*	-0.285*	-0.45*	0.362*	-0.081	0.147	0.052	1.00	
Lloss	0.082	0.2235*	0.131	0.139	0.209*	0.131	0.145	0.2196*	0.020	-0.045	0.102	0.48*	1.000

	Ifrs	asize	aispec	mcpt	lev	roa	Loss	fsz	pe	Ato	sgr	tact1	Lloss
VIF	1.85	1.59	1.53	1.51	2.01	2.58	2.86	1.87	1.14	2.41	**1.08**	2.05	1.41
Tolerance	0.541624	0.630741	0.65365	0.66433	0.497899	0.387135	0.3499	0.533435	0.878978	0.414567	**0.928501**	0.4883	0.7092

Source: Authors' Computation (2021)

6.2 Multi-Collinearity Test

The correlation matric using the Pearson correlation coefficients as well as the variance inflation factors and tolerance for the predictor variables are presented (see Table 4.3.1) to check for multi-collinearity. The largest coefficient (r=0.965, p<0.10) is between Capital Intensity Ratio (CIR) and Return on Asset (ROA) with VIF of 21.04 and 21.41 respectively and tolerance of 0.048 and 0.047. These variables pose multi-collinearity threat to the model as Field (2009), considers a strong linear relationship among the predictors say, above 0.8 or 0.9 as an indication of multi-collinearity and according to Myers (1990), a value of VIF of above 10 calls for worry of multi-collinearity while the tolerance (I/VIF) below 0.2 may be a source of serious collinearity concern as noted by Menard (1995). Consequently, capital intensity ration was dropped as a control variable. The choice of dropping CIR was informed by similar problem encountered with it in the financial services firms.

The correlation matrix presented in Panel B of Table 3 reports the Pearson correlation coefficients, VIF and tolerance coefficients of the financial firms' predictor variables. The Pearson correlation coefficients (r=0.57, p<0.10) is the highest of all the coefficients between any two variables in the matrix. This is lower than the 0.80 threshold and also produces acceptable VIF (2.01 & 2.41) and tolerance values (0.49 & 0.41). Furthermore, a significant relationship exists among variables such as audit industry specialization and size thereby supporting the argument that big 4 firms specialized than other categories of auditors. This presupposes an association among the variables as audit size could present possibility in specialization of auditors in specific industries while at the same time leading to an increase in audit fees.

6.3 Test of Hypothesis

Table 5: H_0 Auditor industry specialization does not significantly moderate the relationship between IFRS adoption and audit quality of listed companies in Nigeria

Sector –	Non-Financial Services		Financial Services	
Model –	Jones	Kothari et al	Kanagaratnam	Beaver & Engel
Predictors	**Aq**	**Aq**	**Aq**	**Aq**
Ifrs	-0.827*	-0.825*	-0.0189*	-0.0486*
	(-1.71)	(-1.71)	(-1.77)	(-1.69)
Aispec	-3.283*	-3.300*	-0.0805**	-0.343***
	(-1.72)	(-1.74)	(-2.00)	(-3.75)
Ifrsaispec	5.245*	5.251*	0.0942	0.316**
	(1.69)	(1.69)	(1.53)	(2.50)
Assize	-3.190***	-3.192***	-0.0159	-0.118***
	(-4.25)	(-4.25)	(-0.82)	(-3.69)
Mcpt	0.171	0.171	0.0181	-0.0434
	(1.47)	(1.47)	(0.68)	(-0.70)
Roa	7.762***	7.762***	-0.518***	-0.870
	(15.80)	(15.81)	(-4.10)	(-1.40)
Lev	0.162***	0.162***	-0.00550	-0.00834
	(2.74)	(2.74)	(-0.55)	(-0.33)
Loss	2.771***	2.773***	-0.0203	-0.175***
	(9.29)	(9.30)	(-1.40)	(-2.77)
Fsz	-0.364	-0.364	-0.00455	-0.00630
	(-0.91)	(-0.91)	(-0.54)	(-0.27)
Pe	0.0000229*	0.0000230*	0.0000407	0.000174
	(1.92)	(1.94)	(0.32)	(1.00)
Ato	-0.0496***	-0.0495***	-0.00442	-0.125
	(-3.08)	(-3.08)	(-0.06)	(-0.84)
Sgr	0.0000929	0.0000965	0.00923**	0.0110*
	(1.01)	(1.05)	(2.32)	(1.70)
tact1	9.04e-24*	9.06e-24*	0.103*	-0.0831***
	(1.85)	(1.86)	(1.91)	(-4.95)
Lloss	-0.519	-0.520	-0.00403	-0.0418*
	(-1.46)	(-1.46)	(-0.35)	(-1.72)
_cons	3.719	3.719	0.121	0.444
	(0.90)	(0.90)	(1.21)	(1.61)
N	517	516	177	178
R^2	0.868	0.868	0.391	0.483
adj. R^2			0.342	0.442
Hausman(X^2)	37.14***	37.06***	7.55	19.65
Year (F)	1.71*	1.70*	-	-
Het (x^2)	42000***	41000***	180.87***	66.87***
Serial corr (F)	10.190***	10.159***	0.452	2.226
Model F/Wald(X^2)	6220.57***	6225.71***	8.04***	9.16***
BPLM Random	-	-	0.00	0.00
Est Method	PCSE	PCSE	OLS	OLS

t statistics in parentheses * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Source: Authors' Computation, (2021)

The models outputs shown in table 4.4 presents the results of hypothesis. The table comprises of four panels. Panels A and B summarize the results for non-financial firms using absolute residuals from jones model and Kothari's performance adjusted jones model to proxy discretionary accruals, hence audit quality. Panels C and D explains the financial firms' results. It adopts the absolute residuals from Kanagaratnem model and Beaver & Engel models to proxy audit quality for firms in financial services industry. Two models each were adopted for both categories of industries in order to enhance the validity and reliability of results and mitigate misspecification issues that may be obscured in a mono-model analysis.

Hence, two different variations of absolute discretionary accruals are used to proxy audit quality for both financial and non-financial services firms.

The Hausman tests reveal x^2=37.14, p<0.01 and x^2=37.06, p<0.01 for models A and B while x^2=7.55, p>0.10 and x^2=19.65, p>0.05 were revealed for Panels C and D. This suggests the adoption of fixed effect method for the estimation of panels A and B with exclusion of year effect as indicated by (f=1.71, p>.01 & f=1.70, P>0.01) and random effect method for panels C and D. However, the presence of heteroscedasticity (x^2=42000, p<0.01 and x^2=41000, p<0.01) and serial correlation (f=10.190, P<0.01 & f=10.159, P<0.01) suggests the use of panel corrected standard error for the estimation of panels A and B while the Breusch and Pagan Lagrangian Multiplier (BPLM) test for random effects (Chibar^2 = 0.00,p>0.10 & Chibar^2 = 0.00,p>0.10) suggests the choice of Ordinary Least Square method for the estimation of panels C and D. Nevertheless, the OLS method adopted for panels C and D were eventually run with robust option to correct the presence of heteroscedasticity (x^2=180.87, p<0.01 & x^2=66.87, p<0.01) in both models. They both do not have problems of autocorrelation (f=0.452, p>0.10 and f=2.226, p>0.10).

The results of panels A and B are consistent with respect to all the variables of interest. The result (t=-1.72, p<0.10 & t=-1.74, p<0.10) shows that audit quality is significantly improved by auditor industry specialization. However, the relationship of discretionary accrual with the interaction between IFRS and industry specialization (t=1.69, p<0.10 & t=1.69, p<0.10) indicate an unsigned significant coefficient with audit quality thereby, indicating that the improvement in audit quality caused by audit industry specialization applied to the entire periods prior to IFRS adoption while also suggesting that auditor industry specialization after the IFRS adoption led to the reduction in audit quality for the non-financial firms. This may imply that IFRS adoption provided opportunity for auditors to utilize their specialization and experience in the specific industry to tolerate more accounting manipulation by the accountant, perhaps, due to the argument that IFRS is principle based and offers opportunity for justifiable manipulations on accounting figures. The model parameters signals good result with model statistics (f=6220.57, P<0.01 & f=6225.71, P<0.01) for both models and R^2 of 86.8% for the respective models. More so, both the models present unsigned significant effects of ROA, lev, loss, PE and lagged total accruals on discretionary accrual which thus suggests that audit quality is impaired by their presence in the model whilst the coefficients and significance of asset turnover are suggestive of improved audit quality for firms in non-financial services at 99% confidence interval.

The results of panels C and D are also largely consistent with one another in respect of most of the variables saved for the financial services firms. It supports (t=-2.00, p<0.05 & t=-3.75, p<0.01) proposition that audit quality is significantly improved by auditor industry specialization. This submission is however not consistent across pre and post IFRS-adoption periods as indicated by the coefficient of the interaction of auditor industry specialization and IFRS (t=1.53, p>0.10 & t=2.50, p<0.05). In the post IFRS period, audit quality is significantly reduced by auditor size across all sampled firms in the financial services industry. The model parameters also signal good result with model statistics (*Wald*=8.04, P<0.01 & *Wald*=9.16, P<0.01) for both models and adjusted R^2 of 34.2% and 44.2% for both models respectively. Model D presents signed significant effects of loss, lagged loss and lagged total accruals on discretionary accrual which thus suggests that audit quality is improved by their presence in the model and this is qualitatively similar to the results in Model C thereby affirming the consistence of the results across different measures of audit quality for both financial and non-financial firms.

Meanwhile, the results indicated that audit quality is significantly improved by audit size (t=-3.19, p<0.01; t=-3.192, p<0.10) for non-financial- firms and (t=-0.02, p>0.10 & t=-1.18, p<0.01) for financial services firms. This suggests an existence of a link between audit industry specialization and audit size. The results of hypothesis 2 conforms with the supposition that that due to IFRS adoption auditor industry specialization led to a significant reduction of audit quality across all firms as the results presented are statistically significant except for Model C which nonetheless, has unsigned coefficient.

7. Discussion of Findings

Audit quality variations in response to IFRS adoption, moderated by auditor industry specialization is the main objective of this study. Auditor industry specialization was found to significantly improve audit quality without the moderating effect of IFRS adoption. Audit quality is proxied with absolute values discretionary accruals for non-financial services firm while absolute values of loan loss provision were adopted as proxies for audit quality in the financial services industry.

The use of discretionary accruals and loan loss provisions provides opportunity to measure the proficiency of auditors in constraining earnings management during the IFRS adoption period and the presence of regulatory pronouncements. The use of discretionary accrual to proxy audit quality is consistent with previous research works (see Becker, DeFond, Jiambbalvo & Subramanyam, 1998; Francis, Maydew & Sparks, 1999; Lawrence, Minutti-Meza & Zhang, 2011; Lennox, Wu & Zhang, 2014; Lennox, 2016; Wang, Yuan & Wu, 2017; Singh, Kotha, Sultana & Evans 2019) in the subject matter.

The result of this study provides evidence to support that auditors of firms in non-financial services industry are able to constrain earnings management due to IFRS adoption. It noted, in consistence with the studies of Zeghal, Chtourou and Sellami (2011), Dimitropoulos and Asteriou, (2013), Bello, Abubakar and Tesleem (2016); Tache, (2020**)** that audit quality improved for firms during IFRS adoption. However, the result does to provide evidence to suggest that the behaviour of auditors change with respect to tolerance of earnings management after IFRS adoption. No significance effect was noted for IFRS on the audit quality of firms in the financial services industry as equally discovered by Gebhardt and Novotny-Farkas (2011**),** Cameran & Perotti, (2014). The study of Salem, Usman and Ezeani (2020) reported similar result but found evidence for Islamic financial institutions while Uwuigbe, Emeni, Uwuigbe, and Maryjane (2016) as well as Ozili and Outa (2018) found no evidence to support that IFRS adoption improved audit quality of Nigerian banks. The results noted for this study with respect of firms in financial and non-financial industries are consistent across different models of discretionary accruals adopted.

Studies on auditor industry specialization are filled with mixed outcomes. Garcia-Blandon and Argiles-Bosch (2017) found not impact of audit industry specialization on audit quality while Bergen (2013) noted that audit quality is positively associated with audit industry specialization. They argued further that the reason for such positive relationship is the presence of industry expertise for industry specialist auditors. This study also provides evidence to support positive impact of audit industry specialization on audit quality in across firms in both financial and non-financial firms. A further analysis however indicate an opposite reaction to audit quality in the IFRS adoption period. In other words, audit industry specialization accounts for reduced audit quality after IFRS adoption for financial and non-financial services firms.

This result confirms the presupposition of the conflict theory that confrontation could lead to disruption in the social space. This submission offers explanation for the proposition of the conflict theory that given the spontaneous outplay of conflict in the social order, Stanga and Williams (1979) suggest that credibility, professional control, leadership, trust and moral tone are consistent with the interpretation of conflict. The conceptual frameworks of accounting designed by the private regulators are majorly sponsored by the Big 4 firms which dominant firms serve as a protection for their enterprise culture. However, the introduction of IFRS may have reshaped the perceived impact on quality. As a result, IFRS adoption could be said to have accounted for the audit quality changes, although unimproved, but with speculative capabilities as the phase of the interaction is still within the pre-conflict and confrontational stages of the conflict theory.

This study has limitations in the aspect of data coverage. For reasons of non-availability of official financial reporting data repository, the researchers settled for the collection of data through hand-extraction. This is not without its challenges and errors that may have been avoided if official data base had existed for financial reporting data. The limitation encountered by considering only deposit money banks as the financial services providers for the purpose of this study is quite inappropriate. However, the regulatory oversight over insurance and investment banking are weak as displayed the poor financial reporting practice in these financial services sub-sectors. Specifically, it is practically difficult to model a good loan loss provision from the financial report of insurance firms in its current state. The study's findings are therefore not generalizable on all financial firms other than the deposit money banks.

Studies on audit quality is in-exhaustive and continues to leave more to be desired. Testing the effect of the interactions of auditor industry specialization on the relationship between audit quality and IFRS adoption is a research could be done using other available metrics from the one adopted in this study. More so, the impact of remote auditing on audit quality is an important aspect that requires academic exercise especially at times when information technology is booming and emergency situations are unpredictable.

8. Conclusion

IFRS adoption was noted to have affected the audit quality of Nigerian PIEs positively. Evidence was found in the result of hypothesis one to support the notion that auditors of firms in non-financial services industry are able to constrain earnings management due to IFRS adoption. However, the outcome of the hypothesis on financial firms does to provide

evidence to suggest that the behaviour of auditors changed with respect to tolerance of earnings management after IFRS adoption. A differential analysis of the model on sectorial basis explains the result better, it revealed improvement in audit quality due to IFRS does not cut across all the industries within the non-financial sector. Specifically, only firms in the consumer goods and the oil and gas industries recorded better audit quality due to IFRS adoption. Auditors who were able to invest in industry specialization in their firms provided quality audits as noted in our study across both financial and non-financial firms. Nevertheless, the result of this study has demonstrated that poor quality audits resulted from the claim of specialization by auditors.

Based on conclusions drawn from the hypothesis, that IFRS improved audit quality of firms in non-financial industries alone, government should further strengthen the regulatory oversight in the financial services sector to avoid a second wave of corporate implosion that, amongst other factors, necessitated the institutional change and birthed the FRCN for financial reporting regulation in Nigeria. The improvement noted in the non-financial services sector does not cut across all industries in the sector there calling for more oversight in the adoption of IFRS in the preparation of financial reports in the country.

It is equally recommended that auditors should strive and invest in their areas of strength rather than being jacks of all trades. Specialization breeds quality as noted by a variant of hypothesis two, however, evidence show that it is more pronounced among the big 4 firms while the other categories of firms take on audit of any sector the come across. As a follow up to the result of hypothesis, educational institutions and regulators should be strengthened to ensure that students are exposed to audit engagements and given the opportunity to specialize in different aspects of financial reporting right from school. Audit jobs requires goods hands as much as it required integrity. Furthermore, the practice of employing non-accountants for audit job by audit firms should be stopped to encourage students taking accounting training to participate in the field. While intellectual aptitude is important, background accounting training is also very important. Crash training of non-accountants for accounting jobs is a source of huge brain drain in the economy as well as poor quality audits.

References

Abbott, L. J., Daugherty, B., Parker, S., & Peters, G. F. (2015). Internal audit quality and financial reporting quality: the joint importance of independence and competence. *Journal of Accounting Research, 54*(1), 3–40.http://doi10.1111/1475-679x.12099

Accounting Age (2009). *FRC extends Thomas Cook investigation to more statements audited by EY* retrieved from: https://www.accountancyage.com/2019/12/19/frc-extends-thomas-cook-investigation-to-more-statements-audited-by-ey/

Ahmed, A., & Madobi, S. M. (2019). Organizational complexity and financial reporting quality of listed manufacturing firms in Nigeria: does industry specialized auditor matter?. In *th 5 annual international academic conference proceedings, 2019* (p. 467).

Alao, B. B., & Gbolagade, O. L. (2019). An Assessment of How Industry 4.0 Technology is Transforming Audit Landscape and Business Models. *International Journal of Accounting*, *3*(10), 15-20.

Alhababsah, S. (2019). Ownership structure and audit quality: an empirical analysis considering ownership types in Jordan. *Journal of International Accounting, Auditing and Taxation.35*, 71-84. http://doi.10.1016/j.intaccaudtax.2019.05.006

Al-Khaddash, H., Al Nawas, R., & Ramadan, A. (2013). Factors affecting the quality of auditing: The case of Jordanian commercial banks. *International Journal of Research in Business and Social Science*, *4*(11), 206–222

Allan, K. (2007). *The social lens: An invitation to social and sociological theory*. Canada: Sage Publications Inc

Anao, R. A. (2012). *FRC act and Nigeria roadmap to IFRS - implication for accounting education in Nigeria*. Financial Reporting Council of Nigeria.

Antle, R., & Nalebuff, B. (1991). Conservatism and auditor-client negotiations. *Journal of Accounting Research, 29*, 31. doi:10.2307/2491002

Ashton, A.H., 1991. Experience and error frequency knowledge as potential determinants of audit experience. *The Accounting Review.* 66, 218–239.

Association of Chartered Certified Accountants (ACCA) (2020). Auditing in specialized industries. Retrieved from: https://www.accaglobal.com/in/en/student/exam-support-resources/professional-exams-study-resources/p7/technical-articles/specialised-industries.html

Balsam, S., Krishnan, J., & Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A journal of practice & Theory*, *22*(2), 71-97.

Beatty, A., Chamberlain, S., & Magliolo, J. (1995). Managing financial reports of commercial banks: The influence of taxes, regulatory capital, and earnings. *Journal of Accounting Research*, 33(2), 231–261.

Beaver, W. H., & Engel, E. E. (1996). Discretionary behavior with respect to allowances for loan losses and the behavior of security prices*. Journal of Accounting and Economics, 22*(1-3), 177–206. http://doi.10.1016/s0165-4101(96)00428-4

Beaver, W. H., & McNichols, M. F. (1998). The characteristics and valuation of loss reserves of property casualty insurers. *Review of Accounting Studies*, *3*(1-2), 73-95.

Becker, C. L., Defond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management*. Contemporary Accounting Research, 15*(1), 1–24. http:// doi.10.1111/j.1911-3846.1998.tb00547.x

Bello, A., Abubakar, S., & Adeyemi, T. (2016). IFRS adoption and earnings management in Nigerian non-financial quoted companies. Retrieved: http://repo.uum.edu.my/id/eprint/20808

Bergen, V. (2013). Auditor Industry Specialization and Audit Quality. The longitudinal effect of auditor industry specialization on audit quality. Tilburg, North Brabant, Netherland: Master Thesis Department Accountancy Tilburg School of Economics and Management Tilburg University.

Bills, K. L., Jeter, D. C., & Stein, S. E. (2015). Auditor industry specialization and evidence of cost efficiencies in homogenous industries. *The Accounting Review*, *90*(5), 1721-1754.

Cameran, M., & Perotti, P. (2014). Audit fees and IAS/IFRS adoption: evidence from the banking industry. *International Journal of Auditing*, *18*(2), 155-169.

Carey, S., & Spelke, E. (1994). Domain-specific knowledge and conceptual change. Mapping the Mind, 169–200. doi:10.1017/cbo9780511752902.008.

Cassell, C., Hunt, E., Narayanamoorthy, G., & Rowe, S. P. (2019). A hidden risk of auditor industry specialization: evidence from the financial crisis. *Review of Accounting Studies*, *24*(3), 891-926.

Christensen, B. E., Glover, S. M., Omer, T. C., & Shelley, M. K. (2016). Understanding audit quality: insights from audit professionals and investors. *Contemporary Accounting Research*, *33*(4), 1648-1684. https://doi.org/10.1111/1911-3846.12212

Coser L.A. (1956). *The Functions of Social Conflict*. Clenoe: Free Press

Craswell, A. T., Francis, J. R., & Taylor, S. L. (1995). Auditor brand name reputations and industry specializations. *Journal of Accounting and Economics*, 20(3), 297–322.

Dahrendorf, R. (1958). Toward a theory of social conflict. *Journal of conflict Resolution*, *2*(2), 170-183.

Dao, M., & Pham, T. (2014). Audit tenure, auditor specialization and audit report lag. *Managerial Auditing Journal. 29*(6), 490-512. . https://doi.org/10.1108/MAJ-07-2013-0906

De Fuentes, C. and Sierra, E. (2015). Industry specialization and audit fees: a meta-analytic approach. *Academia Revista Latinoamericana de Administración*, 28(3), 419-435. https://doi.org/10.1108/ARLA-06-2014-0083

DeAngelo, L. E. (1981). Auditor size and audit quality*. Journal of Accounting and Economics, 3*(3), 183–199*.* doi:10.1016/0165-4101(81)90002-1

DeFond, M. and J. Zhang (2014). A review of archival auditing research. *Journal of Accounting and Economics,* 58(2): 275-326. https://doi.org/10.1016/j.jacceco.2014.09.002

Dimitropoulos, P. & Asteriou, D. (2013). The Effect of Board Composition on the Informativeness and Quality of Annual Earnings: Empirical Evidence from Greece*, Research in International Business and Finance.* 24, 190-205.

Etuka, C. E., Anichebe, A. S., & Etuka N. E. (2019). Effect of audit quality on capital investment of quoted consumer goods companies in Nigeria. *Journal of accounting, business and social sciences.* 2(1), 88-105.

Farouk, M. A., & Hassan, S. U. (2014). Impact of audit quality and financial performance of quoted cement firms in Nigeria. *International Journal of Accounting and Taxation*, *2*(2), 1-22.

Fleming, D., Hee, K., & Romanus, R. N. (2014). Auditor industry specialization and audit fees surrounding Section 404 implementation. *Review of Accounting and Finance. 13(4)*, 353-370.

Francis, J. R. (2011). A framework for understanding and researching audit quality. *AUDITING: A Journal of Practice & Theory, 30*(2), 125–152. https://doi:10.2308/ajpt-50006

Francis, J. R., Maydew, E. L., & Sparks, H. C. (1999). The role of big 6 auditors in the credible reporting of accruals*. Auditing: A Journal of Practice & Theory, 18(2), 17–34.* https://doi:10.2308/aud.1999.18.2.17

Fung, S. Y. K., Gul, F. A., & Krishnan, J. (2012). City-level auditor industry specialization, economies of scale, and audit pricing. *The Accounting Review*, *87*(4), 1281-1307.

Garcia-Blandon, J., & Argiles-Bosch, J. M. (2018). Audit partner industry specialization and audit quality: Evidence from Spain. *International Journal of Auditing*, *22*(1), 98-108.

Gebhardt, G., & Novotny-Farkas, Z. (2016, June). Comparability and predictive ability of loan loss provisions–The role of accounting regulation versus bank supervision. In *Annual Accounting Conference 2018*.

Ghafran, C., & O'Sullivan, N. (2017). The impact of audit committee expertise on audit quality: Evidence from UK audit fees. *The British Accounting Review*, 49(6), 578–593. https://doi.org/10.1016/j.bar.2017.09.008

Government Accountability Office (GAO) (2008). *Audits of Public Companies. Continued Concentration in Audit Market for Large Public Companies Does Not Call for Immediate Action*. Washington, DC: GAO.

Gramling, A.A., Stone, D.N., (2001). Audit firm industry expertise: A review and synthesis of the archival literature. Journal of Accounting Literature 20, 1–29.

Hammersley, J. S. (2006). Pattern identification and industry-specialist auditors. *The Accounting Review*, *81*(2), 309-336.

He, X., Pittman, J. A., Rui, O. M., & Wu, D. (2017). Do social ties between external auditors and audit committee members affect audit quality? *The Accounting Review*, 92(5), 61–87. https://doi.org/10.2308/accr-51696

Hines, R. D. (1989). The sociopolitical paradigm in financial accounting research. *Accounting, Auditing & Accountability Journal*, *2*(1), 52-79. https://doi.org/10.1108/09513578910134671

Hoelscher, J. L. & E. Seavey, S. (2014), Auditor industry specialization and corporate risk-taking, *Managerial Auditing Journal*, 29(7), 596-620. https://doi.org/10.1108/MAJ-02-2014-1000

IAASB (2014). *A Framework for Audit Quality.* International Federation of Accountants. http://www.ifac.org

IAASB (2014). *Handbook of International Quality Control, Auditing, Review, Other Assurance, and Related Services Pronouncements*. IFAC.

IAASB (2018). *Handbook of International Quality Control, Auditing, Review, Other Assurance, and Related Services Pronouncements*. IFAC.

IASB (2017). *Financial Reporting Framework in Nigeria: Adoption of International Financial Reporting Standards*. https://www.iasplus.com/en/jurisdictions/africa/nigeria

Jaggi, B., Gul, F. A., & Lau, T. S. C. (2012). Auditor industry specialization, political economy and earnings quality: Some cross-country evidence. *Journal of International Financial Management & Accounting*, *23*(1), 23-61.

John, I. (2019). *The Big Four made a kill auditing NSE 30 in 2017 grossing over N6.8 billion. Business Day.* https://businessday.ng/market-intelligence/article/the-big-four-made-a-kill-auditing-nse-30-in-2017-grossing-over-n6-8-billion/

Jones, J. J. (1991). Earnings management during import relief investigations*. Journal of Accounting Research, 29*(2), 193. http://doi:10.2307/2491047

Jung, S. J., Kim, B. J., & Chung, J. R. (2016). The association between abnormal audit fees and audit quality after IFRS adoption: Evidence from Korea. International Journal of Accounting and Information Management, 24(3), 252-271.

Kim, M., & Kross, W. (1998). The impact of 1989 changes in bank capital standards on loan loss provisions and loan write-offs. *Journal of Accounting and Economics, 25,* 69–99.

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics, 39(1), 163–197.* http://doi.10.1016/j.jacceco.2004.11.002

Lawrence, A., Minutti-Meza, M., & Zhang, P. (2011). Can big 4 versus non-big 4 differences in audit-quality proxies be attributed to client characteristics? *The Accounting Review, 86(1), 259–286.* http://doi:10.2308/accr.00000009

Lennox, C. S. (2016). Did the PCAOB's restrictions on auditors' tax services improve audit quality? *The Accounting Review, 91*(5), 1493–1512. http://doi.10.2308/accr-51356

Lennox, C. S., Wu, X., & Zhang, T. (2014). Does Mandatory Rotation of Audit Partners Improve Audit Quality? *The Accounting Review, 89*(5), 1775–1803. http://doi.10.2308/accr-50800

Lowensohn, S., Johnson, L. E., Elder, R. J., & Davies, S. P. (2007). Auditor specialization, perceived audit quality, and audit fees in the local government audit market. *Journal of Accounting and Public Policy*, *26*(6), 705-732.

Minutti-Meza, M. (2013). Does auditor industry specialization improve audit quality?. *Journal of Accounting Research*, *51*(4), 779-817.

Muis, K. R., Bendixen, L. D., & Haerle, F. C. (2006). Domain-generality and domain-specificity in personal epistemology research: Philosophical and empirical reflections in the development of a theoretical framework. *Educational Psychology Review*, *18*(1), 3-54.

Nagy, A. L. (2014). Audit partner specialization and audit fees. *Managerial Auditing Journal*, *29*(6), 513-526. https://doi.org/10.1108/MAJ-11-2013-0966

NASB (2010). *Report of the committee on road map to the adoption of international financial reporting standards in Nigeria*. Nigerian Accounting Standard Board*, Lagos.* https://www.financialreportingcouncil.gov.ng/notice_board/report-of-the-committee-on-road-map-to-the-adoption-of-international-financial-reporting-standards-in-nigeria/#

Neal, T. L., & Riley Jr, R. R. (2004). Auditor industry specialist research design. *Auditing: A Journal of Practice &Theory*, *23*(2), 169-177.

Otusanya, J. O., & Lauwo, S. (2012). The Role of Auditors in the Nigerian Banking Crisis, *Accountancy Business and the Public Interest,* 9, 159-204. https://www.researchgate.net/publication/267708256_The_Role_of_Auditors_in_the_Nigerian_Banking_Crisis

Ozili, P. K., & Outa, E. R. (2019). Bank earnings smoothing during mandatory IFRS adoption in Nigeria. *African Journal of Economic and Management Studies*, *10*(1), 32-47. https://doi.org/10.1108/AJEMS-10-2017-0266

Pricewatercoopers (2011). Optimising the benefits of IFRS transition in Nigeria. *PwC Nigeria's IFRS Transition Cost Survey Report.* https://www.pwc.com/ng/en/assets/pdf/optimising-the-benefits-of-ifrs-transition-in-nigeria.pdf

Rajgopal, S., Srinivasan, S. & Zhend, X. (2018). Measuring audit quality. *MIT Asia Conference.*https://www.scheller.gatech.edu/academics/conferences/Rajagopal-Srinivasan-Zheng.pdf

Saiu, V. (2017). The three pitfalls of sustainable city: A conceptual framework for evaluating the theory-practice gap. *Sustainability*, *9*(12), 2311.

Salem, R., Usman, M., & Ezeani, E. (2020). Loan loss provisions and audit quality: Evidence from MENA Islamic and conventional banks. *The Quarterly Review of Economics and Finance*.

Scott, W. D., & Gist, W. E. (2013). Forced auditor change, industry specialization and audit fees. *Managerial Auditing Journal*, *28*(8), 708-734, https://doi.org/10.1108/MAJ-11-2012-0779

Singh, A., Kotha, H., Sultana, N., & Evans, J. (2019). Independent and joint effects of audit partner tenure and non-audit fees on audit quality. *Journal of Contemporary Accounting & Economics.15*(2), 186-205. http://doi:10.1016/j.jcae.2019.04.005

Stanga, K. G., & Williams, J. R. (1979). The FASB's objectives of financial reporting. *The CPA Journal (pre-1986)*, *49*(000005), 30. https://search.proquest.com/openview/745e6d1c53c55da42a820f5be6ac5cad/1?pq-origsite=gscholar&cbl=41797

Tache, M. (2020). The Impact of IFRS Adoption on Audit Fees and Audit Quality. *Audit Financiar*, *18*(158).

Uwuigbe, U., Emeni, F. K., Uwuigbe, O. R., & Ataiwrehe, C. M. (2016). IFRS adoption and accounting quality: Evidence from the Nigerian banking sector. *Corporate Ownership & Control*, *14*(1-1), 287-294.

Wahlen, J., 1994. The nature of information in commercial bank loan loss disclosures. Account. Rev. 69 (3), 455–478.

Wang, K., Sewon, O., & Iqbal, Z. (2009). Audit pricing and auditor industry specialization in an emerging market: Evidence from China. *Journal of International Accounting, Auditing and Taxation*, *18*(1), 60-72.

Wang, P., Yuan, L., & Wu, J. (2017). The joint effects of social identity and institutional pressures on audit quality: The case of the Chinese audit industry. *International Business Review, 26(4), 666–682.* https://doi:10.1016/j.ibusrev.2016.12.007

Willenborg, M. (2002). Discussion of "Brand Name Audit Pricing, Industry Specialization, and Leadership Premiums post-Big 8 and Big 6 Mergers". Contemporary Accounting Research, 19(1), 111-116

World Bank. (2011). *Nigeria - Report on the observance of standards and codes (ROSC)*. World Bank. http://documents.worldbank.org/curated/en/440581468099577387/Nigeria-Report-on-the-observance-of-standards-and-codes-ROSC

Yuan, R., Cheng, Y., & Ye, K. (2016). Auditor industry specialization and discretionary accruals: the role of client strategy. *The International Journal of Accounting*, *51*(2), 217-239.

Zaman, M., Hudaib, M., & Haniffa, R. (2011). Corporate governance quality, audit fees and Non-Audit services fees. *Journal of Business Finance & Accounting*, 38(1), 165–197. https://doi.org/10.1111/j.1468-5957.2010.02224.x

Zeghal, D., Chtourou, S., & Sellami, Y. M. (2011). An analysis of the effect of mandatory adoption of IAS/IFRS on earnings management. Journal of International Accounting, Auditing and Taxation, 20(2), 61–72. https://doi.org/10.1016/j.intaccaudtax.2011.06.001